



# Bulletin

Entomological Society of Canada  
Société d'entomologie du Canada

Volume 42  
Number / numéro 2



June / juin 2010



Published quarterly by the  
Entomological Society of Canada

Publication trimestrielle par la  
Société d'entomologie du Canada



Up front / Avant-propos .....	53
Moth balls / Boules à mites .....	56
Lab profile / Profil de labo .....	58
Dear Buggy / Cher Bibitte .....	63
The student wing / L'aile étudiante .....	65
Joint Annual Meeting / Réunion annuelle conjointe .....	72
Meeting announcements / Réunions futures .....	74
Special features / Articles spéciaux	
Amphibious caterpillars in Hawaii .....	75
Growing pains: How the birth of the ESC from the ESO affected the identify of the Ontario Society..	77
People in the news / Gens qui font les manchettes .....	83
Book reviews / Critiques de livres .....	85
In memory / En souvenir de .....	94
Cryptic entomological crossword / Mots croisés entomologiques cryptiques .....	99
Society business / Affaires de la société .....	100
Announcements / Annonces .....	108
Officers of affiliated societies / Dirigeants des sociétés associées .....	114
The last word / Le dernier mot .....	116
Governing board / Conseil d'administration .....	inside back cover

## Images

**Sur le dos:** *Cyphocleonus achates* (Fahraeus) (Coleoptera: Curculionidae) est un charançon des racines introduit au Canada pour le contrôle biologique d'espèces exotiques de centaurées. Photo: B. Van Hezewijk

**Sous le titre:** *Alucita adriendenisi* (Landry & Landry) (Lepidoptera: Alucitidae), retrouvé dans presque tout le Canada, a été nommé en l'honneur d'Adrien Denis qui a assisté Carl Atwood, le père de Margaret Atwood, dans ses travaux entomologiques et a laissé une impression importante à la famille Atwood. Photo: J. Dombroskie

**1** Chenille du sphinx de l'euphorbe, *Hyles euphorbiae* (L.) (Lepidoptera: Sphingidae), sur l'euphorbe esule (*Euphorbia esula* L.), parc provincial de Spruce Woods au Manitoba. Photo: A. Leroux

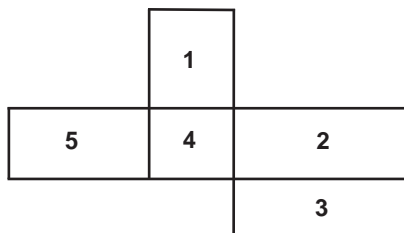
**2** Accouplement de mouches de la viande (Diptera: Sarcophagidae) dans le parc de la Gatineau, Québec. Photo: M. Larrivée

**3** *Piagetiella peralis* (Leidy) (Phthiraptera: Menoponidae), un parasite trouvé dans la poche du pélican d'Amérique (*Pelecanus erythrorhynchus*). Photo: T. Galloway

**4** Récolte de parasitoïdes du charançon de la graine de chou, *Ceutorhynchus obstrictus* (Marshall) (Coleoptera: Curculionidae), dans des champs de canola (*Brassica* sp.). Photo: T. Haye

**5** Un acarien du sol abondamment orné provenant des prairies en Alberta (Prostigmata: Stigmaeidae). Photo: H. Proctor

**Couverture arrière:** Une saperde du pommier, *Saperda candida* (Fabricius) (Coleoptera: Cerambycidae) près de Peterborough en Ontario. Les individus de cette espèce varient sur la prédominance de bandes claires (comme ce spécimen) ou foncées. Photo: J. Fitzsimmons





### Transitional times

As I write this column at the end of April, we are in the “in between” season in Edmonton. In between winter and spring and in between the academic school year and the field season is one of the busiest times of year for many of us. Once this column is published in the June issue of the *Bulletin*, the field season will be “full on” and many entomologists will be doing what they love best...working with insects. Last July, my lab was so busy with graduate students conducting field and lab experiments, undergraduates rearing thousands of forest tent caterpillars, me conducting night observations of moths in the field...that we missed the early registration deadline for the 2009 Joint Annual Meeting (JAM) in Winnipeg! Ouch! Don't let this happen to you this year! Remember to check the meeting website ([http://www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html)) often as the Entomological Society of British Columbia (ESBC) has a great meeting planned for us in Vancouver, November 2010. The meeting theme is “communication” so come and partake in what promises to be a fantastic venue for insect and human communication of all sorts. The ESBC local organizing commit-

### Périodes de transition

Alors que j'écris cette rubrique en cette fin avril, nous sommes dans la saison “entre-deux” à Edmonton. Entre l'hiver et le printemps et entre l'année académique et la saison de terrain: un des moments les plus occupés de l'année pour beaucoup d'entre nous. Lorsque cette rubrique sera publiée dans le numéro de juin du *Bulletin*, la saison de terrain sera entamée et beaucoup d'entomologistes feront ce qu'ils aiment le plus...travailler avec les insectes! En juillet dernier, mon labo était tellement rempli d'étudiants gradués conduisant des expériences de terrain et de labo, d'étudiants de premier cycle élevant des milliers de livrées des forêts et moi performant des observations de nuit sur les papillons dans le champ...que nous avons raté les inscriptions hâtives pour la réunion conjointe annuelle de 2009 à Winnipeg! Aïe! Ne laissez pas la même chose vous arriver cette année! Regardez fréquemment le site Internet de la réunion [http://www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html) puisque la Société d'Entomologie de Colombie-Britannique (SECB) nous prévoit une superbe réunion à Vancouver en 2010. Le thème de la réunion est « communication », alors venez prendre part à ce qui promet d'être un événement fantastique pour la communication de toute sorte, des insectes et des humains. Le comité organisateur local de la SECB, le comité du contenu Internet de la SEC et le webmestre travaillent fort afin de rendre les inscriptions en ligne facile pour les participants et la société organisatrice.

Le dernier numéro du *Bulletin* (mars 2010) était le premier numéro publié sous le commandement de Cedric Gillott en tant que rédacteur. Je suis certaine que vous serez d'accord avec moi que la transition entre les rédacteurs s'est faite toute en douceur et que le *Bulletin* continue d'être une excellente publication pour les travaux de notre Société. Merci de

tee, the ESC web content committee, and the webmaster are working hard to make on-line registration for the meeting easy for attendees and the organizing society, alike.

The last issue of the *Bulletin* (March 2010) was the first issue under the stewardship of Cedric Gillott as editor. I am sure you will agree that the transition between editors has gone smoothly and the *Bulletin* continues to be a great publication for the workings of our Society. Please continue to pass on items of interest for publication to Cedric. Since the publication of the March issue, the ESC Executive held a conference call interim meeting on 23 February 2010. If you are not aware, the structure of the ESC executive interim meetings has changed over the last 2 years. Whereas previously the Executive would travel to Ottawa in April and meet at ESC Headquarters to discuss business, we now have two conference calls in the winter and early summer. This has been a benefit in that we discuss the Society's business two times between annual board meetings and we save the society about \$5 000 per year. The down side of this arrangement is that we don't get to visit our office manager, Derna Lisi, and check on the condition of ESC Headquarters. The day-to-day business at ESC Headquarters is ably supervised by our Treasurer, Pat Bouchard, and the Chair of the Headquarters Committee, Chris Schmidt. Pat, Chris and Derna detail their hard work in reports submitted for the interim conference calls. Details of the business accomplished during the February 23<sup>rd</sup> conference call are published elsewhere in this issue of the *Bulletin*. Some of the highlights include news from our Treasurer that an additional \$30 000 was invested in the ESC Scholarship Fund. Much of this money has been the result of hardworking student members under the leadership of Aynsley Thielman, the Student Representative on the ESC Governing Board. Aynsley will be leaving her post at the end of JAM 2010, and I would like to thank her for her dedicated hard work to the ESC. Interested student members are encouraged to discuss the experience of Student Representative of the ESC with

continuer à envoyer des items d'intérêt pour publication à Cedric. Depuis la publication du *Bulletin* de mars, le conseil exécutif de la SEC a tenu une réunion téléphonique, le 23 février 2010. Si vous n'étiez pas au courant, la structure des réunions du conseil exécutif de la SEC a changé durant les deux dernières années. Alors que, précédemment, les membres du conseil devaient se rendre à Ottawa en avril et se rencontrer au siège social de la SEC afin de discuter affaires, nous avons maintenant deux réunions téléphoniques en hiver et au début de l'été. C'est un avantage puisque nous discutons maintenant des affaires de la Société deux fois entre les réunions du conseil d'administration et que nous faisons économiser environ 5 000\$ par année à la Société. L'envers de la médaille de cet arrangement est que nous ne visitons pas notre directrice de bureau, Derna Lisi, et ne vérifions pas souvent l'état de notre siège social. Les affaires de tous les jours du siège social de la SEC sont habilement supervisées par notre trésorier, Pat Bouchard, et par le président du comité du siège social, Chris Schmidt. Pat, Chris et Derna détaillent leur dur labeur dans les rapports soumis lors des réunions téléphoniques. Les détails des affaires menées lors de la réunion téléphonique du 23 février sont publiés dans ce numéro du *Bulletin*. Quelques points culminants incluent la nouvelle, provenant de notre trésorier, que 30 000\$ additionnels ont été investis dans les fonds des bourses de la SEC. La plupart de cet argent résulte du travail des membres étudiants sous le leadership de Aynsley Thielman, la représentante étudiante du conseil d'administration de la SEC. Aynsley quittera son poste à la fin de la réunion conjointe annuelle de 2010 et j'aimerais la remercier pour son dur travail à la SEC. Les membres étudiants qui sont intéressés sont encouragés à discuter de l'expérience de représentant étudiant de la SEC avec Aynsley. Un autre développement a été la finalisation du nouveau prix de la Société, le « Prix Bert et John Carr » qui sera voté à l'assemblée générale à Vancouver. Consultez l'annonce d'introduction de ce prix dans ce numéro du *Bulletin* à la page 102.

Aynsley. Another exciting development was the finalization of a new Society award, the "Bert and John Carr Award", to be voted on at the Annual General Meeting in Vancouver. See the announcement of this award in this issue of the *Bulletin* on p. 102.

Much of the other discussion in our recent conference call was focused on the replacement of the Editor-in-Chief for *The Canadian Entomologist (TCE)*. As I mentioned in Up Front in the March issue, Robb Bennett will be resigning from this position at the end of the JAM 2011. We are currently seeking a replacement for Robb (see announcement in this issue of the *Bulletin*, p. 101) so that the new editor will be able to learn from Robb before his tenure at *TCE* ends. The ESC Executive, Governing Board, and in particular the Ad Hoc Business Committee are reviewing the current *TCE* editorial procedures with the goal of making this time of change a smooth one. The dissemination of scientific articles published in *TCE* has never been stronger and we hope this will improve the impact of our journal. All the back issues are digitized and available free to members, library subscriptions of the digital collection have recouped our investment into digitization, and articles are available "pay per view" through NRC press and BioOne to nonmembers. The new editor will inherit a more vibrant journal, thanks to Robb, Paul Fields, and others who spearheaded the digitization process. This is the time to make your voice heard. If you have suggestions for a new editor-in-chief or comments about the editorial process at *TCE*, please send them my way.

Now that you have read this article, it is time to get back to your field work and finalize your abstract for the JAM in Vancouver. I look forward to seeing everyone there!

La majorité des autres discussions de cette récente réunion téléphonique étaient concentrées sur le remplacement du rédacteur en chef de *The Canadian Entomologist (TCE)*. Comme je l'ai mentionné dans l'avant-propos du numéro de mars, Robb Bennett quittera son poste à la fin de la réunion conjointe annuelle en 2011. Nous cherchons présentement un remplacement pour Robb (voir l'annonce dans ce numéro du *Bulletin*, page 101) afin que le nouveau rédacteur soit capable d'apprendre de Robb avant la fin de son poste au *TCE*. Le conseil exécutif de la SEC, le conseil d'administration et plus particulièrement le comité Ad Hoc du plan d'affaire révisent les procédures éditoriales actuelles du *TCE* dans le but de rendre ces temps de changement plus faciles. La dissémination des articles scientifiques publiés dans *TCE* n'a jamais été aussi forte et nous espérons que ça améliorera l'impact de notre revue. Tous les anciens numéros sont maintenant numérisés et disponibles pour les membres. Les inscriptions des bibliothèques ont permis de récupérer notre investissement dans la numérisation, et les articles sont disponibles en paiement par téléchargement via les presses du CNRC et BioOne pour les non-membres. Le nouveau rédacteur héritera d'une revue plus vibrante grâce à Robb, Paul Fields et d'autres qui ont lancé le processus de numérisation. C'est le temps de vous faire entendre. Si vous avez des suggestions pour un nouveau rédacteur en chef ou des commentaires à propos du processus éditorial du *TCE*, merci de me les faire parvenir.

Maintenant que vous avez lu cet article, il est temps de retourner à votre travail de terrain et de finaliser votre résumé à soumettre pour la réunion conjointe annuelle à Vancouver. J'ai hâte de vous y retrouver!



# Moth balls / Boules à mites

Andrew Bennett



## The Mother of All Moth Balls

Last issue was the 25<sup>th</sup> instalment of *Moth Balls*. Now I know that this only amounts to a bit more than 6 years of contributions, but in insect years, it must be the equivalent of centuries, so I thought it was high time that I reviewed the subjects I have covered so far.

Astute readers may suspect that I've completely run out of ideas and am simply recycling previous crap and dressing it up to appear like new. Of course, this is not the case. What follows is some recycled crap shamelessly and unapologetically presented as recycled crap. To start, here is a list of the subjects that *Moth Balls* has covered in its first 25 issues:

### 2004 (Volume 36)

1. Snappy Answers to Stupid Questions about Entomological Taxonomists
2. Discussion of Molecular versus Morphological Taxonomy
3. Taxonomy: A Dying Profession?
4. Zoological Nomenclature

### 2005 (Volume 37)

5. Insects as Food
6. Invasive Species
7. Insectaria in Canada
8. Insects in Film

### 2006 (Volume 38)

9. DNA Barcoding
10. Ento-Muggles: How to Deal with the Entomologically Uninformed
11. Entomological Get-rich Schemes
12. Weapons of Mass Collection (insect collecting methods)

### 2007 (Volume 39)

13. Ento-parental Care
14. Insect Mounting (how to prepare insects badly)
15. Deet (pour Homme) (entomology and fashion)
16. Ento-tainment for the Holidays

### 2008 (Volume 40)

17. Maple Syrup, Hockey Sticks and Grylloblattids (Oh, My)
18. Something Putrid This Way Comes (forensic entomology)
19. Ento-Communication
20. The Painted Lady and the Striking Crimson Lord (suggested new rules for insect common names)

### 2009 (Volume 41)

21. On a Wing and Prayer: Identification of Insects from Photos in the Field
22. It's a Dirty Ento-Job (the worst entomological jobs)
23. (Not) Everyone's a Critic (problems with review of manuscripts)
24. The Good Ship Ento-Pop (problems with shipment of dead insects)

### 2010 (Volume 42)

25. To Key or Not to Key (bad insect keys)

---

Andrew Bennett is a research scientist with Agriculture and Agri-Food Canada in Ottawa working on the taxonomy of Ichneumonidae. He received his PhD at the University of Toronto. Contact details: e-mail: [andrew.bennett@agr.gc.ca](mailto:andrew.bennett@agr.gc.ca), tel.: (613) 759-1900.

Note that through the wonder of the world wide web and our dedicated webmasters (Barry Lyons and, more recently, Rick West), all of these articles are available for free to members and non-members on the ESC website: <http://www.esc-sec.ca/bulletin.html>. I urge the Publications Committee to continue allowing free access to the *Bulletin*, so that *Moth Balls* can continue to annoy as many people as possible.

From time to time, I have been asked: where do you get your ideas? When I review the list above, I would say that the majority of the articles are rants against problems/annoyances that I encounter when trying to study entomology. As a colleague once said to me while floundering in bureaucracy and non-entomological commitments, “All I want to do is study bugs!”. And yet it seems more and more of our time is spent doing anything except studying insects. If necessity is the mother of invention, then cynicism is surely the mother of all *Moth Balls*. Is there a silver lining to the myriad regulations and bureaucracy? Mommy would say no, but somewhere inside, a little voice is whispering, “Hey, there’s an idea for my next article...”

Of course, not every idea ends up as a published article, but I don’t throw these unrealised notions out. They are stored in my dead *Moth Balls* folder for future reference. In some cases, new perspective resurrects an idea so that it becomes a topic for a later article. In other cases, some part of a previous concept gets included in (or inspires) a later article. But then, there are some ideas that should likely never see the light of day. For example:

### Ill-advised future *Moth Balls* topics (in no particular order):

1. Entomo-terrorism: A manual for successful importation and establishment of invasive pests
2. Missy the myiasis maggot and other favourite children’s bedtime stories
3. Useful insect metaphors for current Canadian federal cabinet ministers
4. Illustrated guide to the subculture of Entomo-fetishism
5. The benefits of amalgamation of ESC with the Entomological Society of America
6. Conservation strategies for threatened populations of *Aedes aegypti*
7. Taxonomy, the Canadian National Collection of Insects and the private sector: Who needs the federal government anyway?
8. On the road to excommunication: A summary of the very best religious insect limericks
9. Entomo-rotica 5: Gynandromorph beetles gone wild!
10. A new species of ichneumonid wasp of absolutely no importance to Canadian agriculture

I’m sure this article will be greeted by some people in a similar way to how I responded when I heard that a new Jimi Hendrix album was being released. (What the...). But if anybody wants nice, fresh *Moth Balls* every issue instead of a “Greatest Hits Retrospective”, here’s your opportunity to contribute. Please send me your ideas for future articles. Be warned that suggestions that get used for future articles will receive nothing except perhaps an acknowledgement from me. You may also get a warm, fuzzy feeling knowing that you have contributed to the Entomological Society of Canada. And I will try my best not to store up all the bad suggestions for inclusion in a future top 10 list of the “Most inane suggestions for future *Moth Balls* topics” (no promises, though).

I would like to thank Paul Fields, Kevin Floate and Cedric Gillott for their work as editors of the *Bulletin* over the last 6 years, and Lucie Royer, Marjorie Smith and Fred Beaulieu for ably assisting in this task. I would also like to thank all the other contributors to the *Bulletin*, especially those who contribute to every issue. The *Bulletin* is an integral part of the Society and your contributions are essential to its continuing quality. If you haven’t contributed yet, then consider doing so, or else you may feature prominently in a top 10 list of lame excuses for not contributing to the *Bulletin*. Worse still, the *Bulletin of the ESC*, might become the *Bulletin of the ESA (Northern Chapter)*...

Join me in the next issue for a hot, steaming serving of freshly formed *Moth Balls*.

### Through the eyes of an experimental moth ... the Evenden Lab at the University of Alberta

Allow me to introduce myself. I am a moth, my name is *Caloptilia fraxinella* Ely (Lepidoptera: Gracillariidae), and I've been around Edmonton for more than a decade. You can call me ash leaf coneroller (ALCR) or, as my friends like to call me, *C. frax.*

I write this article as a warning to all insects. Stay away from the Evenden Lab at the University of Alberta! Their research focus on moth sex leaves a trail of dead experimental insects in its wake. I barely escaped with my life by shedding a foreleg to get away, and that was after PhD student Joelle Lemmen-Lecht (Fig. 1A) had already lopped off one of my antennae for her mad science electroantennogram project. Did you know that she can actually visualize my antennal response to various smells? She asks "How do male ash leaf conerollers smell?". But I could have told her that without the regrettable excision. We smell terrible! Everyone working with mass trapped moths knows that! Maya Evenden (Fig. 1B) already had us male ALCR figured



Figure 1. Scanning electron micrograph of one of the compound eyes of an ash leaf coneroller moth, *Caloptilia fraxinella*, superimposed with images of the academic component of the Evenden lab. A. Joelle Lemmen-Lecht; B. Maya Evenden; C. Tyler Wist; D. Chris Miluch; E. Caroline Whitehouse; F. Marius Aurelian; G. Boyd Mori; H. Inka Lusebrink.

All photos by Tyler Wist, except B from Steven Dokken

The editor wishes to thank Tyler Wist for translating this article from ALCRish into English. Tyler ([wist@ualberta.ca](mailto:wist@ualberta.ca)) is a PhD student in Maya Evenden's lab, Department of Biological Sciences, University of Alberta. He is a keen photographer and several of his images have appeared on the cover of the Society's publications.





Figure 2. Maya Evenden (left) and student assistant Jeremiah Bolstad (right) watch attracticide droplets in ash trees for pheromone attraction of *Caloptilia fraxinella*.

out from years of pheromone research. I can't help it. I'm a simple guy; a little (Z)-11-hexadecenal and (Z)-11-hexadecen-1-ol (Evenden and Gries 2008) and I'm flying. In the field (Fig. 2) I've seen so many of my brothers fall for her ruse ... even as I am yelling "No, wait, that's not a female! Can't you tell the difference between a droplet of attracticide and a female?" Really! Who can't distinguish a drop of attracticide or a rubber septum from a female moth? When we gracillariids invaded Edmonton, the local tortricids breathed a collective sigh of relief as Maya's crosshairs now targeted us as a model insect for pheromone-based management. Her recent focus on the notoriously difficult-to-work-with forest tent caterpillar (FTC), *Malacosoma disstria*

Hübner (Lepidoptera: Lasiocampidae), might also take the pressure off of us microleps with her foray into the influence of population density on mate finding in FTC. I am also hoping that with her recent ascent to the presidency of the Entomological Society of Canada she will leave us to attack ash trees (*Fraxinus* spp. Oleaceae) in peace, at least for this season.

I thought we had it hard enough when *Apanteles polychrosidis* Viereck (Hymenoptera: Braconidae) welcomed us with open ovipositors and started injecting us with their eggs. Now Joelle (Fig. 1A), who completed a BSc Honours degree in Evolutionary Biology at the University of Alberta, lops off our antennae, sticks us in freezers, and pays us only with the sickly sweet sugar water that gave me these fuzzy hyphal socks. Joelle has been picking us off by the thousands in our most vulnerable state with 10 000 males ripped from their conerolled leaflets every season while they pupated. Who knew that holometaboly would have such a drawback; it seemed like such a good idea at the time. Not to mention that our 50/50 sex ratio (Evenden 2009) suggests that Joelle also captures 10 000 females because these humans haven't discovered how to tell us apart until after eclosion. My fellow moths are being sacrificed so that she can study the mechanisms involved in the termination of reproductive diapause and odour response plasticity, and we seem to be model moths because we live for so long (approximately 9 months). Both endogenous (juvenile hormone and octopamine) and exogenous (temperature and photoperiod) mechanisms that regulate our cycles are being investigated. The



Figure 3. Chris Miluch (front) and Ellis Chan (back) search for diamondback moth larvae in the canola jungle.



Larrisa Aurelian

Figure 4. Marius Aurelian empties mass collecting traps with the help of some chickens.

experiment that I escaped from was testing male response to female sex pheromone. This was indeed fortunate as the next tests looked at male and female responses to ash tree host volatiles using electroantennogram and wind tunnel bioassays.

I don't know how these students do it, but they seem to be capable of deciphering our behaviour and linking it with volatile cues. Another PhD student, Tyler Wist (Fig. 1C), is discovering what our females smell and respond to in the volatile profile of our host *Fraxinus*. Next thing you know, he'll uncover the secret to getting females to pheromone call for mates, but rest assured I won't be telling him! I'm hoping that he can't find the key ratio of volatiles that attract female *C. fraxinella* to ash or else our reign as the most abundant insect pest of ash in Edmonton may come to an end. It wasn't our idea for this tritrophic relationship to have developed with us moths sandwiched

between our *Fraxinus* hosts and our new mortal enemy, *A. polychrosidis*. We just wanted to eat some trees, and now Tyler is studying the chemically mediated interactions at each of these trophic levels. I am also curious as to how the female parasitoids find us while we are hidden inside leaflets (another idea that seemed good at the time) but I don't think that Tyler's findings are going to help my species thrive in the least. Our hosts might be giving away our presence by signalling the parasitoids with a changed volatile profile. I wish he would go back to his pollinator work at the University of Saskatchewan, or his mosquito, elm bark beetle, and cottony ash psyllid population research and quit focusing on urban forest moths.

