

Bulletin

Entomological Society of Canada
Société d'entomologie du Canada

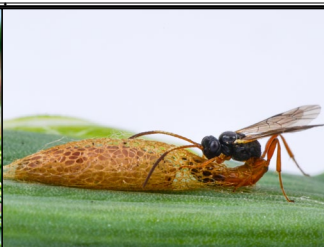
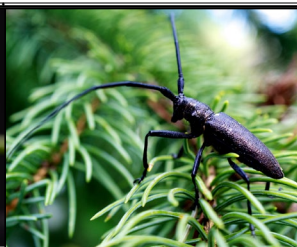
Volume 47
Number / numéro 3



September / septembre 2015

Published quarterly by the
Entomological Society of Canada

Publication trimestrielle par la
Société d'entomologie du Canada



List of Contents / Table des matières

Volume 47(3), September / septembre 2015

Up front / Avant-propos	78
Joint Annual Meeting / Réunion annuelle conjointe	82
The student wing / L'aile étudiante	86
People in the news / Gens qui font les manchettes.	
Dave Gillespie.....	88
2015 ESC Awards / Récipiendaires des prix SEC	
Gold Medal / Médaille d'or de la SEC: Jon Sweeney.....	89
C Gordon Hewitt Award / Prix C Gordon Hewitt: Cory Sheffield.....	94
Fellow of the ESC / Membre associé de la SEC: Charles Vincent.....	97
Criddle Award / Prix Criddle: Louis Handfield.....	100
Special features / Articles spéciaux:	
Evolution of information technologies viewed through Joint Annual Meetings of the ESC/SEQ held in Montreal in 1991, 2000 and 2006 (Charles Vincent).....	102
The European bagworm, <i>Dahlica triquetrella</i> (Hübner, 1813), (Lepidoptera: Psychidae), in Edmonton, Alberta, and environs, with notes on a parasitoid (Braconidae: Microgastrinae: <i>Dolichogenidea</i> sp.)(R.Leech/A.Popil).....	108
In memory / En souvenir de	
Laurent LeSage.....	112
Book reviews / Critiques de livres	
The Braconid and Ichneumonid Parasitoid Wasps: Biology, Systematics, Evolution and Ecology by Donald L. J. Quicke (L.Timms).....	113
Thorp and Covich's Freshwater Invertebrates. Fourth Edition, Volume 1. Ecology and General Biology, J.H.Thorp/D.C.Rogers (eds) (H.Proctor).....	115
Books available for review / Livres disponibles pour critique	117
Society business / Affaires de la Société	
Highlights from the Executive Meeting of 19 July 2015.....	119
65th Annual General Meeting (JAM 2015).....	121
Annual Financial Statements Notice.....	122
Call for missing back issues of the <i>Memoirs</i> and <i>The Canadian Entomologist</i>	122
Announcements / Annonces	
Content of newsletters published by the Canadian Phytopathological Society and Canadian Weed Science Society / Contenu des bulletins publiés par la Société canadienne de phytopathologie et la Société canadienne de malherbologie.....	122
Meeting Announcements / Réunions futures	125
Officers of affiliated societies / Dirigeants des sociétés associées	127
The last word / Le dernier mot	128
Governing board / Conseil d'administration	inside back cover

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

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

Nicolas Chateil-Launay



Two lab-raised *Eumaeus godartii* (Lepidoptera: Lycaenidae) butterflies are almost ready to emerge at the Smithsonian Tropical Research Institute in Panama City (Smithsonian Tropical Research Institute, Panama City, Republic of Panama)
Deux papillons *Eumaeus godartii* (Lepidoptera: Lycaenidae) élevés en labo sont presque prêts à émerger au Smithsonian Tropical Research Institute à Panama (Institut Smithsonian Tropical Research, Panama, République du Panama)



UNBC

Looking back to the future: Some random musings

When I was a kid, the internet had not even been conceived of so information about nature was usually only available through books and by joining naturalist groups. I was 10 years old when I first joined a Swedish youth-naturalist/conservation group (now called “Fältbiologerna” which translates to “the field biologists”). One year later my family moved to a town that didn’t have a chapter of that group, so I found other ways of getting together with like-minded ‘geeks’ to go bird watching or insect collecting. My first exposure to academia came about through my fascination with spiders. One of my teachers had posted a newspaper article about an arachnologist at the University of Uppsala, Dr Åke Holm. I contacted him via letter, and his kind responses to my letters were hugely important in shaping my own path to where I am today.

Today’s youth barely have to leave their seat to access vastly more information than I could have ever dreamed of. For many, television and the internet have replaced real-

Se tourner vers l’avenir : Quelques réflexions aléatoires

Quand j’étais enfant, Internet n’avait pas encore été conçu et l’information sur la nature était donc généralement disponible seulement par les livres ou en joignant des groupes naturalistes. J’avais 10 ans lorsque j’ai joint pour la première fois un groupe de jeunes suédois naturalistes/ de conservation (maintenant appelé « Fältbiologerna », ce qui se traduit par « les biologistes de terrain »). Un an plus tard, ma famille déménageait dans une ville qui n’avait pas de chapitre de ce groupe, et j’ai donc trouvé d’autres façons de me retrouver avec des ‘geeks’ qui partagent les mêmes idées pour observer les oiseaux ou collectionner les insectes. Ma première exposition au milieu académique est venue par ma fascination des araignées. Un des enseignants avait affiché un article de journal sur un arachnologue de l’Université d’Uppsala, Dr Åke Holm. Je lui ai envoyé une lettre, et sa gentille réponse à mes lettres a été extrêmement importante pour modeler ma propre voie jusqu’où je suis aujourd’hui.