Once I escaped from the clutches of Joelle, I made it to what looked like freedom but after a few hundred times bumping into glass I finally realized that my escape had been thwarted by a window. There, I met up with a fellow micro-lep, a diamondback moth (DBM), *Plutella xylostella* L. (Lepidoptera: Plutellidae) with a similarly bruised frons which seemed to be a little loopy from a bad case of Wolbachia (Batista et al. 2010). He told me about his daring escape from the tyrannical Chris Miluch (Fig. 1D) who made it her Master's work to drown as many diamondback moth larvae in 95% ethanol as she could. I wondered if all the drowning would help her develop a model to predict diamondback moth infestations in canola based on larval counts or if she just liked the smell of ethanol in the morning. For the entire growing season, she used commercially available pheromone lures at sites across southern Alberta and compared adult trap capture with larvae on plants at each site (Fig. 3). She also thinks that there might be something to the height of trap placement and what colour lures (red or grey) the DBMs prefer. Chris also studies the longevity of these lures in the field, the most attractive commercial pheromone dose, and if the addition of a green leaf volatile or a different trap colour will improve moth catches. She must really despise DBMs (or love them?!) to keep after them even while holding a position at Olds College as a Plant Science Instructor in the School of Agriculture, where she teaches courses in the area of crops and native plants and an on-line course in field crop insect and disease management.

The Evenden lab has been extending their studies of moth sex to other Canadian pest lepidopterans. Intrepid Master's student Caroline Whitehouse (Fig. 1E) has been a staple of the Evenden lab since her undergraduate work at the University of Alberta and is now leading scouting parties to British Columbia to hunt for *Dioryctria abietivorella* (Grote) (Lepidoptera: Pyralidae) in seed orchards. She has found that a complex of *Dioryctria* species attack Douglas-fir, *Pseudotsuga menziesii* (Mirb.) Franco, in these seed orchards so things are getting complicated. She is conducting behavioural assays in the lab and field to assess the reproductive ecology of *D. abietivorella*. Ultimately, her results will aid development of an attracticide or mating disruption program to better control *D. abietivorella* populations in coniferous seed orchards.

Maya recruited Virgiliu Marius Aurelian (Fig. 1F) from the University of British Columbia to begin a Master's degree. Marius loves nothing more than mass trapping hordes of apple clearwing moths, *Synanthedon myopaeformis* (Borkhausen) (Lepidoptera: Sesiidae) with grape juice (Fig. 4). I shudder when I think of the thousands of moths from more than 50 families that have fallen to his collecting skills and I tremble at the sheer number of apple clearwing moths to be sacrificed for his MSc studies. Even though the apple clearwing is a diurnal moth that does its best to mimic a wasp, I don't think its method of camouflage will protect it from Marius. He will make the clearwing moth sorry that it ever came over from Europe via imported apple root stock to feed under the bark of North American apple trees. If their girdling action didn't weaken trees, make them more susceptible to disease or other environmental stressors (e.g., drought and intense heat) or decrease fruit yield under repeated, high infestation levels, they might have flown under Marius' radar. Marius is testing two bait types (a sex pheromone attractive only to males and a kairomone attractive to both sexes) in various organic and conventional apple orchards throughout the Similkameen and Okanagan Valleys in British Columbia. In addition to the main mass trapping work, he is exploring the dispersal abilities and local flight phenology of males and females and how trap catches for the two bait types relate to one another. Those poor clearwings are not going to know what hit them. At least he is also looking at the impact of his mass trapping on non-target organisms, such as predators (e.g., lacewings and snakeflies) and other pests (e.g., plant bugs) so he knows which other insect families he is decimating. Marius is also working on a review-style checklist of all clearwings currently known from British Columbia. This checklist will include both geographic and seasonal distribution maps (flight phenologies), as well as a pictorial, dichotomous key to local species and plates showing genitalia morphology and dorsal and ventral images of typical specimens.

Boyd Mori (Fig. 1G, Fig. 5) strikes out into Northern Alberta in his Master's quest to rid red clover fields of the red clover casebearer (RCC), *Coleophora deauratella* Lienig and Zeller (Lepidoptera: Coleophoridae). No stranger to Maya's lab, Boyd spent many hours of his under-



Joanna Waitie

Figure 5. Boyd Mori on the prowl.

graduate honours project on mites associated with mountain pine beetle (MPB), *Dendroctonus ponderosae* Hopkins (Coleoptera: Scolytinae), before his conversion to a lepidopterist. I watched him identify mites on MPB from north-western Alberta to determine how mite load and species composition varied with time of beetle emergence. Then, suddenly, after what seemed like a millennium of counting mites on beetles, he threw up his hands and shouted "FINE. I'll work on pheromones and moths!" Thus, a MSc student was born. Once Boyd began attacking the RCC, I started to understand more about the development of a pheromone-based monitoring tool for this invasive pest of the Peace River Region. RCC is a devastating pest of red clover seed, causing up to 99.5% seed loss in second year stands, a phenomenal amount of damage that I wish I could inflict on humanity. If only my host had more than aesthetic value in the urban forest, my exploits would truly result in human suffering and increased funding dollars! Boyd may be on to something by correlating male moth trap capture to larval damage in the field, as a potentially useful sampling tool for predicting population densities of the RCC and establishing an economic threshold for use in integrated pest management.

Not content with only trapping and studying moths, Maya recruited post-doctoral fellow Inka Lusebrink (Fig. 1H) from Germany to ply her chemical trade against the MPB. When Inka arrived, the MPBs started shaking in their blue stained shoes because she was discovering the volatile signals of their pine hosts, and was linking them to MPB host colonization. So far, the MPBs have been unsuccessful in trying to convince her to take her GC-MS and return to her PhD work discovering new pyridine alkaloids in the pygidial glands of *Stenus* rove beetles (Coleoptera: Staphylinidae) (Lusebrink et al. 2009). It seems that humans, for all of their technology, cannot yet interpret the click and pheromone communication of the MPB. Perhaps in collaboration with Nadir Erbilgin (Assistant Professor and Canada Research Chair in Forest Entomology, Renewable Resources), Inka will discover the Rosetta Stone of MPB communication if she can divert enough of her attention from overwatering and underwatering pine trees in her quest to determine the effect of drought stress on host volatile production in pine.

Rounding out this motley crew of insect abusers is Christina Elliot, a former MSc student from Maya's lab, who has returned as a research assistant to ply her flight mill and fat removal skills to the unsuspecting MPBs.

So, if you happen across a moth sporting only one antenna while on your travels through the University of Alberta Earth Sciences Building, be kind and do not put me under your thumb or in your killing jar. If you belong to my brethren Insecta, pay heed to my warning and avoid ESB 2-14 at all costs.

## References

- Batista, P.D., Keddie, B.A., Dossdall, L.M., and Harris, H.L. 2010. Phylogenetic placement and evidence for horizontal transfer of *Wolbachia* in *Plutella xylostella* (Lepidoptera: Plutellidae) and its parasitoid, *Diadegma insulare* (Hymenoptera: Ichneumonidae). *The Canadian Entomologist*, **142**: 57-64.
- Evenden, M.L. 2009. Biology of *Caloptilia fraxinella* (Lepidoptera: Gracillariidae) on ornamental green ash, *Fraxinus pennsylvanica* (Oleaceae). *The Canadian Entomologist*, **141**: 31-39.
- Evenden, M.L., and Gries, R. 2008. Plasticity of male response to sex pheromone depends on physiological state in a long-lived moth. *Animal Behaviour*, **75**: 663-672.
- Lusebrink, I., Dettner, K., Schierling, A., Müller, T., Daolio, C., Schneider, B., Schmidt, J., and Seifert, K. 2009. New pyridine alkaloids from rove beetles of the genus *Stenus* (Coleoptera: Staphylinidae). *Zeitschrift für Naturforschung C*, **64**: 271-8.



Dear Buggy,

**M**y research is done and my thesis is almost complete but I've hit a snag. My advisory committee wants me to submit at least one of my chapters as a peer reviewed paper before signing off on my defence. They've made some suggestions for journals but they've let me decide where to submit. Is this normal?

Signed 'Writing up in Whitehorse'

Congratulations, WIW. I'm glad to see that you're approaching the end of your graduate school journey.

The request to submit a paper before completion is becoming more and more common. In the past, many students might not publish a single paper out of their thesis. Back then, the thesis held much more weight as the document of record for the work done by the graduate student, and a single paper, especially from a master's thesis, might be all that appears in the published literature. Doctoral degrees are and were a bit different, but the expectation to publish a paper before defending the thesis was still not as strong as it is now.

Today, as you might guess, things are quite a bit different. Supervisors are under pressure to produce articles as a condition of their own promotion, or to show a measure of production for the grants they have received to support their research. As a member of your supervisor's lab and the beneficiary of their grants, this pressure will inevitably be transmitted to you. Also, there are many more graduate students today than there were in the past, and therefore an increasing volume of unpublished theses. If you consider the time and money invested in the average graduate student, it's reasonable to expect that a supervisor might want to see a paper produced from the thesis. All of this is meant to explain that it is indeed quite common, and even justifiable, for the advisory committee to request you submit a paper before you proceed to your thesis defence.

The difficulty in requiring a thesis chapter to be submitted as a paper is that a chapter may require significant reformatting, even revision, before it can be submitted as a paper. If your thesis is typical of most today, you likely organized your data chapters as self-contained units. You'll have written an introductory chapter that sets up your topic and a concluding chapter that presents your general findings. Your thesis will have also been formatted to the style dictated by your graduate school (or committee). This is the standard thesis style common to most graduate programs, at least in Canada. As a coherent document, it enables you to refer back to previous statements or conclusions derived earlier in the thesis. Unfortunately, when it comes time to

---

*Chris MacQuarrie is a research scientist with the Canadian Forest Service in Sault Ste. Marie where he studies the management of native and invasive insects. Currently, he's also learning how to pronounce 'Sault Ste. Marie' correctly.*

*Dear Buggy is always looking for suggestions or guest contributors. Have an idea? Send it to [cjkmacquarrie@gmail.com](mailto:cjkmacquarrie@gmail.com) or post in the Facebook student group.*

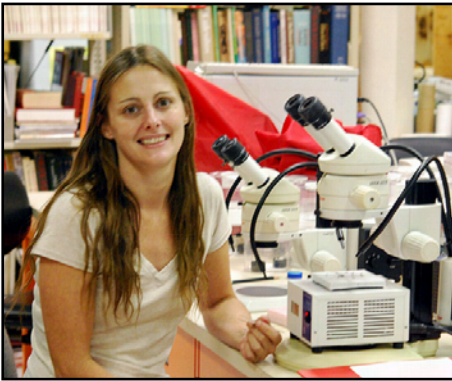
submit your chapter as a paper, you'll have to re-write portions to remove those self-referential bits and reformat the manuscript to match a particular style of journal. I think it is this extra added work, after the thesis has been submitted, that is the biggest barrier to thesis chapters becoming published literature. Students usually want to see their work in the literature, but find it difficult to find the time once they have moved on to new jobs, projects, or commitments. While this might seem to some as breaking part of the unwritten contract you agreed to when you started grad school, there is some merit to this perception among recent graduates.

Some universities and some committees have recognized this problem and have begun to address this issue by allowing students to submit a papers thesis. A papers thesis resembles the typical thesis with an introduction, a set of body chapters that present and interpret the data, and a conclusion that completes the story of the research. The difference is that the body chapters are formatted according to the style guidelines of the journal to which the chapter is submitted. For instance, I might intend to submit the first chapter of my thesis to *Nature*, the second to *Ecology* and the third to *The Canadian Entomologist* (I should ever be so lucky!). Each chapter would then be formatted to the respective target journals submitted 'as-is', either before or after the thesis is submitted for defence. For the student, the main advantage of this paper style is that it requires only one round of formatting, which should decrease the time and effort required to submit the chapters as papers to peer reviewed journals. There is the added advantage that any chapters that have already been published can be included in the thesis in their published form. For the supervisor, this method has the enviable quality of producing a document that can be submitted without much revision should the student decide to abandon the work post-defence.

I'm an advocate for the paper style thesis, but it is not without its own problems. Preparing a study for submission to a journal requires more technical and editorial revision. This is because a chapter submitted for a thesis might not normally be subject to the same degree of editorial rigor that is necessary to produce a manuscript that is suitable for peer-review. There is also the inevitable question of how to relate research that may, for whatever reason, not have been successful or conclusive enough in the eyes of the committee to merit the effort required to prepare it for publication. From the committee's point of view, a paper style thesis can be jarring to read as a complete document. As the reader progresses from one chapter to the next there will be an inevitable shift in tone, organization, and style which detracts from the scientific body of work that forms the thesis. This perceived lack of organization is perhaps the biggest barrier to a paper style thesis. Of course, this disjointedness can be largely offset by carefully written introductory and concluding chapters: the first lays out the thread that runs through the chapters to come, while the latter brings everything together.

By its very nature, a paper style thesis runs contrary to the traditional notion of a thesis. In the past, theses were coherent bodies of work that told complete stories. These documents were the result of intense dedication and perseverance, and were given the same weight as peer-reviewed literature. Today, the level of dedication required to give birth to a thesis has not diminished, but the perception of a thesis as a document has changed. Why and when this occurred is a subject for debate, but today we accord more weight to the peer reviewed literature than we do to the thesis from which it originated. A paper style thesis, while shortening the time to submission, can be seen as degrading the role of the thesis to an amalgamation of related works by the same author. So, moving beyond the question of style, what is the role of a thesis in a graduate student's education? That question would be the basis of countless additional theses, and beyond dear ol' Buggy...

In conclusion, WIW, I realize that I've wandered a bit from your original question. I think it is quite reasonable for your committee to expect you to submit a paper. I'd hope you see it as them looking out for your best interests as a student and a developing scientist. It may be too late for you to adopt a paper style thesis, and indeed your university and committee might not even allow it. But should you go on in graduate school you, and anyone who's just starting to put their thesis together, might want to discuss the idea of a paper style thesis with your committee.



## ESC/ESBC JAM 2010

Whether you're out in the field, stuck in the lab, or writing your thesis, I hope you are all enjoying good weather and your projects. Summer can be a very busy time for entomology students, so don't forget to register and submit your abstract for the Joint Annual Meeting of the Entomological Societies of Canada and British Columbia. The meeting will be held at the Coast Plaza Hotel in Vancouver, from 31 October to 3 November 2010. Information about the meeting can be found at [www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html).

Be sure to check the JAM and the ESC websites, especially the ESC Student Affairs page (<http://www.esc-sec.ca/students.html>), throughout the summer for more information regarding registration, paper submission, conference travel awards, etc.

### Halloween Costume Fun

Because the "fun and exciting" Halloween falls during the annual meeting this year, JAM 2010 organizers invite you to wear your favourite bug or other crazy costume to the General Mixer on Sunday, 31 October 2010. Don't forget to bring your costume with you to the meeting this year if you want to join in the fun! (And, students, remember how busy September and October can be, trying to analyse data and prepare your talk. So, get those costumes ready soon, *before* the craziness of fieldwork begins...)

### Student Mixer: Insect Trivia Contest

At JAM 2010, the Student Affairs Committee will be organizing the 2<sup>nd</sup> Annual Insect Trivia Contest, to take place during the Student Mixer. It was fun for all who participated last year and I'm looking forward to preparing an even better trivia contest this year. Students play in teams of four to earn the prestigious title of "Biggest Bug Nerd 2010" (and perhaps some prizes as well!).

Watch the Student Affairs section of the ESC website and the September issue of the ESC Bulletin for more information about this and other meeting events. It is sure to be a good time, so start thinking about putting together a team and get ready to see who will be The Biggest Bug Nerds in 2010!

### Silent Auction Donations Needed!

The Student Affairs Committee will be holding another Silent Auction this year to raise money for ESC graduate student scholarships and awards. If you or someone you know is cleaning out their office or getting rid of entomology related books or other items (trinkets, artwork, field gear, etc.), please bring them with you to the meeting for the auction. For larger items or donations, or if you would like to send your donations in advance, please contact Melanie Hart at: BISC Office, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6 ([mhart@sfu.ca](mailto:mhart@sfu.ca))

I am looking forward to seeing everyone at the conference!

## **Student Representative of the Entomological Society of Canada and Student Affairs Committee Members: Positions Vacant**

It's hard to believe that almost 2 years have gone by since I became the Student Representative for the ESC, but it has been a great experience and now it's almost time for someone new to take over. I would like to thank all of the members of the ESC Executive, especially Paul Fields and Maya Evenden – I truly appreciate your encouragement and advice and help to learn how the Society works. I certainly have a new appreciation for what makes a Society like ours so great – a lot of hard work by countless volunteers combined with a genuine passion for entomology. It's been an honour to represent the student members of the Society and I hope the new Student Representative enjoys it as much as I did. If you are interested in becoming the new Student Representative, please send me a short email telling me a little about yourself and why you are interested in the position. In addition to attending the Board Meetings of the Entomological Society of Canada and representing the students on voting issues, I have helped organize the annual meetings, the Graduate Student Symposium, Silent Auction, and other student events. The Student Representative's term is generally 2 or 3 years.

As the Student Representative for the ESC is also Chair of the Student Affairs Committee (SAC), I have worked with this committee to update the Directory of Entomology Education in Canada document (available on the ESC website), publish the Thesis Roundup section in the *ESC Bulletin*, and develop other student activities. The SAC is made up of six members whose term is 1 or 2 years, and this year we are looking for some new members. If you are interested in being a member of the SAC, please send me a brief e-mail telling me a little about yourself and why you're interested in being a member of the SAC.

If you are interested in (or have any questions about) either of these positions, please e-mail me at [athielman@brocku.ca](mailto:athielman@brocku.ca).

## **ESC Student Facebook Group**

It's nice to see interest in the ESC Facebook Group page picking up in recent months. It's a great way for entomology students from across the country (and the world) to communicate and stay in touch. It offers students an opportunity to ask other entomology students for advice or suggestions for all things entomological, in a more casual atmosphere. As JAM 2010 approaches, hopefully it can be used to help students organize rides, share rooms, etc. and cut some costs associated with travelling to the meeting.

## **Thesis Roundup**

I haven't received submissions for the Thesis Roundup section since the last issue. If you or someone you know has recently completed an entomology-related degree, please send me (or have the student submit) the following required information:

Name of student, student's email address, degree obtained, date accepted, thesis title, supervisor(s) name(s), institution.

If you would like to submit the required information electronically, please e-mail me at [athielman@brocku.ca](mailto:athielman@brocku.ca).

Otherwise, enter the required information onto the form on next page and mail it to me.

Cheers!

Aynsley



**Thesis Roundup Submission Form**

Name: \_\_\_\_\_

Email address: \_\_\_\_\_

Degree: \_\_\_\_\_

Date: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_

Supervisor(s): \_\_\_\_\_

Institution: \_\_\_\_\_

\*Please note: students and/or supervisors may be contacted to verify the information if sent from second parties.

**Formulaire de soumission – Foisonnement de thèses**

Nom: \_\_\_\_\_

Courriel: \_\_\_\_\_

Diplôme: \_\_\_\_\_

Date: \_\_\_\_\_

Titre: \_\_\_\_\_

\_\_\_\_\_

Directeur(s): \_\_\_\_\_

Institution: \_\_\_\_\_

\*Veuillez noter que les étudiants et/ou les directeurs pourront être contactés pour vérifier les informations si envoyées par une tierce personne.

Please send to/Envoyer à:                      Aynsley Thielman  
 Department of Biological Sciences  
 Brock University  
 500 Glenridge Avenue  
 St. Catharines, ON  
 L2S 3A1

## Graduate Student Symposium 2010: Call for Abstracts

Graduate students are invited to present their research at the 2010 Graduate Student Symposium (GSS). The GSS will be held during the Joint Annual Meeting of the Entomological Societies of Canada and British Columbia, in Vancouver, 31 October to 4 November 2010. The purpose of the GSS is to provide an opportunity for graduate students nearing completion of their degrees to present an overview of their research. Presenters are given more time to talk and answer questions about their research (30 minutes total, 25 for the presentation with 5 minutes for questions) compared to speakers in the President's Prize Competition (15 minutes total; 12 minutes for the presentation and 3 for questions).

**Please note:** The GSS is completely separate from the President's Prize Competition and students wishing to present in both must submit different abstracts and papers for each. (Abstracts received for the GSS but not accepted are not automatically submitted for the President's Prize Competition and vice versa).

As the goal of the GSS is to give a higher profile to graduate students finishing their thesis research, applicants must either have defended their thesis within one year or be planning to defend within 1 year of the meeting.

Eligible candidates who wish to be considered for the GSS should submit the following information electronically **by 25 June 2010 to Chandra Moffat** ([gsscommittee@gmail.com](mailto:gsscommittee@gmail.com)):

- 1) **an expanded abstract** (250 words) describing the proposed presentation,
- 2) **A letter of support** from the principal supervisor that confirms that anticipated or actual date of graduation, and comments on the proposed presentation, and
- 3) **a CV** that includes a list of previous conference presentations.

Unlike abstracts for papers presented in the President's Prize Competition, abstracts for papers presented in the GSS are published in the *ESC Bulletin*, an open access publication, received by all ESC members and by over 300 libraries around the world.

We would like to encourage all eligible students to apply for the GSS this year. Supervisors, please encourage your students to apply and please help us to spread the word! If you know any student who is in the field without the *Bulletin* or internet access, please try to contact them to let them know about the GSS. **Students who have been selected to speak will be contacted by 1 July 2010.**

We are looking forward to helping this year's symposium be a success and would appreciate any comments or suggestions you may have regarding the GSS. Please send your e-mails to [gsscommittee@gmail.com](mailto:gsscommittee@gmail.com) and we will get back to you as soon as we can.

Chandra Moffat

(On behalf of the GSS Organizing Committee)

### Graduate Student Symposium Committee

Chandra Moffat, Chair

Leah Flaherty

Tamara Richardson

P.S. Abstracts for the President's Prize Competition should be submitted to the local organizing committee (not Chandra Moffat) by 1 July 2010. For details, see [http://www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html)

## La réunion conjointe annuelle de la SEC / SECB 2010

Que vous soyez dehors sur le terrain, coincé au labo ou que vous écriviez votre thèse, j'espère que vous profitez du beau temps et de vos projets. L'été peut être une période très occupée pour les étudiants en entomologie, alors n'oubliez pas de vous inscrire et de soumettre votre résumé pour la réunion conjointe annuelle des Sociétés d'entomologie du Canada et de Colombie-Britannique. La réunion se tiendra à l'hôte Coast Plaza à Vancouver, C.-B. du 31 octobre au 3 novembre 2010. Les informations au sujet de la réunion se trouvent sur le site Internet de la Société d'entomologie de Colombie-Britannique ([www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html)). Assurez-vous de consulter les sites Internet de la SECB et de la SEC, particulièrement la page des affaires étudiantes, tout au long de l'été pour plus d'information concernant les inscriptions, soumissions de résumés, bourses de voyages, etc.

### Costumes d'Halloween

Puisque la fête de l'Halloween tombera durant la réunion annuelle cette année, les organisateurs de la réunion conjointe annuelle 2010 vous invitent à apporter votre costume d'insectes (ou autre) favori à notre cocktail le dimanche 31 octobre 2010. N'oubliez d'apporter votre costume avec vous durant la réunion si vous voulez aussi vous amuser ! (Aux étudiants : souvenez-vous à quel point septembre et octobre peuvent être occupés, avec les analyses de données et la préparation de la présentation. Alors préparez vos costumes tôt, *avant* que la folie du travail de terrain ne commence...)

### Cocktail étudiant: Quiz entomologique

À la réunion conjointe annuelle SEC / SECB 2010, le comité des affaires étudiantes organisera le 2<sup>e</sup> quiz entomologique annuel se déroulant durant le cocktail étudiant. Tous ceux qui ont participé l'an dernier ont eu beaucoup de plaisir et j'ai hâte de préparer un quiz encore meilleur cette année! Les étudiants jouent en équipe de quatre afin de gagner le prestigieux titre du « Plus grand nerd des bibittes » (et peut-être également d'autres prix !).

Consultez la section des affaires étudiantes du site Internet de la SEC et le numéro de septembre du *Bulletin de la SEC* pour plus d'information sur cet événement et les autres événements de la réunion. Ce sera sans doute un bon moment donc commencer à penser à rassembler une équipe et soyez prêts à voir qui sera le plus grand nerd des bibittes en 2010!

### Dons pour les enchères silencieuses recherchés!

Le comité des affaires étudiantes tiendra d'autres enchères silencieuses cette année afin d'amasser de l'argent pour les prix et bourses des étudiants gradués de la SEC. Si vous, ou quelqu'un que vous connaissez fait un ménage dans son bureau ou se débarrasse de livres entomologiques ou d'autres articles (colifichets, pièces d'art, équipement de terrain, etc.), merci de les apporter avec vous à la réunion pour les enchères. Pour des articles plus gros ou des dons, ou si vous voulez envoyer vos dons en avance, veuillez contacter Melanie Hart ([mhart@sfu.ca](mailto:mhart@sfu.ca)) à: BISC Office, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6

J'ai hâte de tous vous voir à la conférence!

## Représentant étudiant de la Société d'entomologie du Canada et membres du comité des affaires étudiantes: postes vacants

Il est difficile de croire que presque deux ans se sont écoulés depuis mes débuts comme représentante étudiante pour la SEC, mais ce fut une expérience extraordinaire et il est maintenant presque temps pour quelqu'un d'autre de prendre le relais. Je voudrais remercier tous

les membres du conseil exécutif de la SEC, particulièrement les présidents Paul Fields et Maya Evenden – j’ai vraiment apprécié vos encouragements, vos conseils et votre aide pour comprendre les rouages de la Société. J’ai sans aucun doute une nouvelle appréciation de ce qui rend une société comme la nôtre si grande – beaucoup de dur labeur par un nombre impressionnant de bénévoles, couplé à une vraie passion pour l’entomologie. Ce fut un honneur de représenter les membres étudiants de la Société et j’espère que le nouveau représentant étudiant l’appréciera tout autant que moi. Si vous êtes intéressés à devenir le nouveau représentant étudiant, merci de m’envoyer un court message parlant un peu de vous et des raisons pour lesquelles vous êtes intéressés par le poste. En plus d’assister aux réunions du conseil d’administration de la Société d’entomologie du Canada et de représenter les étudiants sur les questions à voter, j’ai aidé à l’organisation des réunions annuelles, au symposium des étudiants gradués, aux enchères silencieuses et à d’autres événements étudiants. Le poste de représentant étudiant est généralement pour une durée de 2 à 3 ans.

Puisque le représentant étudiant de la SEC est également le président du comité des affaires étudiantes, j’ai travaillé avec ce comité afin de mettre à jour le répertoire des formations entomologiques au Canada (disponible sur le site Internet de la SEC), à publier la section « Foisonnement de thèse » dans le *Bulletin*, et à développer d’autres activités étudiantes. Le comité des affaires étudiantes est composé de jusqu’à 6 membres dont le terme est de 1 ou 2 ans, et cette année, nous recherchons de nouveaux membres. Si vous êtes intéressés à faire partie de ce comité, envoyez-moi un court message me parlant un peu de vous et des raisons pour lesquelles vous êtes intéressés à faire partie du comité des affaires étudiantes.

Si vous êtes intéressés (ou avez des questions) par l’un de ses postes, veuillez m’écrire à: [athielman@brocku.ca](mailto:athielman@brocku.ca).

### **Groupe des étudiants de la SEC sur Facebook**

Il est agréable de voir l’intérêt que la page Facebook de la SEC a attiré dans les derniers mois. C’est un moyen intéressant pour les étudiants en entomologie de tout le pays (et du monde entier) de communiquer et de garder le contact. C’est également une opportunité de demander des conseils ou de donner des suggestions sur n’importe quelle question entomologique aux étudiants en entomologie. Alors que la réunion approche à grands pas, cette page peut être utilisée par les étudiants pour organiser les déplacements, partager des chambres, etc. et ainsi réduire les coûts associés aux déplacements vers la réunion.

### **Foisonnement de thèses**

Je n’ai reçu aucune soumission pour la section Foisonnement de thèses depuis le dernier numéro. Si vous, ou quelqu’un que vous connaissez a récemment terminé un diplôme en entomologie, merci de m’envoyer les informations suivantes:

Nom de l’étudiant, courriel de l’étudiant, diplôme obtenu, date, titre, nom(s) du / des directeur(s), institution

Si vous voulez soumettre les informations électroniquement, envoyez un message à: [athielman@brocku.ca](mailto:athielman@brocku.ca).

Sinon, vous pouvez remplir les informations requises dans le formulaire à la page 67 et me l’envoyer par la poste.

Salutations!

Aynsley

## Symposium des étudiants gradués 2010: Appel à la soumission des résumés

Les étudiants gradués sont invités à présenter leurs recherches au symposium des étudiants gradués (SEG) 2010. Le SEG se tiendra durant la réunion conjointe annuelle des Sociétés d'entomologie du Canada et de Colombie-Britannique à Vancouver, C.-B. du 31 octobre au 4 novembre 2010. L'objectif du SEG est d'offrir aux étudiants gradués approchant la fin de leur diplôme l'opportunité de présenter un aperçu de leur recherche. Les orateurs ont plus de temps pour présenter leur recherche et répondre aux questions (30 minutes au total : 25 minutes de présentation et 5 minutes de questions) par rapport aux présentations faites dans le cadre des sessions du prix du Président (15 minutes au total: 12 minutes de présentation et 3 minutes de questions).

**Veillez noter** que le SEG est complètement indépendant des sessions du prix du Président et les étudiants désirant présenter dans les deux événements doivent soumettre des résumés et présentations pour chacun (les résumés soumis au SEG, mais non acceptés, ne seront pas automatiquement soumis aux sessions du prix du Président, et vice versa). Puisque l'objectif du SEG est de donner plus de visibilité aux étudiants gradués finissant leur thèse, les étudiants doivent soit avoir soutenu leur thèse dans la dernière année, soit prévoir le faire dans l'année suivant la réunion.

Les candidats admissibles voulant être considérés pour le SEG doivent soumettre électroniquement les informations suivantes à Chandra Moffat ([gsscommittee@gmail.com](mailto:gsscommittee@gmail.com)), avant le 25 juin 2010:

- 1) **Un long résumé** (250 mots) décrivant la présentation proposée.
- 2) **Une lettre d'appui** du directeur principal confirmant la date (ou date anticipée) de la graduation, et commentant la présentation proposée.
- 3) **Un CV**, incluant les présentations orales ou par affiche antérieures.

Contrairement aux résumés des présentations du prix du Président, les résumés des présentations du SEG sont publiés dans le Bulletin de la SEC, une publication librement accessible, reçue par tous les membres de la SEC et plus de 300 bibliothèques autour du monde. Nous souhaitons encourager tous les étudiants admissibles à appliquer au SEG de cette année. Superviseurs, veuillez encourager vos étudiants à appliquer et aidez nous à passer le mot! Si vous connaissez des étudiants qui sont sur le terrain et n'ont pas accès à Internet ou au bulletin, veuillez les contacter pour les informer à propos du GES.

**Les étudiants qui auront été sélectionnés seront contactés d'ici le 1<sup>er</sup> juillet 2010.**

Nous espérons que le symposium de cette année sera un succès et nous vous prions de nous transmettre tout commentaire ou suggestion à propos du GES. Veuillez s'il-vous-plaît envoyer vos courriels à [gsscommittee@gmail.com](mailto:gsscommittee@gmail.com) et nous vous contacterons dans les plus brefs délais.

Chandra Moffat (Au nom du comité organisateur du SEG)

### Comité organisateur du symposium des étudiants gradués

Chandra Moffat, Présidente

Leah Flaherty

Tamara Richardson

P.S. Les résumés pour les présentations faites dans le cadre du prix du Président doivent être soumis au comité organisateur local (et non pas à Chandra Moffat), d'ici le 1<sup>er</sup> juillet 2010. Pour plus de détails, veuillez consulter: [http://www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html).

# Joint Annual Meeting / Réunion annuelle conjointe

## THE JOINT ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF CANADA AND THE ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA

Coast Plaza Hotel, Vancouver, British Columbia  
Sunday 31 October – Wednesday 3 November 2010

The Entomological Society of British Columbia invites you to the 2010 Joint Annual Meeting of the Entomological Societies of Canada and British Columbia to be held at the Coast Plaza Hotel and Suites in Vancouver, British Columbia from 31 October to 3 November 2010.

The room rates are \$149 per night plus taxes; each additional adult is \$25.

The Coast Plaza Hotel and Suites  
1763 Comox Street, Vancouver BC V6G1P6  
604-688-7711

[http://www.coasthotels.com/hotels/canada/bc/vancouver/coast\\_plaza/overview](http://www.coasthotels.com/hotels/canada/bc/vancouver/coast_plaza/overview)

### *Important Dates:*

1 July – Deadline for title/abstract submissions  
1 September – Deadline for early registration fees  
30 September – Deadline for hotel room registration

### **Program Highlights**

Our meeting theme is **Communication** – in the widest sense: at the level of insect to insect, insect to entomologist, and entomologist to society.

*Plenary symposium theme: Science Communication: What We Can Learn from Arthropods.*

#### *Proposed Symposia\*:*

Mountain pine beetle system genomics  
Invasive insects  
Insect community ecology  
Mark Winston research retrospective  
Invertebrate conservation  
Application of molecular techniques to entomology  
Chemical communication in insects  
Arachnology  
Terry Shore Memorial Symposium  
Graduate Student Symposium

#### *Heritage Lecture*

#### *Student paper and poster competitions*

#### *Regular poster and presented paper sessions*

\* Check ESBC webpage for updated information, on-line registration and important dates.

### **Committee Representatives & Contact Information**

Meeting Chair/Treasurer:	<b>Bill Riel</b>	<a href="mailto:bill.riel@nrca-nrcan.gc.ca">bill.riel@nrca-nrcan.gc.ca</a>
Science Program:	<b>Ward Strong</b>	<a href="mailto:ward.strong@gov.bc.ca">ward.strong@gov.bc.ca</a>
Local Arrangements:	<b>Sheila Fitzpatrick</b>	<a href="mailto:sheila.fitzpatrick@agr.gc.ca">sheila.fitzpatrick@agr.gc.ca</a>
Registration:	<b>Markus Clodius</b>	<a href="mailto:markus.clodius@agr.gc.ca">markus.clodius@agr.gc.ca</a>

**P.S. Wear your favorite bug costume to our Opening Reception on Halloween Night!**

For more information, see: [http://www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html)

# LA RÉUNION CONJOINTE DE LA SOCIÉTÉ D'ENTOMOLOGIE DU CANADA ET DE LA SOCIÉTÉ D'ENTOMOLOGIE DE LA COLOMBIE-BRITANNIQUE

Hôtel Coast Plaza, Vancouver, Colombie-Britannique  
Dimanche 31 octobre – mercredi 3 novembre 2010

La Société d'entomologie de la Colombie-Britannique vous invite à la réunion conjointe annuelle de 2010 des sociétés d'entomologie du Canada et de la Colombie-Britannique qui se tiendra à l'hôtel Coast Plaza Hotel and Suites à Vancouver, Colombie-Britannique, du 31 octobre au 3 novembre 2010. Le tarif des chambres est de 149\$ plus taxes par nuit; 25\$ pour chaque adulte additionnel.

Hôtel Coast Plaza and Suites  
1763 Comox Street, Vancouver BC V6G1P6  
604-688-7711

[http://www.coasthotels.com/hotels/canada/bc/vancouver/coast\\_plaza/overview](http://www.coasthotels.com/hotels/canada/bc/vancouver/coast_plaza/overview)

## *Dates importantes:*

1 juillet – Date limite pour la soumission des titres / résumés  
1 septembre – Date limite pour les inscriptions hâtives  
30 septembre – Date limite pour la réservation des chambres d'hôtel

## **Aperçu du programme**

Le thème de la réunion est **Communication** – au sens large: au niveau insecte – insecte, insecte – entomologiste, et entomologiste – société.

**Thème de la session plénière: Communication en science: Que pouvons-nous apprendre des arthropodes.**

## *Symposiums proposés\*:*

Génomique du dendroctone du pin  
Les insectes envahissants  
Écologie des communautés d'insectes  
Rétrospective de Mark Winston  
Conservation des invertébrés  
Application des techniques moléculaire  
en entomologie  
Communication chimique chez les insectes  
Arachnologie  
Symposium à la mémoire de Terry Shore  
Symposium des étudiants gradués

## *Allocution du patrimoine*

## *Compétition étudiante: présentation et affiches*

## *Sessions d'affiches et de présentations régulières*

\* Consultez le site Internet de la SECB pour les dernières informations sur les symposiums et les dates importantes.

## **Représentants du comité et contacts**

Président de la réunion/ Trésorier:	<b>Bill Riel</b>	<a href="mailto:bill.riel@nrcan-rncan.gc.ca">bill.riel@nrcan-rncan.gc.ca</a>
Programme scientifique:	<b>Ward Strong</b>	<a href="mailto:ward.strong@gov.bc.ca">ward.strong@gov.bc.ca</a>
Arrangements locaux:	<b>Sheila Fitzpatrick</b>	<a href="mailto:sheila.fitzpatrick@agr.gc.ca">sheila.fitzpatrick@agr.gc.ca</a>
Inscriptions:	<b>Markus Clodius</b>	<a href="mailto:markus.clodius@agr.gc.ca">markus.clodius@agr.gc.ca</a>

**P.S. Portez votre costume d'insecte favori pour la réception d'ouverture le soir de l'Halloween!**  
Pour plus d'information, visitez: [http://www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html)

## **6<sup>th</sup> International Wolbachia Conference**

Asilomar California, USA, 9-14 June 2010

<http://www.wolbachia.sols.uq.edu.au/news.cfm?action=newsitem&id=204>

## **34<sup>th</sup> Annual Meeting of the American Arachnological Society**

Greenville, North Carolina, USA, 11-15 June 2010

[http://www.americanarachnology.org/AAS\\_Meetings/index.html](http://www.americanarachnology.org/AAS_Meetings/index.html)

## **54<sup>th</sup> Livestock Insect Workers Conference**

Knoxville, Tennessee, USA, 27-30 June 2010

## **International Organisation for Biological and Integrated Control of Noxious Animals and Plants (IOBC) (Western Palaearctic Regional Section): "Land-scape management for functional biodiversity"**

Cambridge, U.K., 29 June – 1 July 2010

<http://www.iobc-wprs.org/pub/index.html>

## **6<sup>th</sup> International Conference on the Biology of Butterflies**

University of Alberta, Edmonton, Alberta, 29 June – 2 July 2010

<http://www.biology.ualberta.ca/biobutterfly2010>

## **7<sup>e</sup> conférence internationale francophone d'entomologie**

Louvain-la-Neuve, Belgique, 5-10 July 2010

<http://www.biodiv.be/events/7eme-conference-internationale-francophone>

## **43<sup>rd</sup> Annual Meeting of the Society for Invertebrate Pathology**

Trabzon, Turkey, 11-15 July 2010

[www.sip2010.org](http://www.sip2010.org)

## **International Conference on Invertebrate Reproduction and Development**

Prague, Czech Republic, 16-20 August 2010

<http://icird.bc.cas.cz/>

## **IX<sup>th</sup> European Congress of Entomology**

Budapest, Hungary, 22-27 August 2010

<http://www.ece2010.org/>

## **XIII<sup>th</sup> International Congress of Acarology**

Recife, Brazil, 23-27 August 2010

<http://www.cenargen.embrapa.br/ica13/index.php>

## **Biological Control for Nature**

Northampton, Massachusetts, USA, 3-7 October 2010

<http://biocontrolfornature.ucr.edu/>

## **Joint Annual Meeting of the Entomological Societies of Canada and British Columbia**

Vancouver, British Columbia, 31 October – 3 November 2010

[http://www.sfu.ca/biology/esbc/JAM/jam\\_announce.html](http://www.sfu.ca/biology/esbc/JAM/jam_announce.html)

## **58<sup>th</sup> Annual Meeting of the Entomological Society of America**

San Diego, California, 12-15 December 2010

<http://www.entsoc.org/am/fm/index.htm>



## Amphibious caterpillars in Hawaii

Marla Schwarzfeld

The Hawaiian Islands have long been known as a breeding ground for evolutionary novelties. The extreme isolation means few species managed to find their way to these islands. Once there, the combination of mountainous terrain, varied climate, and the interplay between volcanoes, tectonic plates and erosion allowed species to diversify and colonize new ecological niches in remarkable new ways. Some classic arthropod examples include *Eupithecia* caterpillars (Geometridae) that have abandoned their vegetarian diet in favour of ambushing insect prey, to Tetragnathidae spiders that have ditched their webs, preferring to impale prey on their overdeveloped chelicerae (Montgomery 1982; Gillespie 1992).

Now, another example of the uniqueness of Hawaii's fauna has been brought to light. Researchers Daniel Rubinoff and Patrick Schmitz have found 12 species of caterpillar within the endemic Hawaiian genus *Hyposmocoma* (Cosmopterigidae) that can survive and function equally well whether underwater or on land (Rubinoff and Schmitz 2010). This is the only known case of truly amphibious insects, or indeed of any animal. While many aquatic organisms can tolerate periods of desiccation, and many terrestrial animals can survive extended periods of inundation, only these species are able to feed, breathe and even pupate equally well in either condition.



P. Schmitz and D. Rubinoff

Figure 1. A bugle case species on a silk line underwater.



P. Schmitz and D. Rubinoff

Figure 2. Cone cases sheltering communally in the pockets of volcanic rock.

It's not known exactly how the larvae breathe underwater, as they have no gills, plastron, or other adaptation. The hypothesis is that they breathe directly through their hydrophilic skin. This would explain their reliance on fast-flowing, well-oxygenated streams; Rubinoff and Schmitz found they quickly drown in stagnant water. To avoid being swept away, the larvae use silk threads to attach themselves to the substrate and seek shelter in small pockets in volcanic rocks.

These amphibious species form only a small proportion of the over 350 species of *Hyposmocoma*. All larval *Hyposmocoma* construct silk cases, in which they incorporate small

---

Marla Schwarzfeld ([schwarzf@ualberta.ca](mailto:schwarzf@ualberta.ca)) is a PhD student with Felix Sperling at the University of Alberta. She is currently working on Ichneumonidae systematics and biodiversity, but previously spent 3 years as a research entomologist in Hawaii.

objects such as pebbles and lichens, with separate phylogenetic lineages having evolved a variety of different case shapes. Amazingly, the amphibious lifestyle has evolved independently at least three times within different lineages: the colourfully-named cone type, bugle type and burrito type. Even within the burrito type lineage, the amphibious species do not form a monophyletic group, implying either multiple gains or repeated losses of this unusual aquatic lifestyle. For such a unique lifestyle to evolve not once, but multiple times raises the question of whether it is something inherent in the moths or in the habitat that predisposes them to this innovation. The authors conclude it is likely both. The very diversity of the genus may provide the raw material for such parallel evolution, while the nature of Hawaiian ecosystems, with abundant aquatic habitats, but lacking most continental groups of aquatic organisms, may have provided ample opportunities for the innovation to evolve.

This is not the first time *Hyposmocoma* has made the news. Just a few years ago, Rubinoff's lab discovered that some species consume live snails, using their silk to first attach the snails to the substrate (Rubinoff and Haines 2005). These are the only known Lepidoptera to both eat molluscs and use their silk in a spider-like prey-capturing fashion. Considering that the ecology of many species of *Hyposmocoma* is still unknown, one can't help but wonder what other surprises await in this genus of unprepossessing little moths.

### References

- Gillespie, R.G. 1992. Impaled prey. *Nature*, **355**: 212-213.
- Montgomery, S.L. 1982. Biogeography of the moth genus *Eupithecia* in Oceania and the evolution of ambush predation in Hawaiian caterpillars (Lepidoptera: Geometridae). *Entomologia Generalis*, **8**: 27-34.
- Rubinoff, D., and Haines, W. 2005. Web-spinning caterpillar stalks snails. *Science*, **309**: 575.
- Rubinoff, D., and Schmitz, P. 2010. Multiple aquatic invasions by an endemic, terrestrial Hawaiian moth radiation. *Proceedings of the National Academy of Science*, **107**: 5903-5906.

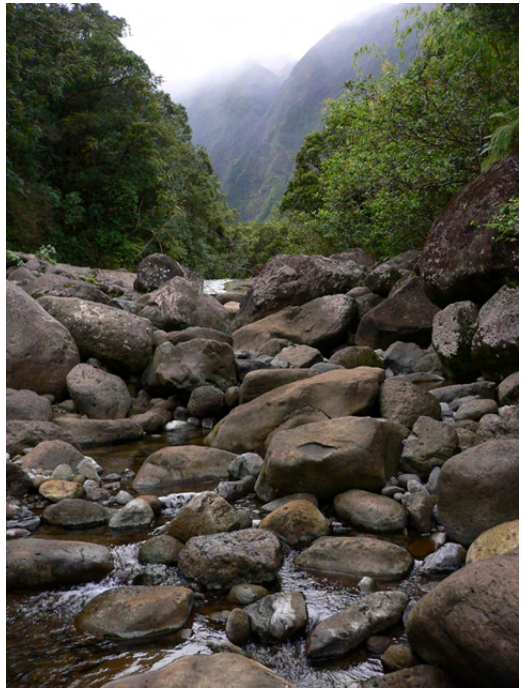


Figure 3. The amphibious species live in and near fast-flowing, forested streams.

P. Schmitz and D. Rubinoff

## Growing pains: How the birth of the Entomological Society of Canada from the Entomological Society of Ontario affected the identity of the Ontario Society

Laura Timms

The histories of the Entomological Societies of Ontario and Canada are inextricably entwined. Both lay claim to the same founding story and early historical narrative<sup>1</sup>, yet also maintain their identities as distinct organizations. Superficially, the history is simple: the Entomological Society of Canada (ESC) was founded in 1863, and changed its name to the Entomological Society of Ontario (ESO) in 1871. The name change reflected the geopolitical changes of the period – Ontario was one half of the Province of Canada when the society was formed and part of the rapidly growing Dominion of Canada when the name changed – as well as a pledge of annual financial support from the government of Ontario received in that year (Saunders 1883). Despite its new name the ESO continued to operate as a national body for almost eighty years, with branches across the country. However, in the period after the Second World War a number of members began to suggest that it was time for the formation of a truly national society. Thus, in 1950 the ESC was founded and began to fulfill its chief function: “to serve as a national society and as the parent association of, or as the link between, the other entomological societies in Canada” (Ozburn 1950).

The foundation of the new ESC effectively resulted in the demotion of the ESO to a regional society. Although other histories written on the subject indicate that this was a smooth transition (Spencer 1964; Holland 1966; Connor 1982), in this paper I argue that the appropriation of their role by the national society caused a great deal of conflict between the two societies as the members of the ESO were forced to reevaluate the purpose and identity of the Ontario society. I will show how this anxiety was manifested in disagreements between the parent society and its offspring over a number of matters in the period between 1950 and 1963, as well as how the ESO began to redefine its identity in the years after 1963. Specifically, I will examine the conflicts and issues surrounding the disposition of shared assets, the organization of annual general meetings, as well as the societies’ publications. This paper will also provide the first written history of the ESO in the years after the foundation of the ESC. It is not my intention to stir up old controversies or animosity, but to provide a written record of this period in the history of both societies – a record that I hope will prove to be both informative and interesting to its readers.

### A complicated relationship

The foundation of the ESC created a society whose affairs were so entangled with those of the ESO that, much like a divorce, a legal agreement was required to sort out which society was responsible for what. The *Instrument of Agreement*, developed after much negotiation between the two societies, was signed on November 1, 1954 and applied retroactively to the activities of the previous three years (Ozburn and Baker 1954). The *Instrument* formalized a number of the arrangements that had been vaguely outlined in the original motion approving the formation of the ESC (Ozburn 1950). These included the point that the ESO should retain possession of its library, a collection of some significance accumulated throughout the

---

Laura Timms ([laura.timms@utoronto.ca](mailto:laura.timms@utoronto.ca)) is in the Faculty of Forestry, University of Toronto. This article was published originally in the *Journal of the Entomological Society of Ontario* (Volume 40:49-56 [2009]) ([www.entsocont.ca](http://www.entsocont.ca)). We thank the author and the Editor of the JESO (Miriam Richards) for permission to reprint this material.

life of the Society, as well as the periodicals received in exchange for the societies' publications. It also defined the understanding that membership in the ESC was compulsory for members joining the ESO. Its main purpose, however, was to clarify the responsibilities related to the joint publication of *The Canadian Entomologist*, an internationally-recognized journal which had been published continuously on a monthly basis since 1868. Although it seemed clear that a journal with that title should be published by a national society, after having published it for more than 80 years the ESO was not ready to give it up completely. By the end of the fifties the *Instrument of Agreement*, whose articles had been designed to help the ESC get off the ground, was causing a great deal of friction between the two societies and was in serious need of revision. In 1957, inspired by a conflict over the distribution of shared membership fees, a special meeting of the ESO Board of Directors was called to address some of the issues that had been "smouldering for years" (Dustan 1957a) between the two societies. The ESO found itself in a difficult position; they no longer wanted to be "tied to the Canada Society" (Dustan 1957b), but they also did not want to lose their share in *The Canadian Entomologist*. By 1958, however, the ESO was forced to admit that "for all intents and purposes the Canadian society had assumed full control" (Peterson 1960) of the journal. A revised *Instrument of Agreement* was developed in 1960, in which the ESO relinquished their rights as publishers of the journal but retained certain residual rights (Peterson et al. 1960). From the ESO's perspective, chief among these residual rights was the request that their historical role be acknowledged in perpetuity on the inside cover of *The Canadian Entomologist*; the particular wording of this clause was the subject of much negotiation (Peterson 1960).

It is likely that much of the conflict between the ESC and the ESO was due to their dual claim to the history of one of the oldest scientific societies in North America; it wasn't clear which, if either, had more of a right to it. This ambiguity stems from the fact that, although the organization had Ontario in its name for seventy-nine years before the founding of the national society, it spent the first eight years of its life with the designation of Entomological Society of Canada. Most histories of the subject written by entomologists take the stance that "though provincial in name, the Society was always national in outlook and objectives" (Holland 1966) and claim the whole record as that of the ESC. The only analysis written by a historian puts forward the opposite opinion; that the ESO was effectively only ever a regional society and that there was no "truly and officially national, professional scientific society" (Connor 1982) of entomology until 1960 when the ESC assumed full control of *The Canadian Entomologist*. Regardless of which viewpoint is correct, it seems likely that the "frictions and confusions of interest" (Dustan 1957a) between the two societies were not only result of the ESO being upset by the assumption of its national role by the ESC, but also by what it saw as the appropriation of its history.

### One hundred years of entomology

Shortly after the revision of the agreement between the ESO and the ESC, the societies were faced with another challenge to their harmonious existence: the celebration of the 100<sup>th</sup> annual meeting of the Society. In previous years, the annual meeting had been one of the most important traditions for the ESO. Special exhibits and scrapbooks were put together for the twenty-fifth, fiftieth, sixtieth, and seventy-fifth annual meetings<sup>2</sup>; large celebrations were thrown for many of these events, including the invitation and participation of representatives of societies and institutions across Canada, the United States, and even the United Kingdom and Europe<sup>3</sup>. When the ESC was formed, it was decided that its annual meeting would always be held in conjunction with one of the provincial societies – the former branches of the ESO (Ozburn 1950). In its first ten years of existence as an independent society, the ESC held joint annual meetings with the ESO four times. In light of both this and their shared history, it is not surprising that the

ESO and the ESC chose to co-organize the 100<sup>th</sup> annual meeting in 1963. However, given the already established disagreements and resentments brewing, it seems inevitable that it would end badly.

Celebration of the centennial anniversary became a matter of intense debate and controversy between the two societies, highlighting the underlying tensions between them. On the surface, much of the debate was about the location of the meeting. At the 1960 annual meeting of the ESO the membership voted to hold the centennial meeting in Guelph, a place that many felt was “inseparably linked with the growth and development of the Society” (McBain Cameron 1962). The ESC centennial committee, however, felt that the meeting should be held in Ottawa, a “location in keeping with the importance of the event” (Holland 1961). The centennial committee presented and won support for their case at the 1961 ESC annual meeting in Quebec. The matter went back to the ESO membership at their 1961 annual meeting, and after “rather extensive discussion” (Holland 1961) they voted to keep the Guelph decision. This resulted in a flurry of angry letters between the board members of both societies, and a special ballot sent out to the membership asking which decision they felt should stand – Guelph or Ottawa. The results of the ballot were dramatic; the decision came in at 80 votes for Guelph and 81 votes for Ottawa, with two votes for Guelph coming in after the deadline had passed (Wressell 1962b). The centennial committee got its way and the meeting took place in Ottawa. The closeness of the vote, however, indicated that beneath the “whole contentious mess” (Wressell 1962a) of the location of the centennial meeting a deeper divergence between the two societies had formed.

### Modern times

In the decades following the centennial celebration, the ESO seems to have become more resigned to its “now wholly provincial” (Holland 1961) role. As the ESC went on to address matters on national policy in science<sup>4</sup>, the ESO became more concerned with keeping their society solvent and relevant. In 1969, the Society gave away one of its most valuable assets, the library it had negotiated to keep from the ESC, to the University of Guelph. It did this despite the original efforts it had gone through to hold on to the library, and despite the fact that it was “worth at least \$50,000” (McBain Cameron 1969), because the space the library was occupying in the Biology buildings was needed and the ESO could not afford to move them elsewhere (Herne 1968). The ESO also became more interested in letting the ESC take on tasks that it might previously have handled. For example, in 1985 the Public Education committee decided to stop pursuing the idea of creating a brochure to promote careers in entomology because of the “feeling” it should be “developed by the national society” (Anonymous 1985) instead. Perhaps most surprising, especially in contrast to the issues of the centennial celebration, is that the 125<sup>th</sup> annual meeting of the ESO seems to have passed with a minimum amount of fanfare. It was not held jointly with the ESC, and the ESO secretary remarked in the January newsletter that the meeting had “a smaller turnout than usual” (Smith 1989) of only seventy attendees. Although there was a speaker at the meeting who reviewed the contribution of the ESO over the years, the President reported that: “financial support was not found for a proposal to prepare a history of the Society” (Jaques 1989).

Financial problems became more critical for the Society as it was forced to turn its secondary publication, the *Annual Report*, into the primary journal of the Society after letting go of *The Canadian Entomologist* for good. The *Annual Report* had never been as widely read as *The Canadian Entomologist*; its continued publication was carried out in large part to fulfill an obligation to the Ontario government. One of the stipulations of the 1871 grant from the Ontario Council of Agriculture was that the society must furnish an annual report on “insects injurious or beneficial to agriculture” (Saunders 1883). For this reason, the papers published in the Report were often less representative of the range of papers presented at the annual meeting than they

were focused on economic and applied issues of entomology. In an effort to change this image of the journal and boost readership, in 1959 the ESO changed the name of the periodical to the *Proceedings of the Entomological Society of Ontario* and began actively to solicit papers of all types. It is not clear how closely the two events are related, but shortly after the name change the Ontario Department of Agriculture proposed to withdraw its financial support (Boyce 1968). The ESO was then faced with the problem of supporting the cost of publication themselves, which left them wondering if the *Proceedings* were “worth the struggle”, especially “since most entomologists publish elsewhere anyway” (Salkeld 1968).

Although the ESO had difficulty maintaining the relevance of and interest in its publication over the past thirty years, it persevered, in large part due to the fact that the Board has been “reluctant to break a series” (Ellis 1984). Once the society was responsible for the cost of the publication it was forced to institute a page charge policy, requiring authors to pay for each page of their articles. This meant fewer manuscripts were put forward, and that one of the tasks of the editor was to constantly badger the membership for submissions (eg. Ellis 1982, Prévost 2002, Richards 2006). Fewer submissions made it harder to stick to the annual publication schedule; a variety of creative means to catch up were employed, including publishing in one volume all of the papers presented at annual meeting symposia (Anonymous 1985b; Kevan 1987; Bolter 1990), as well as dedicating volumes to particular entomologists (Anonymous 1985a; Richards 2007)<sup>5</sup>. In 1989, severe financial troubles obligated the ESO to solicit and accept donations from a variety of sources, including a large pesticide company, in order to continue publication of the journal (Kinoshita 1989). The most recent efforts to increase the profile of the publication included renaming it again in 2002, this time as the *Journal of the Entomological Society of Ontario* (Prévost 2003), as well as making it available online (Richards 2006). During all this time, “discontinuing *The Proceedings*” was “out of the question” (Marshall 1989), an attitude which emphasizes the ESO’s particular commitment to its history.

While much of the evident tension between the two societies appears to have dissipated after the 1963 meeting, the ESC continued to experience problems with the ESO that it did not with the other provincial societies, specifically related to the organization of annual meetings. One past president of the ESC did not hesitate to point out Ontario as an example of the “problems [that] do exist in some regions” (Cooper 1976). It was perhaps for this reason that the ESC executive voted in 1977 to hold a joint meeting with the Entomological Society of America in 1982 in Toronto without the support of the ESO, a decision that the Ontario society felt left them “out in the cold” (Smith 1977). Finances and annual meetings were another issue. Beginning with the 1963 meeting, the ESC attempted to establish a procedure for the sharing of profits and losses related to joint annual meetings (Munroe 1962). As of 2005, the ESC was still trying to formalize this process. Although most of the other provincial societies have abided by the “rather loose arrangement” (Shore 2005) of sharing half the profits of joint annual meetings with the national society, the ESO has not always been cooperative; after the 2001 joint annual meeting in Niagara Falls the ESO declined to give any of the profits to the ESC (Hunt 2001), causing much consternation in the national society. However, after the 2008 joint annual meeting in Ottawa the ESO gave 51% of the profits to the ESC (C. Scott-Dupree, personal communication), a sign of the generally amiable relationship that currently exists between the two societies.

## Conclusion

All previous histories of the ESO and ESC have ended their narratives at or shortly after the celebration of the centennial; in reading them one gets the impression that the creation of the national society had been the ultimate goal of the ESO. This paper has shown that this was not the case, that it took at least a decade for the members of the ESO to adjust to their altered role as a provincial society and that occasional remnants of this strain remain in evidence to this

day. Furthermore, the shared history and subsequently tumultuous division of the two societies has created a distinctive connection between them that deserves to be celebrated and explored. This investigation should be of interest to those wishing to produce more complete histories as the 150<sup>th</sup> anniversary of organized entomology in Canada approaches.

### Acknowledgments

The assistance of the staff at the archives, McLaughlin Library, University of Guelph, in providing access and photocopies of archival material is greatly appreciated. Information and suggestions provided by Kevin Barber (Treasurer, ESO) and Sandy Smith (former Secretary and President of the ESO) were also helpful. Finally, I thank Steve Walker for useful comments on an earlier version of this manuscript.

### References

- Anonymous. 1985a. Dedication. *Proceedings of the Entomological Society of Ontario* 116: iv.
- Anonymous. 1985b. White pine symposium: foreword. *Proceedings of the Entomological Society of Ontario – Supplement to Volume 116*: v.
- Bolter, C.J. 1990. Sustainable agriculture and forestry: an entomological perspective. *Proceedings of the Entomological Society of Ontario* 121: 1-3.
- Boyce, H.R. 1968. Letter to D.H. Pengelly, dated 16 January 1968. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 21.
- Connor, J.T.H. 1982. Of Butterfly Nets and Beetle Bottles: The Entomological Society of Canada, 1863-1960. *History of Science and Technology in Canada Bulletin* 6: 151-171.
- Cooper, G.S. 1976. Letter to M.E. MacGillivray, dated 6 December 1976. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 1.
- Dustan, G.G. 1957a. Letter to B.M. McGugan, dated 22 November 1957. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 10.
- Dustan, G.G. 1957b. Letter to A.S. West, dated 27 November 1957. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 10.
- Ellis, C.R. 1982. Editor's Report, dated 26 November 1982. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 17.
- Ellis, C.R. 1984. Editorial Committee Report. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 17.
- Herne, D.C. 1968. Letter to W.C. Allan, no date 1968. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 10.
- Holland, G.P. 1961. Report number two of the Centennial Committee to the Board of the ESC, dated 15 December 1961. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 21.
- Holland, G.P. 1966. Entomology in Canada, pp. 7-13 *In Centennial of Entomology in Canada 1863-1963*. G.B. Wiggins (ed.), Toronto.
- Hunt, D. 2001. Minutes of the Interim Board Meeting, dated 20 April 2001. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 31.
- Jaques, R. 1989. Report of the Entomological Society of Ontario 1988-89. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 30.
- Kevan, P.G. 1987. Alternative pollinators for Ontario's crops: prefatory remarks to papers presented at a workshop held at the University of Guelph, 12 April, 1986. *Proceedings of the Entomological Society of Ontario* 118: 109-110.
- Kinoshita, G.B. 1989. Letter to H. Goulet, dated 5 June 1989. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 30.
- Marshall, S. 1989. Treasurer's Report. ESO Newsletter, January 1989, Entomological Society of

- Ontario Collection, University of Guelph Archival and Special Collections, Box 30.
- McBain Cameron, J. 1962. Letter to H. B. Wressell, dated 14 March 1962. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 21.
- MacBain Cameron, J. 1969. Letter to W.C. Allan, dated 10 March 1969. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 10.
- Munroe, E.G. 1962. Letter to H.B. Wressell, dated 9 November 1962. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 21.
- Ozburn, R.H. 1950. Report of Council, 1950. Annual Report of the Entomological Society of Ontario 81: 6.
- Ozburn, R.H. and Baker, A.W. 1954. Instrument of Agreement between the Entomological Society of Canada and the Entomological Society of Ontario, Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 18.
- Peterson, D.G. 1960. Letter to B. Hocking, dated 18 January 1960. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 30.
- Peterson, D.G., Allan, W.C., Hocking, B., and Reed, L.L. 1960. Revision to Instrument of Agreement Between the Entomological Society of Canada and the Entomological Society of Ontario. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 30.
- Prévost, Y. 2002. Proceedings of the Entomological Society of Ontario. Newsletter of the Entomological Society of Ontario 7(2): 7. Available online at: <http://www.entsocont.ca>.
- Prévost, Y. 2003. Journal of the Entomological Society of Ontario Renamed! Newsletter of the Entomological Society of Ontario 8(1): 1. Available online at: <http://www.entsocont.ca>.
- Richards, M. 2006. JESO News. Newsletter of the Entomological Society of Ontario 11(2): 3. Available online at: <http://www.entsocont.ca>.
- Richards, M. 2007. From the Editor. Journal of the Entomological Society of Ontario 138: 1.
- Salkeld, E.H. 1968. Letter to D.H. Pengelly, no date 1968. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 21.
- Saunders, W. 1883. Annual Address of the President. Annual Report of the Entomological Society of Ontario, 14: 8-13.
- Shore, T. 2005. Survey for refinements to the arrangements between the Entomological Society of Canada and the regional societies for organization and operation of joint annual meetings, dated 21 November 2005. Received by e-mail to author from David Hunt on November 22, 2005.
- Spencer, G.J. 1964. A Century of Entomology in Canada. The Canadian Entomologist 96: 33-59.
- Smith, M.V. 1977. Letter to E.A.C. Hagley, dated 18 October 1977. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 2.
- Smith, S. 1989. 1988 Annual Meeting (Guelph). ESO Newsletter, January 1989, Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 30.
- Wressell, H.B. 1962a. Letter to A.W.A. Brown, dated 14 March 1962. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 21.
- Wressell, H.B. 1962b. Letter to A.W.A. Brown, dated 24 August 1962. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 21.

### Notes

- 1 See, for example, the web pages for each society, which contain the same description of their origins: *About the ESO*, online, no date, available at: <http://www.entsocont.ca> (accessed 1 May 2008) and *History of the Entomological Society of Canada*, online, no date, available at: <http://www.esc-sec.ca/about.html> (accessed 1 May 2008)
- 2 Programs of many of the annual meetings are available in the Entomological Society of Ontario



- Collection, University of Guelph Archival and Special Collections, Boxes 9, 16 and 20.
- 3 For example, the scrapbook for the 50<sup>th</sup> anniversary celebrations included telegrams and letters of congratulations from 35 groups and institutions, and attendees of the meeting included representatives from an additional 56 different societies, institutes, departments, etc. Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections, Box 19.
- 4 For example, the ESC became heavily involved in the Biological Council of Canada in the 1970s and provided a number of briefs to the Federal Government on various issues such as the teaching of Biology in Canadian Universities and the publication of Canadian Science Journals. See Boxes 1 and 2 in the Entomological Society of Ontario Collection, University of Guelph Archival and Special Collections.
- 5 Interestingly, Volume 116 (1985) as well as Volumes 137 and 138 (2006 & 2007) were all dedicated to D.H. Pengelly, former secretary and treasurer of the ESO. As far as I am aware, no other person has had volumes of the Proceedings/Journal dedicated to them.

## People in the news / Gens qui font les manchettes

### Art Borkent's work: taxonomy at its best

Congratulations to Art Borkent for being selected as the 2010 recipient of the J.O. Westwood Medal, for his 2008 monograph *The Frog-Biting Midges of the World (Corethrellidae: Diptera)* published in *Zootaxa*, 1804: 456 pp (see <http://www.mapress.com/zootaxa/2008/f/z01804p456f.pdf>). Art has worked independently since 1989 but is a research associate with the Royal British Columbia Museum in Victoria, British Columbia, the American Museum of Natural History in New York, and the Instituto de Biodiversidad in Costa Rica.

The Westwood Medal (see [http://www.royensoc.co.uk/awards/J\\_O\\_Westwood\\_medal.htm](http://www.royensoc.co.uk/awards/J_O_Westwood_medal.htm)), is awarded by the Natural History Museum, London, and the Royal Entomological Society for the best comprehensive taxonomic work on a group of insects or related arthropods as selected by an international panel of adjudicators. The time, date and location of the award ceremony have yet to be determined.



Annette Borkent

A pleased Art Borkent in front of the Multnomah Falls, Oregon.

## Umut Toprak: a double-award winner

Umut Toprak, a PhD student in the Department of Biology, University of Saskatchewan, recently learned that he has received two awards, one international, the other national. Remarkably, Umut received notification of the two awards within a few hours on the same day!

Umut is the winner of the Society for Invertebrate Pathology's 2010 Mauro E. Martignoni Award, which is the Society's premier award for student research. He will receive the award (and \$1000) and present a paper on his work at the Society's 43<sup>rd</sup> Annual Meeting in Trabzon, Turkey (which coincidentally is Umut's home country), in July.

Umut has also received the Canadian Society of Agronomy Pest Management Scholarship for 2010, worth \$500. Again, Umut will receive the award and present a paper at the Society's meeting, set for Saskatoon, in June.

Umut is studying the structure and functions of the peritrophic matrix of the bertha armyworm (*Mamestra configurata*), a sporadically important pest of canola. The peritrophic matrix is a thin fibrous sheath that lines the midgut of insects. His research, which includes both genomic and proteomic investigations, has provided important information on the production, location and role of some major proteins within the layer. The work has potential significance in the development of novel strategies for control of insect pests through disruption of the insects' ability to process their food. Umut's research is being directed by Dwayne Hegedus, Martin Erlandson (both with Agriculture and Agri-Food Canada, Saskatoon Research Centre), and Cedric Gillott, Emeritus Professor, Department of Biology, University of Saskatchewan.



Huseyn Uysal

Umut Toprak, mingling with some morpho butterflies.

---

## Book available for review

*Ant Encounters: Interaction Networks and Colony Behavior.* Gordon, Debora M. Princeton University Press.

To review this book, please contact:

Peter de Groot  
Chair, ESC Publications Committee  
Great Lakes Forestry Centre  
Natural Resources Canada  
1219 Queen Street East  
Sault Ste. Marie, ON P6A 2E5  
Tel: 705-541-5640 Fax: 705-541-5700  
E-mail: [pdegroot@nrcan.gc.ca](mailto:pdegroot@nrcan.gc.ca)



*Diptera Diversity: Status, Challenges and Tools.* Pape, T., Bickel, D., and Meier, R. (eds.) 2009, Brill, Leiden, The Netherlands. xx, 460 pp. ISBN-13: 978 90 04 14897 0; ISBN-10: 90 04 14897 3. US\$186.00

This book is one of those rare things: a multi-author, multi-editor collection of papers that comes together into a truly essential volume. It is a milestone in dipterology and will be a much-consulted volume for anyone interested in biodiversity or biogeography. The editors are to be commended for their choice of authors and for their role in ensuring the evenly high quality of writing.

The book begins with an insightful foreword by coleopterist Quentin Wheeler, breezy in style but erudite in content, cutting to the essence of the book and commenting on many of the main points. Interestingly, Wheeler singles out Chapter 10, in which Daniel Bickel discusses intractable taxa in the Diptera, as the one chapter with which he is “in deep disagreement”; he then spends half a page emphasizing the need for dedicated taxonomists to tackle all taxa, including those

Bickel calls “open ended”. Almost every contributor to this volume reiterates this critical need – and it needs reiteration – so there is no disagreement there. The apparent disagreement is between those, like Wheeler, who emphasize the urgency of naming and mapping every species now, and those, like Bickel, who argue that this is neither urgent nor possible. I see this as an interesting difference of opinion that bears directly on an underlying theme of the book, so I will begin with brief comment on Chapter 10 before proceeding to Chapters 1-9 and 11-15.

The contentious Chapter 10 is titled “Why *Hilara* is not amusing: the problem of open-ended taxa and the limits of taxonomic knowledge”. The introduction is a nicely written reality check for those who think that new tools and technologies in themselves will allow meaningful and immediate treatment of the hundreds of thousands of remaining undescribed fly species given that “appropriate keys do not exist, old descriptions are unusable, and there are insufficient taxonomists in the world”. Bickel reviews eleven intractable, or “open ended” fly groups for which we cannot even come up with reasonable estimates of diversity. The empid genus *Hilara* is one, the phorid mega-genus *Megaselia* is another, and of course further examples will be apparent to any dipterist. Bickel provides measures by which to identify these “open ended” taxa and suggests that the World species of such groups will take generations of collecting and taxonomic study before they are all named and classified. Wheeler might see this as a crisis but I agree with Bickel that this overwhelming wealth of dipterological diversity is a treasure trove rather than a problem. As he puts it “I love these large, open-ended taxa and their infinite variety”. The problem is that “proposals to taxonomically describe all life on Earth fail to understand the diversity of highly speciose taxa”. It is against the backdrop of this immense dipteran diversity, and always bearing in mind how few are the practicing Diptera taxonomists, that we can move on and look at Chapters 1-9 and their detailed, insightful treatments of Diptera diversity for each biogeographical region

and two important Pacific archipelagos. These chapters are the meat of the book, and render it an original and substantive treatment of global biogeography.

Chapter 1, by Christian Thompson, is a bit of an outlier in terms of content and currency, perhaps because it is simply a sprucing up of a chapter published in Kosztarab and Schaefer (1990), as reflected in the title “Nearctic Diptera: twenty years later”. Thompson briefly reviews the history of work on Nearctic flies, and points out that there has been a 25% decrease in authors publishing new species in the last 20 years. He correctly points out that part of the problem is a decline in support and resources, but also recognizes that major exotic survey projects have diverted North American taxonomists from the Nearctic fauna. Very little of this chapter is devoted to characterising the Nearctic fly fauna, and much space is devoted to estimating levels of knowledge and trends. Collections and human resources are considered in interesting detail, including a fascinating breakdown of workers into various categories (amateurs, students, museum workers, university faculty, retired). This has changed over the past 20 years with numbers of university-based systematists dropping by half, and the largest component now made up of retired scientists. Thompson’s detailed discussions of human resources inexplicably leave out some significant university programs, such as McGill University’s important dipterology research group. Much space is devoted to general expressions of the author’s opinions about fly classification and technology, especially his central point that new technologies are critically important. Here, Thompson’s criticisms of productive programs that don’t use his favorite technologies seem spurious (see also chapter 14), and his summary statement that the study of Nearctic Diptera “remains stagnant” gives short shrift to the fine work being done by many young (and old) North American dipterists. Still, one can only agree with Thompson’s plea for “the training of new dipterists and the securing of permanent positions for them”. The chapter is followed by a potentially valuable table, largely generated from the Bio-Systematic Database of World Diptera (BDWD), listing actual and estimated Nearctic species for various taxa. I can only assess the numbers in that table for the family I study, the Sphaeroceridae, and they are peculiar. Having studied that family for 30 years, and having a comprehensive collection of Nearctic sphaerocerids at my fingertips, I am confident that the Nearctic Sphaeroceridae are at minimum 90% described, not 70% as in Thompson’s table.

Chapter 2, by Hawaiian dipterist Neal Evenhuis, is a look at the well-known biodiversity hotspot that is the Hawaiian Islands, beginning with a general introduction to Hawaii and proceeding to a description of the Diptera fauna peppered with examples from several groups of endemic flies, followed by discussions of biogeographic affinities, threats, and past and present dipterological research in Hawaii. My one small criticism of this interesting and nicely written chapter is the repeated claim that “Hawaii harbors the highest diversity of endemic Diptera per land unit of any area in the world”. A total of 1104 endemic Diptera in a land area of around 16,600 km<sup>2</sup> (about 1 fly species per 15 km<sup>2</sup>), is indeed impressive but some smaller land areas with fewer endemics have higher diversity per land unit. For example, the Juan Fernandez Island group, an isolated archipelago off the coast of Chile, has more than 100 named endemic fly species on a total land area of only 85 km<sup>2</sup>. The number of endemic Sphaeroceridae alone on the Juan Fernandez Islands is more per unit of land area than the total number of endemic Diptera per unit of land area in Hawaii. This picky point does not diminish the claim that Hawaii’s incredible endemism is essentially unparalleled, and it is certainly not a significant flaw in this authoritative chapter.

Chapter 3 deals with the Neotropical Region, in my opinion the most dipterologically exciting part of the planet. Brazilian dipterist Dalton de Souza Amorim adeptly summarizes the historical biogeography of this complicated region, considering both affinities to other regions and the vicariance biogeography of main areas of endemism within the region. The author’s special interest in extinct and extant lower Diptera is reflected in his many authoritative examples. This chapter is especially noteworthy for its inclusion of the best concise summary of Neotropical zoogeography I am aware of. The only error I could find was very trivial – Megamerinidae don’t

occur in the Neotropics (and this is an error in the BDWD database from which most authors of this book drew their data).

Chapter 4 is an authoritative overview of the Diptera of the Galapagos by Canadian dipterist Bradley Sinclair. Brought to life with photos and text from Sinclair's work surveying the flies of the islands, this chapter succinctly covers the origins and diversity of the Galapagos Diptera, discussing each family in a level of detail not practical in other chapters covering larger areas. Introduced flies and other threats to the fauna are discussed, as is the history of collecting on the islands. The 294 species of Diptera known from the Galapagos renders the flies of these islands relatively thoroughly documented, but this chapter concludes that much work remains even here.

Chapter 5, by Danish dipterist Thomas Pape, deals with the Palaearctic Region. With about 45000 known species (27% of the World's described species) the Palaearctic fly fauna is exceptionally well known but, as Pape shows, species are still being discovered. Pape reviews the history of dipterology in Europe and illustrates his review with tables of species described per year, total species accumulated, and numbers of authors per decade. Remarkably, all these graphics indicate that the task remains incomplete, and that the species accumulation curve shows no sign of flattening out. Much of the chapter provides a dipterist's view of Palaearctic zoogeography, giving examples of various faunal elements, large families, least and best known groups, missing families and various other patterns. There is a section on the past and present collecting of flies in the Palaearctic, a brief discussion of the taxonomic tools and bioinformatics initiatives that put the large European dipterist community at the forefront of the science, and a concluding section on fly conservation in this heavily impacted region.

Chapter 6, by South African dipterists Ashley Kirk-Spriggs and Brian Stuckenberg, is a concise summary of zoogeography and fly faunistics for the Afrotropical Region. Especially interesting examples are given for the South African and Namibian faunas, and the origins and relationships of these faunas are discussed at length. Other important areas of endemism, including rainforests, afro-montane forests, arid coasts and savannas are more briefly discussed, as is the fascinating fly fauna of Madagascar. The endemic African families Mormotomyiidae, Marginidae, Natalimyziidae and Glossinidae are treated individually, and an extensive discussion of possible Gondwanan elements in the Afrotropical fauna is provided.

Chapter 7, by Belgian dipterist Patrick Grootaert, deals with the Oriental Diptera as a "challenge in diversity and taxonomy" and succeeds in making me want to pack up tomorrow to follow the footsteps of Wallace in exploring this biogeographically complex region. Grootaert reviews the boundaries of the Oriental Region (especially Wallacea, the complex transition zone between the Australian and Oriental Regions) and then considers the history and origins of this "giant jigsaw puzzle of continental fragments". This summary should be of value to any biologist interested in Oriental distributions. The latter part of the chapter deals with Oriental dipterology past and present, clearly showing that the region is very poorly known and suggesting that most Oriental Diptera remain to be described. Examples from the author's own work on Oriental empidoidea include one study in which 48 of 52 species of *Elaphropeza* collected in one Singapore study were new to science. Having essentially issued a challenge by citing this high novelty rate, Grootaert goes on to discuss hotspots, regional diversity and areas of high endemism, all in the context of the zoogeographic affinities of Oriental flies (especially empidoidea).

Chapter 8, by Australian dipterists David Yeates, Daniel Bickel, David McAlpine and Don Colless, nicely summarizes the diversity, relationships and biogeography of Australian flies. As is true for most of the other chapters dealing with major biogeographic regions, this chapter includes a short treatment of the biogeography of the region before dealing specifically with the fly fauna. The biogeography of Australian Diptera is considered according to four faunal elements (Pangean, Gondwanan, Asia Tertiary and Modern) with an especially detailed treatment of the rich and interesting Gondwanan fly fauna of eastern Australian and Tasmanian rainforests. The chapter

touches on some of the more morphologically or behaviorally interesting Australian flies, and also points out how much work remains to be done with Australian Diptera. The need for further work on taxonomically “orphaned” taxa, which remain very poorly known in the region, is emphasized, as is the need for more keys to Australian flies.

Chapter 9, by Daniel Bickel, deals with southwest Pacific islands. The zoogeography of the region, including New Zealand, New Guinea, Fiji, Vanuatu, New Caledonia, the Bismarck Archipelago and the Solomon Islands, is considered in some detail and illustrated with examples from the Diptera. This chapter focuses more narrowly on biogeography than other chapters, providing an interesting treatment of patterns and process in island biogeography and a concise overview of distribution patterns in the Southwest Pacific.

The remaining chapters move away from the treatment of biodiversity at the regional level, and examine dipteran diversity from the perspectives of ecology and bioinformatics.

In Chapter 11 Belgian dipterist Marc Pollet addresses ecological aspects of dipteran diversity with an emphasis on European studies of the diverse family Dolichopodidae. His central theme is that the Dolichopodidae are useful ecological indicators, and this point is illustrated by laying out criteria for useful indicators (taxonomic, biogeographic, biological, logistic). Pollet shows, with examples from work in Western Europe, how the Dolichopodidae are suitable for ecological studies even though most other fly families in most parts of the world remain inadequately known for this purpose.

Chapter 12, by the international team of Torsten Dikow, Rudolf Meier, Gaurav Vidya and Jason Londt, examines one aspect of the value of taxonomic revisions to biodiversity research. It should, of course, be obvious to any biologist that taxonomic revisions form the necessary foundation upon which all biodiversity work stands, but sometimes the obvious needs to be explained, substantiated and quantified. This stimulating chapter focuses on the specimen data currently available in revisions of fly taxa, and shows how such data is an undervalued source of information for biodiversity research and can be used for quantitative assessment of species richness, endemism, species at risk, and species diversity. Most examples are drawn from studies of Asilidae of Europe and sub-Saharan Africa, and emphasize the quality of data available in taxonomic revisions. Having seen many expensive databasing projects mired in the capture of dubious information from drawers of specimens in unrevised taxa, I was delighted to see this chapter substantiate the obvious point that specimens examined by specialists in the course of revisions are of exceptional value. Among other things, the authors illustrate this point by analyzing specimen data from published revisions of Asilidae, showing that biodiversity hotspots can be accurately recognized from this freely available data.

Chapter 13, by Rudolf Meier and Guanyang Zhang, addresses the “hot” topics of DNA barcoding and DNA taxonomy, using publicly available dipterological data to objectively assess claims that DNA sequences alone are sufficient for identification or describing species. The authors focus on one gene, cytochrome c oxidase subunit 1 (CO1), in part because this is the infamous “barcode” gene and in part because of the extensive CO1 data set available for the Diptera. They point out that early extravagant claims about the potential of the “barcode” gene to identify almost all specimens were “a success with those funding agencies that have a taste for ambitious projects” but have been “less popular with systematists” because of various problems illustrated in this chapter using fly CO1 sequences in GeneBank. For example, Meier and Zhang suggest that the data do not support the idea of a “barcoding gap” between intraspecific and smallest interspecific variability across the data set. Neither do their data support the idea that CO1 is likely to become a reliable identification tool, in part because the success rate of barcode identification of known species in the database using different approaches ranged from 60% to 90%. The low of 60% comes from the NJ approach widely used in barcode identification, an approach that they suggest is in any case flawed because of the untenable assumption that species must be monophyletic. This chapter also discusses other problems with DNA identification, including the improbability of obtaining adequate species coverage in a

barcode database in a reasonable period of time given that less than 1% of named Diptera species have been thus far sequenced for CO1. The authors also state that they “believe that CO1 is of relatively low diagnostic value when it comes to distinguishing closely related species”.

This chapter next addresses DNA taxonomy, the idea that not just identification but also species discovery and description should be DNA-based. Using the same CO1 dataset the authors evaluate each of the main approaches to DNA taxonomy (genetic distance thresholds, diagnostic differences, tree-based analyses), pointing out several problems that would render a DNA taxonomy impractical. Unsurprisingly, this chapter wraps up with the obvious point that taxonomy should be integrative, using morphology as well as DNA. The authors point out the potentially disastrous consequences of a shift to DNA-only taxonomy, and conclude that “approaches to taxonomy that rely exclusively or mostly on DNA sequences are undesirable because they suffer from serious connectivity problems; the new will become disconnected from the old and the poor from the rich”.

Chapter 14 is a general overview of biodiversity informatics by Australian dipterist Shaun Winterton. The tone of this chapter is decidedly evangelistic, from the introductory claim that “tedious analysis of primary data is no longer the dictum” through to this concluding statement “Diptera research, especially collection-based systematics studies, is at a crossroads: continue using outdated and time-consuming methodologies to study fly natural history and biodiversity or embrace new informatics technologies and develop dipteran research in new and innovative directions”. Thompson, in Chapter 1, expressed similar opinions as he decried “a reluctance of workers to abandon the ancient techniques they have used for centuries”. All scientists (even taxonomists!) look for the most efficient ways to reach their objectives, and everyone welcomes a new advance that will enhance the quality or quantity of their work. But our work should be judged by that quantity and quality ... not on the tools we use to reach those objectives. That said, Winterton does offer an interesting overview of some of the new (and not so new) tools worth considering. He makes a strong case for the need to adopt new technologies, and cites a few examples of good products, including his own outstanding work on Australian stiletto flies, enhanced by some of those technologies. It is ultimately those examples that will influence other dipterists.

Chapter 15, by Gail Kampmeier and Michael Irwin, discusses the specimen databasing program MANDALA, developed as part of the Therevidae research program funded by an NSF PEET (Partnerships for Enhancing Expertise in Taxonomy) grant. MANDALA is an open-source program built on the cross-platform database engine FileMaker® Pro, and is freely available from the first author of the chapter. Kampmeier and Irwin here review this feature-rich program and illustrate its structure and use. The chapter is clearly written and detailed enough to provide useful guidance and background for users of MANDALA.

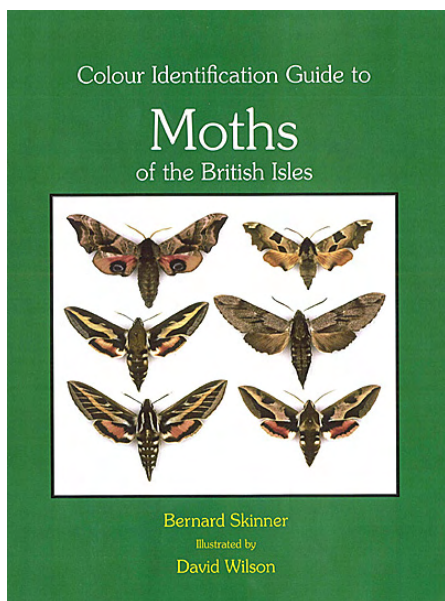
There is one appendix, a table giving species of Diptera per family for all regions (based on the Biosystematic Database of World Diptera).

In summary, this is an extraordinarily useful and interesting book. It is essential reading for anybody interested in Diptera or global zoogeography, and would be of value to anyone with an interest in taxonomy and biodiversity. The only downside is the price, which is likely to deter many entomologists from adding it to their own bookshelves.

## Reference

Kosztarab, M., and Schaefer, C.W. 1990. Systematics of the North American insects and arachnids: status and needs. Virginia Agricultural Experimental Station, Information Series 90-1: 247 pp.

S.A. Marshall,  
University of Guelph



*Colour Identification Guide to Moths of the British Isles (Macrolepidoptera)*. Skinner, B., and Wilson, D. 3<sup>rd</sup> revised edition. 2009. Apollo Books, Stenstrup, Denmark. 325 pp. (Hardcover) US \$99.00, €69.00. ISBN 978-87-88757-90-3.

The moths of the British Isles are undoubtedly among the most thoroughly studied and documented of any of the global moth faunas, making it (and the European fauna in general) the “go-to” place for in-depth biological information on holarctic groups, since many temperate North American species have related European counterparts. The “*Colour Identification Guide to Moths of the British Isles*” provides a succinct pictorial and text summary of the “macro-moth” fauna, in a very manageable 7½” by 9¾” format. Taxonomic coverage includes the traditional macro-moth families, and also the larger micro-moths, that is, Hepialidae, Sesiidae, Cossidae, Zygaenidae and Limacodidae. Updated from the 1998 edition, 195 pages of text are com-

plemented with 45 colour plates illustrating life-size specimens; an additional 6 plates show species and variants added since the first edition, rendered as right-side wings only. The quality of the illustrations is generally excellent, and even the smallest species in the additional plates (reproduced at 2× life size) have excellent colour reproduction and resolution. In the main plates, the smallest species (such as the nolids with wing spans under 2 cm) would have benefited from a magnified illustration, as these appear slightly out-of-focus. It is unfortunate that the specimens illustrated in the additional plates could not have been incorporated in phylogenetic or generic sequence with the previous 45 plates, as the resulting sequence is rather disparate; for example, *Nycteola* species appear on plates 40, 45, and F.

The main body of text consists almost entirely of species accounts, with brief paragraphs introducing some families. In keeping with the purpose of a compact identification guide, introductory text sections are limited to a 1-page glossary and schematic drawing. Taxonomy and systematic placement of species are based on Bradley’s Checklist of Lepidoptera Recorded from the British Isles (2000). The systematic arrangement of the Noctuidae is unfortunately quite outdated, and no mention is made of more recent systematic changes, summarized, for example, by Fibiger and Hacker (2005). As a result, species are maintained in older concepts of polyphyletic subfamilies, such as the Hadeninae and Cuculinae, resulting in unrelated species being grouped together.

Species accounts are divided into sections on Variation (where needed), Imago, Larva, and Similar Species, the latter giving a differential diagnosis based on external characters for some of the species more difficult to identify. The diagnostic monochrome text figures (usually comparative) given in conjunction with this section are very helpful. Included in the Imago section are wingspan, resident status, adult behaviour, voltinism, habitat, phenology and distribution within the British Isles. Detailed localities and dates are provided for rare or stray species, although general distribution outside the British Isles is not indicated. Information on larval seasonality, hosts, and overwintering stage is brief; some references to literature providing more detailed biological and taxonomic information would have been immensely useful and expanded the utility of this book, particularly from the perspective



of the North American reader. However, as a succinct book with relatively broad taxonomic coverage, this book makes the moths of the British Isles readily accessible not only to those interested in the European fauna, but also to students of the temperate holarctic Lepidoptera.

## References

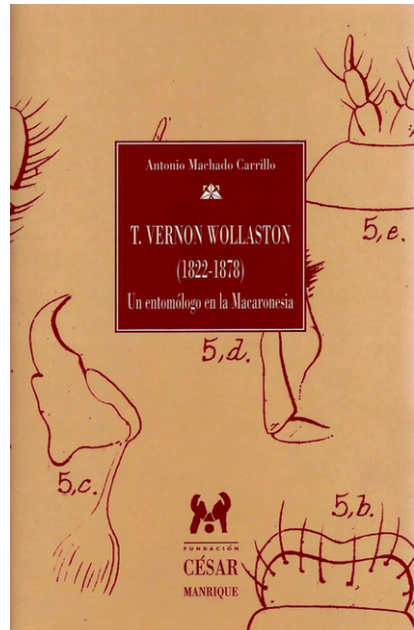
- Bradley, J.D. 2000. Checklist of Lepidoptera recorded from the British Isles. Second (revised) edition. Bradley & Bradley, Fordingbridge.
- Fibiger, M., and Hacker, H. 2005. Systematic list of the Noctuoidea of Europe (Notodontidae, Nolidae, Lymantriidae, Arctiidae, Erebidae, Micronoctuidae, Noctuidae). *Esperiana*, **11**: 93–205.

Chris Schmidt  
CFIA, Ottawa

*T. Vernon Wollaston (1822-1878), Un entomólogo en la Macaronesia.* Machado Carillo, A. 2006. Fundacion César Manrique, Torcusa, 170 p, (espagnol). ISBN: 84-88550-69-3, version imprimée 9.36 € ou e-book gratuit (PDF). <http://www.fcmanrique.org/publiDetalle.php?idPublicacion=85>

Dans le monde des publications entomologiques les biographies sont des documents assez rares pour qu'on les remarque et que l'on prenne le temps de s'y arrêter. C'est ici le cas avec l'ouvrage de l'entomologiste espagnole Antonio Machado Carrillo dédié à la vie et l'œuvre du naturaliste victorien Thomas Vernon Wollaston. Publié en 2006, ce remarquable travail d'archiviste et d'historien est cependant passé inaperçu au moment de sa sortie. Son auteur, professeur d'écologie à l'Université de la Laguna à Ténérife (îles Canaries), spécialiste reconnu de la faune des coléoptères Carabidae de la Macaronésie, propose ici un livre original sur l'un des plus grands, mais quelque peu oublié, entomologistes britanniques du XIX<sup>ème</sup> siècle. Les quatre grands chapitres qui composent l'ouvrage sont respectivement consacrés à sa vie, à son œuvre scientifique, à ses différentes collections et enfin à une présentation détaillée de ses publications.

La première partie consacrée à sa vie, à ses voyages et à ses amitiés est la plus longue. On y apprend que Thomas Vernon Wollaston, né en Angleterre en 1822, est rapidement attiré par les sciences et l'entomologie cela un moment ou au sein de la société victorienne naissaient une curiosité et un formidable enthousiasme pour l'étude du monde vivant. C'est juste à la fin de ses études à l'Université de Cambridge en 1846, à l'âge de 24 ans, qu'une attaque de tuberculose le contraint (comme beaucoup d'Anglais à cette époque) à se rendre sous le climat chaud des îles de la Macaronésie. Son premier voyage thérapeutique le conduira d'abord à Madère en 1848, qu'il nommera affectueusement « *son île hôpital* ». Soulignons que les nombreuses



« migrations » à but thérapeutique de citoyens du nord de l'Europe contribuèrent à faire des îles de l'Atlantique des lieux particulièrement bien étudiés du point de vue de l'histoire naturelle. Ses premières collectes d'insectes et observations furent surtout destinées à occuper son temps puis devinrent au fil des mois un sérieux projet d'étude de la biogéographie de la faune entomologique de ces territoires insulaires, à l'exception des Açores qu'il ne visita jamais. Entre les années 1847 et 1876, il effectuera en tout cinquante voyages entre Madère, les Canaries, le Cap Vert et Saint Hélène où il collectera un nombre impressionnant de spécimens de coléoptères dont il décrira environ un millier de nouvelles espèces. Ces travaux l'amèneront à correspondre et à échanger des échantillons avec beaucoup de ses contemporains naturalistes. Le plus célèbre d'entre eux fut *Charles Darwin* qu'il rencontra pour la première fois chez lui en 1856 et à qui il dédia, la même année, son livre « *On the Variation of Species* », un document traitant de la variation morphologique chez les espèces animales mais qui n'eut malheureusement qu'un très faible succès.

En ce qui concerne son œuvre, Wollaston est présenté comme un travailleur infatigable, et ce malgré les effets d'une tuberculose toujours présente. Absorbé par son seul amour de la zoologie, il ne s'attarda ni sur la description des paysages ni sur les aspects historiques ou ethnologiques des îles. Cependant, en 1865, il fera part dans l'introduction de son œuvre majeur « *Coleoptera Atlantidum* » de son inquiétude quant à la disparition de la laurisylve de Madère : « *Cependant, les habitants irresponsables détruisent ses forêts nobles, impitoyablement et sans retenu; et dernièrement ils s'étonnent du fait que les ruisseaux ont progressivement diminué, et que les îles qui présentaient, il y a longtemps, une jungle exubérante, sont réduites à de simples tas de poussière et de scories* » et ceci en dépit d'une attention presque obsessionnelle envers ses chers insectes! Sa bibliographie se révèle particulièrement impressionnante, parmi ses 133 publications on trouve huit livres presque tous en relation avec la systématique de la faune des coléoptères macaronésiens (la majeure partie de ces documents est aujourd'hui disponible sur internet). Aussi, ses travaux sur les Curculionidae Cossoninae (son groupe de prédilection) restent une référence, principalement sa monographie de 230 pages « *On the genera of the Cossonidae* » publiée en 1873 dans les « *Transactions of the Entomological Society of London* », tout juste cinq ans avant sa mort. Il y révisé 253 espèces et 122 genres connus dont 139 espèces et 75 genres décrits par lui. On notera aussi que son intérêt pour les gastéropodes l'amena à recenser et à décrire l'ensemble des mollusques terrestres de l'archipel macaronésien, travail qui fut publié de manière posthume sous le nom de « *Testacea Atlantica* ».

Le troisième chapitre relatif à « *Las Colecciones* » et à la répartition actuelle des 30 000 spécimens qui les composent entre trois prestigieuses institutions que sont le *British Museum*, l'*Université d'Oxford* et l'*Académie des Sciences de Californie* se révèle particulièrement utile et permet une localisation précise et rapide des types, activité qui reste souvent problématique pour les révisions de genre. Dans cette section, on découvre aussi un préparateur méthodique qui, par exemple, refusa toujours l'emploi d'aiguilles entomologiques, préférant coller ses spécimens sur de petits cartons de bristol (ancêtres des paillettes prédécoupées), les photos des coffrets contenant ses collections en sont les impressionnants témoins.

Au delà des informations classiques et techniques apportées, l'aspect le plus intéressant de cette biographie est probablement celui lié à la description des relations scientifiques que Wollaston a entretenu avec son ami, puis « ennemi », *Charles Darwin* mais surtout sa réaction et son positionnement intellectuel au moment de la publication de « *Sur l'Origine des espèces* », éléments qui ont en quelques sortes scellé son destin scientifique. Les relations qu'il entretenait avec le célèbre naturaliste depuis 1856 s'assombriront brusquement à partir de 1860. Ceci, suite à la publication par Wollaston d'une des premières, et plus virulentes, critiques contre le livre de *Darwin* intitulée « *Bibliographical notice 'On the Origin of species by means of natural selections; or the preservation of favoured races in the struggle for life'. By Charles Darwin* ». Ce

rejet violent des théories de Darwin, et la persistance de sa foi en le créationnisme ne trouvent leur explication que sur la base dogmatique de croyances religieuses qu'il n'arriva jamais à dépasser. Wollaston a été instruit dans la religion et a toujours vécu entouré d'ecclésiastiques. Évidemment, les idées de Darwin, qui postulaient un processus ouvert guidé par la nature et le hasard en suivant un principe que l'on peu qualifier « d'utilitariste », était quelque chose qui le choquait profondément, pour lui « *Une loi naturelle sans limite dans sa manière d'opérer était absurde* ». Et, même si la critique fut publiée de manière anonyme, Charles Darwin devinera facilement son origine principalement à cause du style incomparable de la prose de son ex-ami (dixit Darwin). Antonio Machado résume avec justesse, mais sans porter aucun jugement, une situation qui s'est produite pour bien des naturalistes de l'époque victorienne: « *Les travaux entomologiques de Wollaston ont persisté à travers le temps et sont encore utilisés et admirés par les spécialistes, mais sa mémoire a succombé au triomphe du darwinisme, disparaissant du côté des 'perdants'* ». Il souligne aussi le fait que l'étendu limitée de ses voyages et la faible zone biogéographique couverte par ses observations, restreinte aux seules îles Atlantiques, ont aussi contribué à une moindre « médiatisation » de ses travaux. En effet, les récits d'explorations d'autres naturalistes voyageurs du XIX<sup>ème</sup> siècle eurent bien plus les faveurs du public. Ce fut le cas avec ceux de ses contemporains britanniques ou allemands ayant visité des contrées lointaines et exotiques: *Alfred Russel Wallace* ou *Alexander von Humbolt*. Cependant, jusqu'à sa mort en 1878, à l'âge de 56 ans, il continuera à entretenir une correspondance épistolaire importante avec des grands noms de l'entomologie britannique comme: *J.O. Westwood*, *F.W. Hope*, *A.H. Halliday*, etc...mais aussi le père fondateur de la géologie moderne *Charles Lyell*.

À une présentation soignée du texte, l'auteur a choisi d'ajouter une iconographie composée de 30 illustrations comprenant huit clichés de Thomas Wollaston, pris à différentes époques de sa vie, ainsi que plusieurs extraits de ses échanges épistolaires et de photographies d'entomologistes. Notons aussi que les différents chapitres sont complétés par l'utilisation judicieuse de tableaux thématiques, comme celui de la page 60 (tableau 5) qui présente « *L'inventaire des coléoptères de la Macaronésie, selon Wollaston* », et qui allègent efficacement le texte tout en présentant au lecteur les informations essentielles de manière synthétique. On peut néanmoins être surpris que l'auteur ait choisi de publier son livre en castillan alors qu'il a montré sa parfaite maîtrise de l'anglais dans ses précédents travaux. Mais, comme il le dit lui-même, le but originel de ce travail était de faire découvrir à la population ibérique, un naturaliste peu connu du grand public et de rendre hommage à un homme qui a tant apporté à l'histoire naturelle de leur région. Bien que ce choix linguistique puisse apparaître comme un obstacle pour une large diffusion de l'ouvrage, celui-ci, s'il existe, est largement compensé par l'offre d'une version numérique gratuite.

En conclusion, A. Machado offre aux lecteurs une biographie claire et très bien documentée d'un des plus grands entomologistes victoriens qui pourra intéresser non seulement les naturalistes mais aussi les historiens des sciences tout en venant compléter des ouvrages tels que le célèbre « *Compendium of the Bibliographical Literature on Deceased Entomologists* » de Pamela Gilbert (1977) qui se révèlent très utiles pour situer un spécialiste dans une époque mais qui se rapprochent plus de « dictionnaires des auteurs » que de réelles biographies.

Nicolas Maughan

Lab « *Évolution Biologique et Modélisation* »

LATP, UMR-CNRS 6632

Université de Provence

13331 Marseille, France

[nicolas.maughan@etu.univ-provence.fr](mailto:nicolas.maughan@etu.univ-provence.fr)

**T**erry was born and raised in Vancouver, British Columbia, where he eventually attended the University of British Columbia and completed a BSc (Hons) thesis in biology under the guidance of Dr. John McLean in 1978. This seemed to cement his future, and he followed Dr. McLean to the Faculty of Forestry at UBC to complete a PhD in which he explored a mass-trapping program for ambrosia beetles in a commercial sawmill. After successfully defending his thesis in 1982, Terry joined the Canadian Forest Service in Victoria where he began a prolific career in applied bark beetle research.

Throughout his career, Terry made numerous contributions to bark beetle management, publishing more than 100 scientific papers, technical reports and proceedings. His most notable contribution came through his development of a mountain pine beetle risk rating system which is in use today throughout Western Canada.

On three occasions Terry received awards for excellence in research from the Canadian federal government. In addition, Terry was a registered professional forester, and a substantial contributor to several professional entomological societies. Terry was incredibly active in the Entomological Society of Canada, The Entomological Society of British Columbia, and the Western Forest Insect Work Conference: he held numerous leadership positions with each of these organizations, organized conferences for each society and contributed much to the professional community.

Terry's professional accomplishments are particularly impressive in light of the health problems he faced for most of his adult life: many of his friends and colleagues were completely unaware that Terry had received a kidney transplant in the mid 1980s and suffered many life-threatening illnesses and complications as a result.

People were unaware of this because Terry had an incredibly positive attitude, always maintained a great sense of humour and refused to complain or make excuses. While Terry's years with us were low in number, they were exceptionally high in quality. Terry lived life to the full, made friends wherever he went and earned respect throughout the world for his personal and professional contributions.

Terry is remembered as a father, a husband, a friend, a respected scientist and a mentor – while his passing has been a painful shock for many of us, we are richer for the wonderful times we've had with him. The good times we shared and his professional contributions are a lasting legacy, and Terry would have liked nothing more than for us to remember him by living our lives the way he did: making the most of what we've got, always finding the ability to laugh, and fearlessly pursuing what we love.

Bill Riel  
Victoria, BC

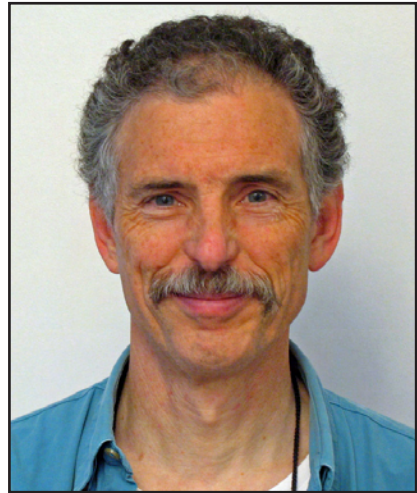


Bill Riel

**Terence Leckie Shore**  
**(21 April 1951 – 17 March 2010)**

**R**ex Donal Kenner, PhD – entomologist, vertebrate zoologist, chemist, teacher, conservationist – died of an aortic aneurysm in Vancouver, on 23 January 2010. He was 59 years old.

Rex was born on 14 November 1950 in Chicago, but grew up in Natchitoches, Louisiana, where his family had moved when he was 9 months old. In 1971 he received a BS degree from Northwestern State University, Louisiana, and in 1976 earned his doctorate in physical chemistry from Michigan State University. Rex first came to Vancouver as a post-doctoral fellow in the Chemistry Department at the University of British Columbia (1977-1980) and remained there until 1983 as a research associate. He met his future wife, Gail, in 1978 in Vancouver and they married there in 1980. From 1983 to 1988 Rex was a research chemist at the Ruhr-Universität Bochum in Bochum, Germany, and between 1990 and 1993 was a Senior Research Scientist in the Division of Applied Physics, CSIRO, Sydney, Australia. He and Gail then returned to Vancouver, where Rex focused his life on biology and the natural history of the region. As a boy, Rex had collected insects until he started university; this interest was reawakened when he began watching dragonflies during a Vancouver Natural History Society outing in 1994.



Gail Kenner

**Rex Kenner  
(1950-2010)**

Although Rex had an academic science background, he was a self-taught entomologist and vertebrate biologist who spent much of his time studying insects and teaching others about them. His favourite insects were the aquatic groups, and he concentrated on the taxonomy and distribution of dragonflies, water bugs and beetles. Rex was a strong supporter of the Entomological Society of British Columbia, presented papers at its meetings, and published often in the *Journal* and in *Boreus*. Periodically, he also undertook contracts associated with aquatic entomology, such as ecological impact studies; he was an associate of Robertson Environmental Services in Langley, British Columbia.

Most of Rex's recent publications were on the Haliplidae (crawling water beetles). He had unearthed an undescribed genus of halipid beetle from China (he announced the find at the 2006 ESBC annual meeting) and was preparing the description with Rob Roughley, water beetle expert at the University of Manitoba. In the meantime, Rex found another new haliplid species and, when Rob suddenly died of a stroke in November 2009 (see *Bulletin of ESC* 42[1], 2010), Rex decided to name it after him. But now, with Rex's death 2 months later, these unfinished papers are sad reminders of our double loss – two of Canada's water beetle experts suddenly gone in their prime. When he died, Rex was also studying, with several co-authors, the bird lice of BC. Some of the material was amassed long ago by George Spencer; some was collected by Rex himself. He was excited about the project, not only for its scientific value, but because it closely connected two of his great loves – insects and birds.

Since 1995, Rex volunteered up to 5 days a week in the Spencer Entomological Collection at the University of British Columbia. There, his accomplishments included labeling and sorting the 15 000 Diptera specimens of the Foxlee Collection, reorganizing and databasing the

Odonata collection, and identifying and curating several families of aquatic beetles. In addition, as part of various research projects, he identified, curated and databased material from many other collections, including the Royal British Columbia Museum (Victoria), Strickland Museum (University of Alberta), Oregon State Arthropod Collection (Oregon State University), Essig Museum (University of California, Berkeley), California Academy of Sciences (San Francisco), Royal Ontario Museum (Toronto), J. B. Wallis Museum (University of Manitoba), Monte L. Bean Life Science Museum (Brigham Young University) and the James Entomological Museum (Washington State University). He regularly donated aquatic insect specimens to the Spencer Collection and to the Royal British Columbia Museum. In recognition of his superb volunteer work, Rex was appointed honorary Assistant Curator of the Spencer Entomology Collection. The ESBC nominated Rex for the national Norman Criddle Award, presented by the Entomological Society of Canada for extraordinary contributions to entomology by an amateur. Rex received the award in Kelowna in November 2003.

Since 2001, Rex's main work was as Curator of the Cowan Vertebrate Museum at the University of British Columbia; he had volunteered in that collection since 1993. Although the position was part-time until recently, Rex kept the collection going during the lean years, largely singlehandedly, putting in far more time than he was paid for. He organized and taught a keen group of volunteers to help with specimen preparation. His keen interest in both public education and the long-term health of the collections made him invaluable when the idea of a public biological museum began to take form at the university. Rex served on the steering committee planning the Beaty Biodiversity Museum, and played a forceful and vital role in its creation and development, including the daunting task of moving the entire collection to its new location.

Education was a huge part of Rex's life. He was a natural teacher. His enthusiasm and patience made him particularly effective with children, but he was loved by naturalists of all ages across the Vancouver region for his energetic, innovative education programs. His knowledge was wide-ranging. He could explain complex things in simple terms so that everyone understood, yet he maintained the highest scientific standards. Public awareness and appreciation of insects were significant activities. After developing a slide talk on dragonflies, Rex presented it to dozens of audiences, from natural history societies to seniors' groups, from wetland institutes to cultural societies. Newsletters and workshops are full of his programs on dragonflies and the importance of wetlands and aquatic life. Rex led many marsh and dragonfly programs for the Vancouver Natural History Society (now Nature Vancouver) and its Young Naturalists' Club. He published often in the Society's journal *Discovery*. In 2001, in recognition of his exceptional service, the VNHS presented Rex with its Garibaldi Award.

Rex was an instructor at Science World's summer Science Camp for teachers and was active in the Richmond Nature Park, Friends of Boundary Bay, Stanley Park Ecology Society and many other educational and conservation groups. Initially through his passion for birds, but also later through his natural history teaching, Rex was involved with the Taiwanese-Canadian Intercultural Green Club and became a prominent liaison between Taiwanese and Canadian naturalists.

Rex was a keen and committed conservationist. When an extensive environmental survey of Burns Bog was undertaken as part of the effort to preserve this extraordinary habitat, Rex was a major player in the aquatic insect component of the study. This not only involved surveys, but specimen identification, report writing and public presentations. He also helped organize aquatic insect surveys of the Terra Nova Natural Area in Richmond and Lulu Island Bog. The latter includes the Richmond Nature Park and adjacent National Defense lands, and the survey was part of a study directed at preserving the DND lands from development. In 1996 and 1997 Rex surveyed Odonata for the BC Conservation Data Centre and the Royal British Columbia Museum in the Lower Mainland and Peace River region, respectively.

Rex Kenner was a kind, intelligent and committed man, generous of his time and knowledge. He loved the details of the world and he loved sharing them. He and his wife Gail lived modestly but well, committed to an unpretentious and positive view of life. Rex was green before green was cool; didn't drive a car, didn't own a home, didn't need a lot of stuff. He stepped lightly on the earth. We are all better for having known him.

Rob Cannings, Curator of Entomology,  
Royal British Columbia Museum

(with thanks to Gail Kenner, Karen Needham, Christine Adkins, Jennifer Heron, John Swann, Chris Majka, Dave Larson, Robb Bennett, Daphne Solecki, Eva Nagy, Catherine Stewart, Joseph Lin, Sampath Seneviratne, Dolph Schluter, Darren Irwin and Dick Cannings)

Terry Wowchuck, Finelight Photography



**Paul Harold Adalsteinn Niel  
Westdal**

**1921 – 2010**

of Agriculture and Agri-Food Canada). Here he became interested in insect-vectored diseases in cereals and began a focused study of leafhoppers, particularly the six-spotted leafhopper, *Macrostelus fascifrons* and the painted leafhopper, *Endria inimical*. In the early 1960s, Harold initiated work with the USDA to examine movement and infectivity of leafhoppers as they migrate from the southern United States northward into Canada. In this work, he was well ahead of his time with respect to the tracking of migratory insects from their source, a challenge that

**H**arold Westdal, retired crop-protection entomologist and long-time member of the Entomological Society of Manitoba, passed away on 20 January 2010. Harold was born on 5 November 1921 in Wynyard, Saskatchewan, and left the family farm in 1940 when he moved to Winnipeg to pursue his education. Harold graduated with a BSc degree in 1947 from the University of Manitoba. He immediately took a position as an entomologist with the Dominion Entomological Laboratory in Brandon, Manitoba. He spent his first years examining pests of vegetables. By 1948, Harold had caught the bug and was enrolled in a Masters program at the University of Manitoba. He graduated in 1950 after completing a study of the life history of the flea beetle, *Phyllotreta pusilla*. Harold continued his work in Brandon and became an authority on insects of sunflowers and performed a great deal of this work in conjunction with the fledgling sunflower crushing industry based in Altona, Manitoba.

In 1957, Harold and his young family moved to Winnipeg because his position was transferred to the Agriculture Canada Research Station there (now the Cereal Research Centre

most entomologists ignored until the arrival of computer tracking of air movements. Harold made significant contributions to the understanding of the leafhopper-vectoring diseases: aster yellows, barley yellow dwarf, wheat striate mosaic virus, and oat blue dwarf virus. His work was a model for other studies of leafhoppers as vectors of many diseases of plants across the US and Canada, and was also the focus of his PhD thesis research, for which he received his degree from the University of Manitoba in 1969. On completion of his PhD, Harold took a post-doctoral transfer of work to New Zealand from July 1969 until July 1970 at the Department of Science and Industrial Research in Lincoln, where he continued work on insects as vectors of plant diseases.

Upon his return to Canada, Harold worked on control strategies for leafhoppers and also returned to studies of flea beetles and the sunflower beetle (*Zygogramma exclamationis*). Harold had many discussions with his brother-in-law, Dr Baldur Stefansson, “the father of canola”, about the development and production of this new crop. This led Harold to work on control strategies for flea beetles in canola and he became the leader of the insecticide evaluation program at the Agriculture Canada Research Station in Winnipeg. This work focused on maximizing the effectiveness of flea beetle control by comparing the efficacy of seed treatments, granular applications and sprays in various combinations. The work had immediate practical application, but its rigour also allowed the data to be used for economic modelling to optimize management. Harold not only did the experimental studies and produced the results, he also had a deep understanding of the biology and behaviour of insects, which contributed to his success as a researcher.

After his retirement, Harold set up Westdal Agri Consultants and continued working on flea beetle problems and evaluating control strategies. At the same time, he returned to his roots and began farming with his brother Jack near Poplar Point, Manitoba. Harold continued farming until he was in his seventieth year.

Harold was a member of the Entomological Societies of Manitoba and Canada. He joined the Entomological Society of Manitoba during its first year of operation, and was President in 1959, and Editor of the Society’s Proceedings from 1976 to 1979. Harold’s patient helpfulness and calm approach to any issue was a valued attribute in his editorial role, in which he was very helpful to authors, offering solid recommendations on reviewers’ comments and fair judgments. At his death, he had been a member of the Entomological Society of Manitoba for 64 years, and so had the longest membership term of all. Harold was an adjunct professor in the Department of Entomology at the University of Manitoba from 1976 to 1982. He produced over 35 research publications in peer reviewed journals. His expertise on insect vectors of plant pathogens was widely sought both before and after his retirement.

Harold was a vibrant and engaging man and will be remembered by those who worked with him as a man who was extremely generous with his time and many talents. He was a person with great humor and wit. He is survived by his wife Dee Dee, daughters Laureen (Ken) Goodridge and Carol Westdal, son Neil (Judy) Westdal, and five grandchildren.

Blaine Timlick, Neil Westdal and Neil Holliday, Winnipeg  
(with contributions from Terry Galloway and Bob Lamb)



# Cryptic entomological crossword / Mots croisés entomologiques cryptiques

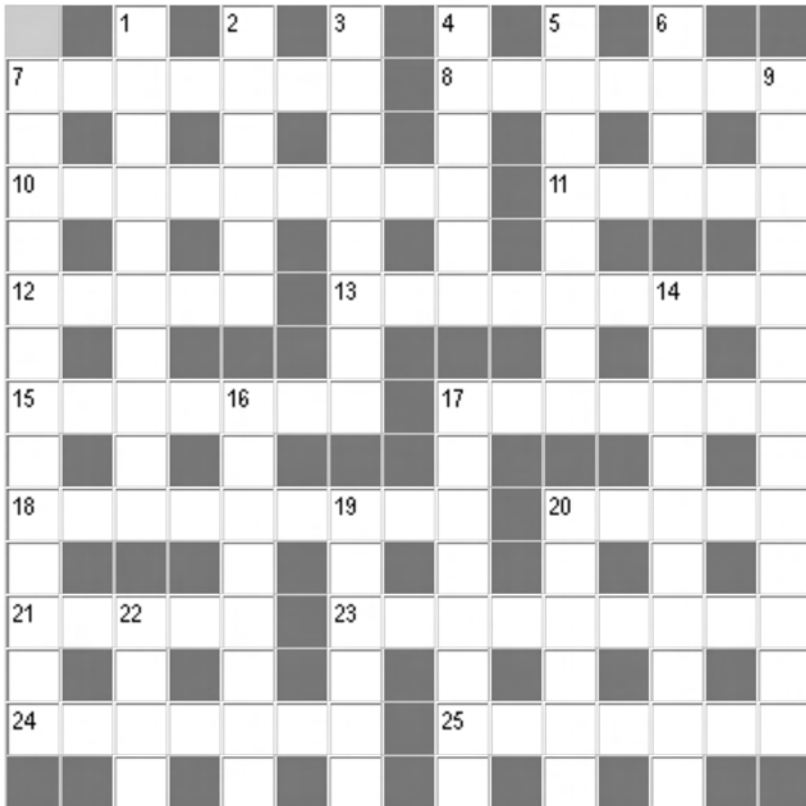
In this crossword, the clue, answer, or both clue and answer, have an entomological connection. Answers are shown on page 113.

### Across

- 7 Lovebug cooks clan pie (7)
- 8 Hungry Coco on stage holds grub (7)
- 10 Best specimens kept here? (3,6)
- 11 Up to only one silly nit in Ulster (not rest) (5)
- 12 Checks all boxes (5)
- 13 Mark dead flies with sponges (9)
- 15 British Museum initially, then girl, finds apple worm (1,6)
- 17 One may feel 'X' is in a woman's grasp (7)
- 18 FM heard on a crazy ride for burrowing mayfly (9)
- 20 A lerp secretes gemstone (5)
- 21 Sucker from Seoul (5)
- 23 Is he the curator of Scarabaeidae? (3,6)
- 24 Artisan Nina holds clearwing moth (7)
- 25 Some chancellors banished this insecticide (7)

### Down

- 1 Cockroach loses stone but aids trainer (5,5)
- 2 Inspire? Pointless for cabbage lover (6)
- 3 Jumper found at Whistler? (8)
- 4 Priceless car – a black beetle in garage (6)
- 5 Awkward couplet takes time for one of eight (8)
- 6 Shot confused parasite's grub (4)
- 7 Pete's taboo let strange pests in garden (6,7)
- 9 Faulty labella strand uncovers seasoned cereal (6,3-4)
- 14 Yearly meeting places for Prairie University Biology Students? (6,4)
- 16 How to kill grape pests? Target rotten vines (3,5)
- 17 Ally Fred finds neuropteran (8)
- 19 Mixed up boy needs air for vein (6)
- 20 Lure PA into lateral areas (6)
- 22 Giant silkworm turns to bone (4)



### Nominations for ESC Governing Board

The following have been nominated and agreed to stand for election in 2010 for the indicated positions. Members will receive more details in the mail. The ballot must be mailed to the Elections Committee by July 15<sup>th</sup>, so PLEASE VOTE!



**Candidates for Second Vice-president:** Rose De Clerck-Floate (left) and David Gillespie (right).



**Candidates for Director-at-Large:** Brent Elliott (left), Dwayne Hegedus (centre), and Chris Schmidt (right).

## Call for interest in the Editor-in-Chief position for *The Canadian Entomologist*

There will be an opening for the Editor-in-Chief position for *The Canadian Entomologist* as of October, 2011. The Editor-in-Chief of *The Canadian Entomologist* serves as one of the trustees of the Entomological Society of Canada (ESC) and is responsible for the scientific and editorial integrity of *The Canadian Entomologist*. The ESC executive is keen to hear from members who might be interested in this exciting and challenging position. For further questions regarding this position or for suggestions of potential candidates, please contact ESC President Maya Evenden (see inside back cover for contact information).

## Appel d'intérêt pour le poste de rédacteur en chef pour *The Canadian Entomologist*

Il y aura une ouverture pour le poste de rédacteur en chef pour *The Canadian Entomologist* en octobre 2011. Le rédacteur en chef de *The Canadian Entomologist* fait partie des fiduciaires de la Société d'Entomologie du Canada (SEC) et est responsable de l'intégrité scientifique et éditoriale de *The Canadian Entomologist*. Le comité exécutif de la SEC est prêt à entendre les membres qui pourraient être intéressés par ce poste excitant et plein de défis. Pour plus d'information concernant le poste ou pour des suggestions de candidats potentiels, veuillez contacter la présidente de la SEC, Maya Evenden (voir à l'intérieur de la couverture arrière pour ses coordonnées).

## Changes to committees

As a result of the death of Terry Shore, the following appointments have been made:

- Martin Erlandson (Saskatoon) – Chair of Membership Committee
- Brent Elliott (Winnipeg) – Chair of Annual Meeting Committee

Also, the following members have been added:

- O. Lonsdale (Ottawa) and C. Schmidt (Ottawa) – Finance Committee
- A. Brauner (Ottawa) – Headquarters Committee
- D. Shorthouse (Wood's Hole) – Ad Hoc Business Plan Committee

For a full listing of committees and their membership, see [Bulletin 41\(4\)](#): 199-200 (2009)

## Agriculture and Agri-food Canada (AAFC) monographs

You can now access the Agriculture and Agri-food Canada (AAFC) monographs online through the Entomological Society of Canada (ESC) website (<http://www.esc-sec.ca/aafcmono.html>).

We are pleased to announce the launch of a joint project between AAFC and ESC. The Entomological Monographs Published by AAFC between 1976 and 1993 have been scanned and are now digitally available through the ESC website. Electronic access to these monographs will be an excellent resource for all entomologists.

## Monographies d'Agriculture et Agroalimentaire Canada (AAC)

Vous pouvez maintenant accéder aux monographies d'Agriculture et Agroalimentaire Canada (AAC) en ligne via le site Internet de la Société d'Entomologie du Canada (SEC) (<http://www.esc-sec.ca/aafcmono.html>).

Nous sommes heureux d'annoncer le lancement d'un projet conjoint entre AAC et la SEC. Les monographies entomologiques publiées par AAC de 1976 à 1993 ont été numérisées et sont maintenant disponibles sur le site Internet de la SEC. L'accès électronique à ces monographies sera une excellente ressource pour tous les entomologistes.

## Entomological Society of Canada Bert and John Carr Award

The Carr Award is named in honour of Bert and John Carr, who left a legacy of entomological knowledge resulting from the collection and taxonomy of several hundred thousand North American beetle specimens. This work began as a hobby but grew into a vocation after John retired from the oil patch. The Carrs were sought after by professional, amateur and student entomologists for their insights and knowledge in the field. When the Carrs were no longer able to do the field or office work required to further the collection, it was donated to the Canadian National Collections of Insects, Arachnids, and Nematodes in Ottawa. John and Bert were awarded the Norman Criddle Award in 1990 by the Entomological Society of Canada and the Frederick S. Carr Award in 2002 by the Entomological Society of Alberta for their contributions to the entomological community. This award has been made possible by the Carrs' desire to see an interest in science and nature carried through to the next generation.

The Bert and John Carr Award is a cash award in support of research activities by individuals who study insect faunistics, or the natural history and taxonomy of Canada's insect fauna. **Preference will be given to applications by amateurs, but applications by students and others will be considered.** Applications should consist of: (1) the name and address of the applicant; (2) a statement of the research activity to be undertaken, including a cost estimate up to \$500; and (3) a current curriculum vitae.

The first Bert and John Carr Award will be made in 2011.

## Le Prix Bert et John Carr de la Société d'entomologie du Canada

Le prix Carr est nommé en l'honneur de Bert et John Carr qui ont légué un héritage de connaissances entomologiques provenant de la récolte et de la taxonomie de plusieurs centaines de milliers de spécimens de coléoptères d'Amérique du nord. Ce travail a débuté en tant que loisir, mais s'est développé en une vocation suite à la retraite de John de l'industrie pétrolière. La famille Carr était recherchée par les professionnels, les amateurs et les étudiants en entomologie pour leurs connaissances et leur point de vue dans le domaine. Quand ils sont devenus incapables d'accomplir le travail de terrain et de bureau requis par la collection, elle a été offerte à la Collection nationale canadienne d'insectes, arachnides et nématodes à Ottawa. John et Bert ont reçu le prix Norman Criddle de la Société d'entomologie du Canada en 1990 et le prix Frederick S. Carr par la Société d'entomologie de l'Alberta en 2002 pour leur contribution à la communauté entomologique. Ce prix voit le jour grâce au désir de Bert et John Carr de voir leur intérêt dans les sciences et la nature être transmis de génération en génération.

Le prix Bert et John Carr est un prix en argent permettant de supporter les activités de recherche d'individus étudiant la faunistique entomologique ou l'histoire naturelle et la taxonomie de la faune des insectes du Canada. La préférence sera donnée aux demandes d'amateurs, mais les candidatures d'étudiants et autres seront considérées. Les candidatures doivent contenir: (1) le nom et l'adresse du candidat; (2) une description des activités de recherche à conduire, incluant un estimé des coûts jusqu'à 500\$; et (3) un curriculum vitae à jour.

Le premier prix Bert et John Carr sera disponible en 2011.



John and Bert Carr

<http://www.entsocalberta.ca/carrmem.htm>

## 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.

### 2009 Scholarship donors – Donateurs et donatrices pour 2009

John Arnason	Staffan Lindgren
George E. Ball	S.R. Loschiavo
Robert P. Bodnaryk	Kenna MacKenzie
John Borden	Chris MacQuarrie
Victoria Brookes	Valin G. Marshall
J.J. Churcher	Jeremy McNeil
Chris Cutler	Imre S. Otvos
John W. Dale	Diether Peschken
Johanne Delisle	B.J.R. Philogene
Alexandra Devine	Therese Poland
Peggy L. Dixon	William B. Preston
Douglas C. Eidt	Dan Quiring
Paul Fields	Edward B. Radcliffe
Robert S. Forbes	Miriam H. Richards
Donna Giberson	Bernie Roitberg
Gary Gibson	David M. Rosenberg
David R. Gillespie	Lucie Royer
Cedric Gillott	J.D. Shorthouse
Ronald Gooding	A.B. Stevenson
Rudolf Harmsen	Art Stock
Peter Harris	Jon Sweeney
George T. Harvey	Howard Thistlewood
Robert P. Jaques	V.R. Vickery
William W. Judd	John M. Webster
Bill Justus	Richard Westwood
Peter Kevan	David L. Wood
David Wm. Langor	Peter W. Wood
Robin Leech	

... and those who preferred to remain anonymous.

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

## Summary of items arising from the 23 February 2010 meeting of the Executive Council

Annabelle Firlej, Secretary

### President

The President received an invitation from the ESO President to organize the 2013 JAM to commemorate the 150<sup>th</sup> anniversary of the ESC/ESO. The President will ask the ESQ Regional Director to evaluate the possibility of hosting the JAM ESQ-ESC slightly out of rotation of the anticipated 2013 meeting.

### Memorandum of Agreement between BSC and ESC

The President signed a “memorandum of agreement” between the Biological Survey of Canada and the Entomological Society of Canada on 21 October 2009. Under the agreement, the responsibilities of the Entomological Society of Canada are:

A member of the ESC who is approved by the ESC Board will hold membership in the BSC. Membership in the BSC is for a 2-year term. [Felix Sperling is the BSC member for 2009-2011].

The ESC will provide space for an annual BSC membership meeting in conjunction with the annual ESC meeting.

The ESC will continue to act as sales agent for those BSC publications for which a fee is charged.

The President signed an additional “motion of agreement on office services” with the BSC. This agreement states that the ESC Office Manager will conduct some office services for BSC that are expected to be very minor. The statement also reads that the agreement will be revisited and a cost for the services may be assigned if the work load increases.

### Treasurer

Documents for the 2009 audit should be ready in April. An additional \$30 000 was invested in the Scholarship Fund. A new bank account was set up for the BSC and will be managed by the ESC Office Manager. Funds for the new award in honor of J. and B. Carr were received on 11 December 2009 from MacKenzie Charitable Giving. The amount donated was \$914.74. Digitization of NRC Press Monographs will be achieved by March 2010 and these will be available soon to the public on the ESC website.

### Office Manager

The President and Past-President will send letters to Universities in Ontario and Alberta that have not yet shown interest in purchasing *TCE* back issues and *Memoirs*.

### Headquarters Committee

The ESC headquarters apartment loft has been rented out with a 1-year minimum lease, commencing 1 December 2009. Some minor repairs have been made to the main floor. A company should be contacted to obtain a quote for repairing the back porch roof (asphalt shingles are old) to avoid further damage. Paperback issues of *TCE* and *Memoirs* will be sent for recycling in late summer and this will free space in the ESC office that could be rented for \$400-500 per month. The President will sound out the Canadian Phytopathological Society on their interest in renting the room to store their publications.

### Finance Committee

The Chair of the Finance Committee reviewed and provided comments to R. Bennett on his draft of proposed changes to the page charge waiver policy and author charges for color printing for *TCE*.

### **Purchase of TCE Articles**

Regarding the pay-per-view prices for *TCE* articles, the Committee supported the \$20 per article proposal over the \$10 per article proposal, but noted that a compromise figure between \$10 & \$20 would also be acceptable. The price was set at \$15 per article.

### **Ad Hoc Business Plan Committee**

This Committee has not had significant activity since the Winnipeg Board Meeting last October. The Committee should evaluate the possibility of including paid advertisements on blank pages of the *TCE* to obtain new revenue.

### **Scientific Editor**

The Editor reported that a disproportionate number of manuscripts were regularly submitted in Division 4 (Behavioural Ecology) which overwork the current Division Editor G. Boiteau. Motion: P. Fields proposed that a Division Editor be added to *TCE* and that R. Bennett propose new wording for the Standing Rules. P. Mason seconded.

The new wording for the Standing Rules should be sent to the Chair of the Bylaws Committee and then to the Secretary for approval by the Board and a vote at the 2010 AGM. New associate Editors should also be appointed to relieve pressure on a few overworked individuals.

### **Cost of a Full-time TCE Editor**

The Editor repeated his intention to resign at the end of the JAM in October 2011. The President will write an announcement in the *Bulletin* to find a new Editor and the Ad Hoc Business Plan Committee will review the proposal for a paid Editor-in-Chief submitted to M. Evenden by R. Bennett and will provide an analysis for the conference call in June.

### **Editor – Bulletin**

In December 2009, C. Gillott replaced K. Floate. The transfer of responsibilities has gone smoothly and the new Editor received strong support from a file transfer program created by the Webmaster to facilitate exchange of documents with the Assistant Editor. The Past-Editor published an announcement in the December *Bulletin* to encourage subscription to online archives of *TCE* and *Memoirs* back issues.

### **Web Site**

The Webmaster updated many pages of the website and still requires PDFs of proceedings of previous JAMs and recent obituaries and lab profiles. Membership renewal and Common Name database are now in operation on the ESC website since mid-February.

### **Web Content Committee**

The Insect Common Names Committee should test the new Common Name database by entering false common names.

### **JAM Registration Webpage**

A conference call in the week of 15 February discussed the possibility of giving a second contract to Ms Novotny for the development of an online annual meeting registration system, with PayPal payment of registration fees. However, Ms Novotny may not be available full time and the Chair will discuss with her who could create the web-registration system.

### **Publications Committee**

An announcement was published in the December 2009 issue of the *Bulletin* that numerous paper copies of *TCE* and *Memoirs* back issues are available for the cost of shipping. Changes to the Publication Committee Guidelines are a work in progress and should be completed in few

months. C. Cutler and P. de Groot have discussed with R. Bennett the authorization to publish/copyright assignment. There is some confusion by authors about copyright permission and to help clarify understanding, it is proposed to add “Option 5(b) covers most authors” and “Option 5(d) applies to authors employed by the U.S. government.” to the “Notes” section.

W. Strong, a new member on the Committee, will lead the development of conditions of use for downloading material on the website. W. Strong agreed also to work on the addition of the photo contest rules and images to the Committee Guidelines.

### **Nominations Committee**

The Past-President proposed the names of candidates for Second Vice-President and Director-at-Large. The call for nominations will be published in the March *Bulletin* and the Secretary will prepare ballots with biography that should be sent out by the Office Manager to the membership in May.

### **Achievement Awards Committee**

A call for nominations for the Gold Medal and Hewitt Awards was published in the December 2009 *Bulletin*. A call for nominations for Fellows and Honorary Members was also published in the December 2009 *Bulletin*.

Discussions with the Carr family have been concluded and a description of the Bert and John Carr Award has been written. The Executive Council approved the publication of an announcement of the award in next the ESC *Bulletin* (June 2010) but applications should be open only in 2011 after adoption of revised Standing Rules.

The name of the new award should be added to the Standing Rules and rules of attribution and procedure related to this award should be added to the Committee Guidelines.

### **Bylaws, Rules and Regulations Committee**

The Bylaws Committee has had a very busy year so far and has implemented substantial changes to the Standing Rules, has proposed amendments to the By-Laws which will be voted on this spring by the membership, and is preparing amendments to the Committee Guidelines for a vote by the ESC Board.

### **Heritage Committee**

The Committee has been relatively active, due to the sad deaths of three entomologists (Rob Roughley, Harold Westdal and Rex Kenner). Obituaries for these individuals have been solicited and will appear in the *Bulletin*. As well, letters of condolence have been sent to each of the deceased's family.

### **Membership Committee**

The President emphasized that the Committee should set up an ESC membership desk during registration at each annual meeting (as listed in the Committee Guidelines) to receive membership fees and to recruit new members. This should be done in collaboration with the JAM organizer.

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

There was some controversy over the general email that went out alerting members of the possibility of presenting their “scientific voice” to address climate change. This was an initiative suggested to the President by Bernie Roitberg who also wondered if the Society would like to support a letter to the Prime Minister on this issue before the Copenhagen summit. M. Cusson and M. Evenden approved the e-mail alerting members to the possibility of becoming involved. However, a couple of members voiced their concerns about the initiative and the involvement



of ESC in the initiative. M. Cusson is currently polling the Committee on how best to approach similar issues in the future.

A letter was sent to the Prime Minister of Canada (and copied to several other individuals) asking for a reversal of the decision to discontinue the NRC Monograph Publishing Program.

2010 has been declared the International Year of Biodiversity. Following a suggestion by P. Mason, the Committee will evaluate the idea of producing a web page on the ESC website outlining the importance of insects in biodiversity.

### **Student Affairs Committee**

The Committee is working on updating the Directory of Entomology Education (will be completed by October) and is working closely with the JAM 2010 organizers to plan the graduate student symposium, silent auction, student mixer, etc. The Chair will advertise in the next *Bulletin* that the Student Representative position needs to be filled.

### **Marketing Committee**

In December and January, a letter was crafted and sent to the entire ESC membership, encouraging them to contact their respective libraries to encourage purchase of the back issue archives for *TCE* and *Memoirs*. This prompted several new subscriptions and queries for quotations. A total of 14 subscriptions are now in place, with more anticipated with the end of the fiscal year in the spring. The Committee has collected some previous materials from the ESC main office for examination and review of a new brochure/poster.

### **Annual Meeting Committee**

Organization of the 2010 JAM in Vancouver is progressing well. The 2010 meeting will be held at the Coast Plaza Hotel & Suites (1763 Comox Street), from 31 October to 3 November 2010. The theme of the meeting is "Communication". The 2011 meeting is being organized by the AES. The location will be Halifax but the venue and dates have not been finalized. Kirk Hillier and Chris Cutler are co-chairs.

### **Biological Survey of Canada**

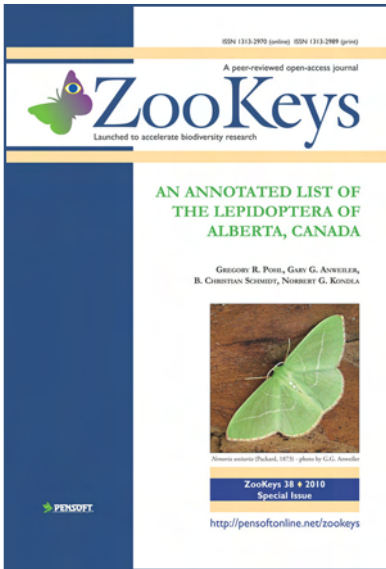
The first annual general meeting of the Biological Survey of Canada/Commission biologique du Canada was held in Winnipeg, Manitoba on 21 October 2009. The first Board of Directors (to replace the provisional board) was elected. An application to obtain charitable status for the BSC was drafted and will be submitted early in 2010. The BSC and Newfoundland and Labrador Department of Environment and Conservation, Wildlife Division, entered into an agreement that will provide support to the BSC project on the terrestrial arthropods of Newfoundland and Labrador. Three of the BSC Directors met with the President of the Canadian Museum of Nature via teleconference in November. A decision on whether the Museum might be able to support the BSC in the fiscal year beginning April 2010 should be made some time in February. The Museum may provide space and some limited services but no operating funds.

### **Affiliated Entomological Societies**

Updates were received from three regional societies. There were no requests for action.

### **BioQuip**

The President was contacted by the company BioQuip which is interested in selling some books (*Memoirs, Insect of Yukon...*). The Board recommended sending the books to BioQuip for the cost of shipping.



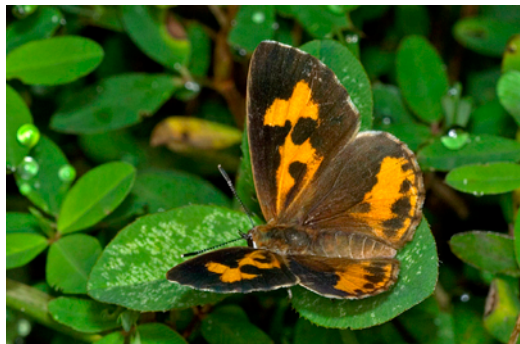
Gary Anweiler

*An Annotated List of the Lepidoptera of Alberta, Canada.* Pohl, G.R., Anweiler, G.G., Schmidt, B.C., and Kondla, N.G. 2010. ZooKeys 38:1-549. Available as a free download at <http://pensoftonline.net/zookeys>

This checklist of the butterflies and moths of Alberta lists 2367 species reported to occur in the province, as well as 138 species whose occurrence in Alberta is probable. Each species entry includes adult flight time and distribution status in the Cordilleran, Boreal, and Grasslands ecozones, as well as references to taxonomic works and to the literature and public collection sources of the records. Detailed notes on taxonomy, nomenclature, distribution, habitat, and biology are given for 1524 of the listed species. An additional section provides details on 171 species erroneously reported from Alberta in previous works. The authors hope it will be a

useful resource for anyone carrying out species-level work on Lepidoptera in western Canada, or taxonomic work on Lepidoptera in general. Approximately 75% of the species on the Alberta list are shared with British Columbia and approximately 90% are shared with Saskatchewan.

An introductory section provides a general overview of the order Lepidoptera and the natural regions of Alberta, and the history and current state of knowledge of Alberta Lepidoptera. Each of the 63 families (and selected subfamilies) occurring in Alberta is briefly reviewed, with information on distinguishing features, general appearance, and general biology. The list is accompanied by an appendix of proposed nomenclature changes, consisting of revised status for 25 taxa raised from synonymy to species level, and new synonymy for 20 species-level and 1 genus-level taxa here considered to be subjective synonyms, with resultant revised synonymy for 1 taxon and formalization of 7 new combinations.



Jay Cossey

A harvester butterfly

## Guide d'identification des Araignées (Araneae) du Québec

Pierre Paquin  
Nadine Dupérré



Association des  
entomologistes amateurs  
du Québec

Fabreries  
Supplément 11  
2003

*Guide d'Identification des Araignées du Québec*. 2003. Paquin, P., and Dupérré, N. Fabreries, Supplément 11, 1-251.

Recently, the entomological association that was distributing the Guide decided to stop this activity. This resulted in the authors acquiring the remaining copies and accepting responsibility for distribution of the monograph. This book (250 pages, spiral bound) contains 2700 illustrations leading to species level identification of 670 spiders and constitutes a precious taxonomic tool.

Originally, the Guide sold for \$50.00 (plus taxes and shipping), but can now be acquired for \$25.00 plus shipping (or arrangements can be made to save shipping charges).

For more information, please contact Pierre Paquin ([ppaquin@swca.com](mailto:ppaquin@swca.com)) or Nadine Dupérré ([nduperre@amnh.org](mailto:nduperre@amnh.org)).



Nadine Dupérré

## 60<sup>th</sup> Annual General and Governing Board Meetings

The Annual General Meeting of the Entomological Society of Canada will be held at the Coast Plaza Hotel, Vancouver, British Columbia on Tuesday, 2 November 2010 from 17:00 to 17:45. The Governing Board Meeting will be held at the same location on Saturday, 30 October 2010 from 8:30 to 17:00. Matters for consideration at either of the above meetings should be sent to Annabelle Firlej, Secretary of the ESC.

## 60<sup>ème</sup> Assemblée générale annuelle et la réunion du conseil d'administration

L'assemblée générale annuelle de la Société d'entomologie du Canada aura lieu à l'Hôtel Coast Plaza, Vancouver, Colombie Britannique, le mardi 2 novembre 2010 de 17:00 à 17:45. La réunion du conseil d'administration aura lieu au même endroit le samedi 30 octobre 2010 de 8:30 à 17:00. Veuillez faire part à la secrétaire, Annabelle Firlej, de tout sujet pouvant faire l'objet de discussion lors de ces réunions.

## Annual Photo Contest Seeking a Few Good Photos!

The Sixth Annual Photo Contest to select images for the 2011 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 may be used on the ESC website.

### Contest rules are as follows:

1. Photos can be submitted as an electronic file (preferred), a slide or a print (negative will be required if chosen). Digital images must have a resolution of at least 50 pixels/cm.
2. Entrants can submit more than one photo. A brief description (i.e. caption) should be provided with each photo submitted.
3. Photos must be taken by the entrant, or the entrant must own the copyright.
4. The copyright of the photo remains with the entrant, but use must be granted to the Entomological Society of Canada for inclusion on the cover of one volume (i.e. 6 issues) of *The Canadian Entomologist*, one volume (i.e. 4 issues) of the *Bulletin of the Entomological Society of Canada*, and on the ESC website.
5. The entrant must be a member in good standing of the ESC.
6. The judging committee will be chosen by the Chair of the Publications Committee of ESC.
7. Photos are not restricted to insect "portraits". To represent the scope of entomological research we encourage photos of field plots, laboratory experiments, insect impacts, sampling equipment, non-insect arthropods, etc.
8. A selection of the entries may be exhibited and the winners announced at the Annual Meeting of the ESC or in the *Bulletin*.
9. There is no cash award for the winners, but photographers will be acknowledged in each issue the photos are printed.
10. Submissions should be sent by **31 July 2010** to:

Peter de Groot,  
Chair, ESC Publications Committee  
Great Lakes Forestry Centre  
Natural Resources Canada  
1219 Queen Street East  
Sault Ste. Marie, ON P6A 2E5  
Tel: 705-541-5640 Fax: 705-541-5700  
E-mail: [pdegroot@nrcan.gc.ca](mailto:pdegroot@nrcan.gc.ca)

## Concours annuel de photographie

### À la recherche de quelques bons clichés!

La sixième édition du 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* de 2011 est présentement en cours. Les images des couvertures doivent représenter l'étendue de l'entomologie couverte par les publications de la Société. Des photos représentant des insectes et d'autres arthropodes forestiers, urbains ou agricoles, des paysages, du travail de terrain ou de laboratoire, des gros plans, ainsi que des activités associées à la physiologie, au comportement, à la taxonomie ou à la lutte intégrée seraient souhaitées. Nous avons également besoin de quelques «insectes vedettes» (pour le dos et sous le titre). Si vos photographies sont sélectionnées, elles seront utilisées pour la couverture des deux publications pour l'année entière. En plus, les photos gagnantes pourront être utilisées dans le site Web de la SEC.

#### Les règlements du concours sont les suivants:

1. Les photos peuvent être soumises sous forme de fichiers électroniques (de préférence), de diapositives ou imprimées (le négatif sera requis si la photo est choisie). Les images numériques doivent avoir une résolution minimale de 50 pixels/cm.
2. Les concurrents peuvent soumettre plus d'une photo. Une brève description doit être fournie avec chaque photographie soumise.
3. Les photos doivent avoir été prises par le concurrent, ou ce dernier doit en posséder les droits d'auteur.
4. Les droits d'auteur de la photo appartiennent au concurrent, mais l'utilisation doit être accordée à la Société d'entomologie du Canada pour son utilisation sur la couverture d'un volume (i.e. 6 numéros) dans *The Canadian Entomologist* et un volume (i.e. 4 numéros) dans le *Bulletin de la Société d'entomologie du Canada*, ainsi que sur le site Web de la SEC.
5. Le concurrent doit être un membre en règle de la SEC.
6. Le jury d'évaluation sera choisi par le président du Comité des publications de la SEC.
7. Les photos n'ont pas à être restreintes à des « portraits » d'insectes. Afin de représenter l'étendue des recherches en entomologie, nous encourageons les photographies de terrain, d'expériences de laboratoires, d'impacts des insectes, d'équipement d'échantillonnage, d'arthropodes autres qu'insectes, etc.
8. Une sélection des candidats sera exposée et les gagnants seront annoncés à la réunion annuelle de la SEC, ou dans le *Bulletin*.
9. Il n'y a pas de récompense monétaire pour les gagnants, mais les photographes seront remerciés dans chacun des numéros où les photos apparaîtront.
10. Les soumissions doivent être envoyées avant le **31 juillet 2010** à:

Peter de Groot,  
Président, Comité des publications de la SEC  
Centre de foresterie des Grands Lacs  
Ressources naturelles Canada  
1219, rue Queen Est  
Sault Ste-Marie, Ontario, P6A 2E5  
Tel: 705-541-5640 Fax: 705-541-5700  
Courriel: [pdegroot@nrcan.gc.ca](mailto:pdegroot@nrcan.gc.ca)

## Graduate Studentship in Pest Management (MPM)

Applications are invited for a graduate studentship to investigate the potential of insect pathogens and nematodes to control cutworms in vineyards. The project will involve field studies in vineyards (based at the Agriculture and Agri-Food Canada station in Summerland, British Columbia) and laboratory work, which will include molecular characterization of pathogens and assessment of pathogen efficacy (based primarily at Simon Fraser University). The project is fully-funded for 2 years by the British Columbia Wine Grape Council and AAFC through the Developing Innovative Agri-Products (DIAP) program, subject to final confirmation of funding.

We are looking for a suitably qualified student (GPA 3.0 or higher) to start in September 2010. The student will work with Dr. Jenny Cory, Biological Sciences, SFU, and Dr. Tom Lowery, AAFC, Summerland, British Columbia. The student will be expected to register for a MPM (Masters in Pest Management) at SFU. Interested applicants should write to Jenny Cory at [jsc21@sfu.ca](mailto:jsc21@sfu.ca) and include a CV and statement of research interests.

## Postdoctoral fellowship position

Applicants are sought for an NSERC Visiting Fellowship position to participate as a member of a team conducting research on bee vectoring of microbial control agents for pest and disease management. Areas of research will include evaluating the effectiveness of different dispenser designs; efficacy of viral, fungal and bacterial control agents for arthropod pest management and plant disease suppression on greenhouse crops; the impact of the microbial agents on beneficial insects/mites; and the compatibility of pollination activity and bee vectoring of microbial agents.

Applicants should have experience or knowledge in one or more of the following areas: bee pollination/ecology, microbial control agents and integrated pest management of horticultural pests. A background in experimental design and statistics is desirable.

Starting date is summer 2010. Salary is \$46 500 per year. Interested persons should send resumé and the names of two references to Dr. Les Shipp, Agriculture and Agri-Food Canada, Greenhouse and Processing Crops Research Centre, Harrow, ON, Canada N0R 1G0 (Tel. 519-738-1235; Fax 519-738-2929; e-mail [Les.Shipp@agr.gc.ca](mailto:Les.Shipp@agr.gc.ca)).

## Course announcements

- **Arctic & Boreal Entomology Field Course 2010**, Churchill Northern Studies Centre, Churchill, Manitoba, 5-16 July 2010. <http://www.uoguelph.ca/canpolin/Courses/ArcticBorealEnt2010.pdf>
- **Annual International Pollination Course**, Rio Grande do Sul, Brazil, 22 November – 4 December 2010.

### Annual meeting of the Entomological Society of Québec (ESQ)

11 and 12 November 2010,  
Trois-Rivières, Québec

*Meeting theme:* Climatic changes: will the truth be revealed by insects?

### Congrès annuel de la Société d'entomologie du Québec (SEQ)

Les 11 et 12 novembre 2010,  
À Trois-Rivières, Québec

*Thème du congrès:* Changements climatiques: la vérité sortira-t-elle des insectes?

## Spring – Is it sprung?

(continued from p. 116)

body respond physiologically in some way so that freezing of tissues doesn't occur? Are there sufficient solutes already in the insects' blood that ice crystal formation does not happen at these below-zero temperatures? Presumably, any of the 'classical' anti-freeze agents that were produced in the previous fall for overwintering protection will have been degraded by the time the insects emerge as they are toxic at warmer temperatures. Clearly, I don't have answers to this conundrum, but if there is someone reading this column that does, why not consider writing an article for a future *Bulletin* issue.

As readers will have seen, this issue sees a 'test run' for a new *Bulletin* item – a cryptic entomological crossword. I hope that you have found this interesting and challenging (frustrating?). By all means, let me know your feelings, but do try to be polite!

## Le printemps – Est-il arrivé ?

(suite de la page 116)

cryptiques. J'espère que vous l'avez trouvé intéressant et plein de défis (frustrant ?). Dans tous les cas, faites-moi savoir ce que vous pensez, mais tentez d'être polis!

### Crossword answers:



# Officers of Affiliated Societies, 2009-2010

## Dirigeants des sociétés associées, 2009-2010

### Entomological Society of British Columbia

President Tom Lowery  
President-Elect Rob McGregor  
Past President Sheila Fitzpatrick  
Editor (Journal) Hugh Barclay  
Editor (Boreus) Jenny Heron  
Sec.-Treasurer Lorraine Maclauchlan  
BC Ministry of Forests & Range  
515 Columbia St., Kamloops, BC V2C 2T7  
Tel: (250) 828-4197  
E-mail: [lorraine.maclauchlan@gov.bc.ca](mailto:lorraine.maclauchlan@gov.bc.ca)  
<http://www.sfu.ca/biology/esbc/>

### Entomological Society of Alberta

President Greg Pohl  
Vice-President Rob Longair  
Past President Brian Van Hezewijk  
Editor (Proceedings) Emily Barnewell  
Webmaster Alec McClay  
Treasurer Kimberly Rondeau  
Secretary Ken Fry  
Olds College  
4500 - 50 Stet, Olds, AB T4H 1R6  
Tel: (403) 556-8261  
E-mail: [esalberta@gmail.com](mailto:esalberta@gmail.com)  
<http://www.biology.ualberta.ca/courses.hp/esa/esa.htm>

### Entomological Society of Saskatchewan

President Cedric Gillott  
President-Elect Ruwandi Andrahennadi  
Past President Owen Olfert  
Treasurer Dwayne Hegedus  
Newsletter Editor Brian Galka  
Secretary Owen Olfert  
Agriculture and Agri-Food Canada  
107 Science Place, Saskatoon, SK S7N 0X7  
Tel: (306) 956-7288  
E-mail: [owen.olfert@agr.gc.ca](mailto:owen.olfert@agr.gc.ca)  
<http://www.usask.ca/biology/ess/>

### Entomological Society of Manitoba

President Marj Smith  
President-Elect Taz Stuart  
Past President Richard Westwood  
Treasurer Ian Wise  
Newsletter Editors Mahmood Iranpour  
Patricia MacKay  
Editor (Proceedings) Terry Galloway  
Member-at-Large Lars Andreassen  
Webmaster Rob Currie  
Secretary David Ostermann

Manitoba Agriculture  
204-545 University Cres., Winnipeg, MB R3T 5S6  
Tel: (204) 945-3861, Fax: (204) 945-4327  
E-mail: [david.ostermann@agr.mb.ca](mailto:david.ostermann@agr.mb.ca)  
<http://home.cc.umanitoba.ca/esm/>

### Entomological Society of Ontario

President Cynthia Scott-Dupree  
President-Elect Gary Umphrey  
Past President Rebecca Hallett  
Treasurer Kevin Barber  
Editor (Journal) Miriam Richards  
Webmaster Barry Lyons  
Secretary Nicole McKenzie  
Vista Centre  
1830 Bank St. P.O. Box 83025  
Ottawa, ON K1V 1A3  
E-mail: [nicole\\_mckenzie@hc-sc.gc.ca](mailto:nicole_mckenzie@hc-sc.gc.ca)  
<http://www.entsocnt.ca>

### Société d'entomologie du Québec

Président Guy Charpentier  
Président sortant Tim Work  
Vice-président Bruno Fréchette  
Trésorière Annie-Ève Gagnon  
Rédactrice (Antennae) Christine Jean  
Webmestre Thierry Poiré  
Secrétaire Geneviève Labrie  
Centre de recherche sur les grains, Inc.  
740 chemin Trudeau,  
St-Mathieu-de-Beloeil, Qc J3G E02  
E-mail: [secretariat@seq.qc.ca](mailto:secretariat@seq.qc.ca)  
<http://www.seq.qc.ca/>

### Acadian Entomological Society

President Carolyn Parsons  
Vice-President Peggy Dixon  
Past President Kenna MacKenzie  
Journal Editor Don Ostaff  
Member-at-Large Rick West  
Webmaster Rick West  
Treasurer/Secretary Janet Coombes  
Agriculture and Agri-Food Canada  
Box 39088, St. John's, NL, A1E 5Y7  
Tel: (709) 772-5640  
E-mail: [coombesj@agr.gc.ca](mailto:coombesj@agr.gc.ca)  
<http://www.acadianes.org/index.html>

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



## *Bulletin of the Entomological Society of Canada*

Editor: Cedric Gillott  
Assistant Editor: Fred Beaulieu

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

Published by the  
Entomological Society of Canada  
393 Winston Ave.  
Ottawa, Ontario, Canada K2A 1Y8  
[www.esc-sec.ca/](http://www.esc-sec.ca/)  
[entsoc.can@bellnet.ca](mailto:entsoc.can@bellnet.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.

Send correspondence to:  
Cedric Gillott  
*Bulletin* Editor  
Department of Biology  
University of Saskatchewan  
112 Science Place, SK S7N 5E2  
Telephone: (306) 966-4401  
Fax: (306) 966-4461  
E-mail: [cedric.gillott@usask.ca](mailto:cedric.gillott@usask.ca)

ISSN: 0071-0741  
Customer Account No. 3975533  
Publications Mail Agreement No. 40033986  
Printed in Canada  
Contents copyrighted 2010 by the Entomological Society of Canada

**Submission deadline for the next issue: 31 July 2010**



## *Bulletin de la Société d'entomologie du Canada*

Rédacteur: Cedric Gillott  
Rédacteur adjoint: Fred Beaulieu

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

Publié par la  
Société d'entomologie du Canada  
393 Winston Ave.  
Ottawa, Ontario, Canada K2A 1Y8  
[www.esc-sec.ca/](http://www.esc-sec.ca/)  
[entsoc.can@bellnet.ca](mailto:entsoc.can@bellnet.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:  
Cedric Gillott  
Rédacteur du *Bulletin*  
Department of Biology  
University of Saskatchewan  
112 Science Place, SK S7N 5E2  
Telephone: (306) 966-4401  
Fax: (306) 966-4461  
courriel: [cedric.gillott@usask.ca](mailto:cedric.gillott@usask.ca)

ISSN: 0071-0741  
Numéro de client: 3975533  
Numéro de convention: 40033986  
Imprimé au Canada  
Droits d'auteur 2010 Société d'entomologie du Canada

**Date de tombée pour le prochain numéro: 31 juillet 2010**



## Spring – Is it sprung?

Spring is trying its darnedest to show up here in Saskatchewan. Overall, April has been a fairly decent month; indeed, last week was beautiful with temperatures in the low to mid 20s (and yes, that's in Centigrade!). Typically, however, no sooner had we decided to play tennis outside, than our plans were thwarted by a cold front that dropped several centimetres of snow on to the courts (and probably elsewhere) and resulted in overnight lows several degrees below freezing.

Remarkably, these extreme swings in weather conditions seem to cause no difficulties for early emerging insects such as the mourning cloak (*Nymphalis antiopa*) and Milbert's tortoiseshell (*N. milberti*) butterflies, the 2-spot (*Adalia bipunctata*) and 7-spot (*Coccinella septempunctata*) ladybird beetles, and boxelder bugs (*Leptocoris trivittatus*) as they go about their business of finding food, mates, etc. As a physiologist, I wonder how such species cope with recurring overnight freezing temperatures that follow warm days. Is their response behavioral; that is, do they seek out protected sites in which to spend the night? Does their

(continued on p. 113)

## Le printemps – Est-il arrivé ?

Le printemps tente l'impossible afin de se montrer ici, en Saskatchewan. En gros, avril a été un mois respectable: évidemment, la semaine dernière a été magnifique avec des températures entre 20°C et 25°C (et oui, en Celsius!). Typiquement cependant, aussitôt avons-nous décidé de jouer au tennis dehors que nos plans ont été balayés par un front froid ayant déposé quelques centimètres de neiges sur les terrains (et probablement aussi ailleurs) et ayant amené la température à quelques degrés sous zéro durant la nuit.

Étonnement, ces conditions climatiques extrêmes semblent ne causer aucune difficulté aux insectes émergents, tels que le morio (*Nymphalis antiopa*) et la petite vanesse (*N. milberti*), les coccinelles à deux points (*Adalia bipunctata*) et à sept points (*Coccinella septempunctata*) et la punaise de l'érable négondo (*Leptocoris trivittatus*) qui continuent à chercher la nourriture, des partenaires, etc. En tant que physiologiste, je me demande comment de telles espèces peuvent gérer ces températures négatives, récurrentes la nuit après des journées chaudes. Est-ce que leur réponse est comportementale, et si oui, recherchent-ils des sites protégés pour passer la nuit? Est-ce que leur corps répond physiologiquement de façon à ce que les tissus ne gèlent pas? Ont-ils suffisamment de solutés dans leur hémolymphe pour prévenir la formation de cristaux à ces températures négatives? Tout agent anti-congélation « classique » produit à l'automne dernier pour la protection hivernale est probablement déjà dégradé au moment où les insectes émergent puisqu'ils sont toxiques à des températures plus chaudes. De toute évidence, je n'ai pas les réponses à cette énigme, mais si un des lecteurs de cette chronique les a, pourquoi ne pas considérer écrire un article pour un prochain numéro du *Bulletin*.

Comme les lecteurs l'auront vu, ce numéro permet de tester une nouvelle chronique du *Bulletin* – un jeu de mots croisés entomologiques

(suite à la page 113)

# Entomological Society of Canada, 2009-2010

## Société d'entomologie du Canada, 2009-2010

### Executive Council / Conseil exécutif

#### President / Présidente

Maya Evenden  
CW 405 Biological Sciences Centre  
University of Alberta  
Edmonton, AB T6G 2E9  
Tel: (780) 492-1873, Fax: (780) 492-7150  
E-mail: [mevenden@ualberta.ca](mailto:mevenden@ualberta.ca)

#### First Vice-President / Premier vice-président

Peter Mason  
Agriculture and Agri-Food Canada  
960 Carling Avenue, Ottawa, ON K1A 0C6  
Tel: (613) 759-1908, Fax: (613) 759-1926  
E-mail: [peter.mason@agr.gc.ca](mailto:peter.mason@agr.gc.ca)

#### Second Vice-President / Second vice-président

Michel Cusson  
Service canadien des forêts, Ressources naturelles Canada,  
1055 rue du P.E.P.S., C.P. 10380, Succ.  
Sainte-Foy, Québec, QC G1V 4C7  
Tel : (418) 648-3944, Fax : (418) 648-5849  
E-mail: [michel.cusson@RNCAN-NRCAN.gc.ca](mailto:michel.cusson@RNCAN-NRCAN.gc.ca)

#### Past President / Président sortant

Paul Fields  
Agriculture and Agri-Food Canada  
195 Dafoe Rd., Winnipeg, MB R3T 2M9  
Tel: (204) 983-1468, Fax: (204) 983-4604  
E-mail: [paul.fields@agr.gc.ca](mailto:paul.fields@agr.gc.ca)

#### Directors-at-Large / Conseillers

Gaétan Moreau (2010)  
Michèle Roy (2011)  
Felix Sperling (2012)

---

#### Regional Directors / Directeurs régionaux

Bill Riel (ESBC), Lloyd Dosdall (ESA), Martin Erlandson (ESS), Terry Galloway (ESM), Hume Douglas (ESO), Sophie Rochefort (SEQ), Carolyn Parsons (AES)

#### Student Representative /

#### Représentante des étudiants

Aynsley Thielman  
Brock University  
E-mail: [athielman@brocku.ca](mailto:athielman@brocku.ca)

### Trustees / Fiduciaires

#### Treasurer / Trésorier

Patrice Bouchard  
Entomological Society of Canada  
393 Winston Ave., Ottawa, ON K2A 1Y8  
Tel: (613) 759-7510, Fax: (613) 759-1701  
E-mail: [patrice.bouchard@agr.gc.ca](mailto:patrice.bouchard@agr.gc.ca)

#### Secretary / Secrétaire

Annabelle Firlej  
Institut de Recherche en Biologie Végétale  
4101 Sherbrooke Est, Montréal, QC H1X 2B2  
Tel: (450) 441-4654  
E-mail: [afirlej@yahoo.com](mailto:afirlej@yahoo.com)

#### Bulletin Editor / Rédacteur du Bulletin

Cedric Gillott  
Dept of Biology, University of Saskatchewan  
112 Science Place, SK S7N 5E2  
Tel: (306) 966-4401, Fax: (306) 966-4461  
E-mail: [cedric.gillott@usask.ca](mailto:cedric.gillott@usask.ca)

#### Ass. Bulletin Editor / Rédacteur adj. du Bulletin

Fred Beaulieu  
Agriculture and Agri-Food Canada  
960 Carling Avenue, Ottawa, ON K1A 0C6  
Tel: (613) 759-1789, Fax: (613) 759-1927  
E-mail: [frederic.beaulieu@agr.gc.ca](mailto:frederic.beaulieu@agr.gc.ca)

#### Webmaster / Webmestre

Rick West  
31 Drover's Heights  
Portugal Cove-St. Philips, NL A1M 3G6  
Tel: (709) 895-2734, Fax: (709) 895-2734  
E-mail: [reely.west@nl.rogers.com](mailto:reely.west@nl.rogers.com)

#### The Canadian Entomologist

#### Editor-in-Chief / Rédacteur en chef

Robb Bennett  
Tel: (250) 652-6593, Fax: (250) 652-4204  
E-mail: [robb.bennett@gov.bc.ca](mailto:robb.bennett@gov.bc.ca)

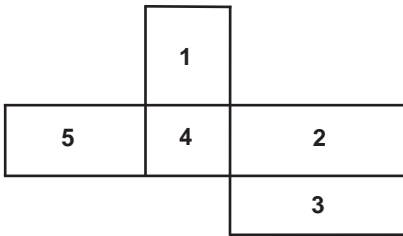
#### Division Editors / Rédacteurs de division

Gilles Boiteau, E-mail: [gilles.boiteau@agr.gc.ca](mailto:gilles.boiteau@agr.gc.ca)  
Chris Buddle, E-mail: [chris.buddle@mcgill.ca](mailto:chris.buddle@mcgill.ca)  
Yvan Pelletier, E-mail: [yvan.pelletier@agr.gc.ca](mailto:yvan.pelletier@agr.gc.ca)  
Brad Sinclair, E-mail: [bradley.sinclair@inspection.gc.ca](mailto:bradley.sinclair@inspection.gc.ca)

---

#### Head Office / Siège social

Derna Lisi (Office manager)  
Entomological Society of Canada  
393 Winston Ave., Ottawa, ON K2A 1Y8  
Tel: (613) 725-2619, Fax: (613) 725-9349  
E-mail: [entsoc.can@bellnet.ca](mailto:entsoc.can@bellnet.ca), [www.esc-sec.ca/](http://www.esc-sec.ca/)



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

Return Undeliverable Canadian Address to:  
 Entomological Society of Canada  
 Société d'entomologie du Canada  
 393 Winston Avenue  
 Ottawa, Ontario, Canada K2A 1Y8  
 E-mail: [entsoc.can@bellnet.ca](mailto:entsoc.can@bellnet.ca)

Publications Mail Agreement No. 40033986  
 Date of issue: June 2010

ISSN: 0071-0741

## Images

**On the spine:** *Cyphocleonus achates* (Fahraeus) (Coleoptera: Curculionidae) is a root feeding weevil introduced into Canada for the biological control of non-native species of knapweed (*Centaurea* spp.). Photo: B. Van Hezewijk

**Beneath the title:** *Alucita adriendenisi* (Landry & Landry) (Lepidoptera: Alucitidae), found across much of Canada, was named in honour of Adrien Denis who assisted Carl Atwood, the father of Margaret Atwood, in his entomological work and left a significant impression on the Atwood family. Photo: J. Dombroskie

**1** Caterpillar of the spurge hawk-moth, *Hyles euphorbiae* (L.) (Lepidoptera: Sphingidae), on leafy spurge (*Euphorbia esula* L.), Spruce Woods Provincial Park, Manitoba. Photo: A. Leroux

**2** Mating flesh flies (Diptera: Sarcophagidae), Gatineau Park, Quebec. Photo: M. Larrivé

**3** *Piagetiella peralis* (Leidy) (Phthiraptera: Menoponidae), a parasite found in the pouch of American white pelican (*Pelecanus erythrorhynchus*). Photo: T. Galloway

**4** Collecting parasitoids of the cabbage seedpod weevil, *Ceutorhynchus obstrictus* (Marsham) (Coleoptera: Curculionidae), in Swiss canola (*Brassica* sp.) fields. Photo: T. Haye

**5** A highly ornamented soil mite from native grasslands in Alberta (Prostigmata: Stigmaeidae). Photo: H. Proctor

**Back cover:** A round-headed apple tree borer, *Saperda candida* (Fabricius) (Coleoptera: Cerambycidae) near Peterborough, Ontario. Individuals of this species vary in the predominance of light (as in this specimen) or dark stripes. Photo: J. Fitzsimmons

Français à l'intérieur de la couverture avant