La jeunesse d’aujourd’hui a à peine besoin de quitter son siège pour avoir accès à beaucoup plus d’information que j’aurais pu rêver d’avoir. Pour beaucoup, la télévision et Internet ont remplacés l’exploration de la vraie vie, et la qualité de la programmation disponible et la facilité d’accès à presque n’importe quelle information ont beaucoup changé la façon dont nous acquérons les informations de nos jours. J’admetts d’emblée que je regarde trop de télévision. Par exemple, je suis accro aux séries d’enquêtes anglaises, qui n’ont que très rarement de lien avec l’entomologie. À l’occasion cependant, la télévision fournit du matériel pertinent à notre discipline. L’autre soir, je regardais une émission sur PBS appelée « Humanity from Space » (<http://www.pbs.org/program/humanity-from-space/>). L’émission

life exploration, and the quality of available programming and ease of access to almost any information has vastly changed how we acquire information these days. I readily admit that I watch too much television. For example, I am addicted to British mystery shows, which rarely relate to entomology in any way. On occasion, television does provide material that is relevant to our discipline, however. The other night I was watching a show PBS called “Humanity from Space” (<http://www.pbs.org/program/humanity-from-space>). The show focuses on how humans have impacted planet Earth in various ways, effectively illustrating the issue with global views highlighting things like light pollution, road networks, and shipping lanes. In my mind this clearly illustrates how humanity is over-exploiting available resources. As a result, it is hardly surprising that media reports are full of examples of negative impacts on nature, for example, declining pollinator numbers. This planet is clearly heading for tough times (with Donald Trump’s re-emergence as a presidential candidate, I have even started thinking that wanna-be emigrants to Mars aren’t so crazy after all)!

One of the courses I have taught at UNBC is an examination of how insects and other organisms (primarily other invertebrates and fungi) are linked to human society. In this course we examine the importance of these organisms in shaping human society and in our daily lives. Consequently, I like watching television programs that contain information on these types of topics. A few days ago I watched one such program with the title “The Great Australian Fly”. Most people know that flies have been a scourge of Australia, giving rise to ‘the Aussie salute’ (https://en.wikipedia.org/wiki/Aussie_salute), hats with corks hanging from the front of the brim, etc. One of the reasons for the high density of flies was the introduction of cattle, which produced an endless supply of an unused niche for the flies to breed in. It was only after an immigrant entomologist, Dr George Bornemissza (https://en.wikipedia.org/wiki/George_Bornemissza),

parle des différentes façons dont les humains ont eu un impact sur la planète Terre, illustrant la question avec des visions globales mettant l’emphase sur des choses comme la pollution, les réseaux routiers, et les voies maritimes. Dans mon esprit, cela illustre clairement la façon dont l’humanité surexploite les ressources disponibles. En conséquence, il n’est pas surprenant que les rapports des médias soient remplis d’exemples d’impacts négatifs sur la nature, comme par exemple le nombre décroissant de pollinisateurs. Cette planète se dirige clairement vers des temps difficiles (avec la réémergence de Donald Trump comme candidat présidentiel, j’ai même commencé à penser que ceux qui veulent émigrer vers Mars ne sont pas si fous après tout)!

Un des cours que j’ai enseigné à UNBC est l’examen de la façon dont les insectes et les autres organismes (principalement les autres invertébrés et les champignons) sont liés à la société humaine. Dans ce cours, nous examinons l’importance de ces organismes pour modérer la société humaine et dans nos vies quotidiennes.

J’aime donc regarder des émissions de télévisions qui contiennent de l’information sur ce genre de sujets. Il y a quelques jours, j’ai regardé une de ces émissions intitulée « The Great Australian Fly ». La plupart des gens savent que les mouches ont été un fléau pour l’Australie, donnant naissance au « salut australien » (https://en.wikipedia.org/wiki/Aussie_salute), aux chapeaux avec des bouchons qui pendent du bord, etc. Une des raisons pour la forte densité de mouches est l’introduction de bétail, qui produit une source infinie d’une niche libre pour la reproduction des mouches. Ce n’est qu’après qu’un entomologiste immigrant, Dr George Bornemissza (https://en.wikipedia.org/wiki/George_Bornemissza), a proposé l’introduction de bousiers que la population de mouches est descendue à des niveaux gérables. Ainsi, lorsque l’on parle des mouches en Australie, il s’agit généralement de ce contexte. Cependant, l’émission examinait d’autres aspects des mouches. Certains de ces aspects ont certainement été couverts ailleurs, par exemple la thérapie par les asticots et l’entomologie judiciaire. Morgan Jackson sera

proposed the introduction of dung beetles that the fly populations were brought down to manageable levels. Thus, whenever flies in Australia are discussed, it is usually in the above context. The show examined other aspects of flies, however. Some of those have certainly been covered elsewhere, for example, maggot therapy and forensic entomology. Morgan Jackson will be very happy to know that the program also spent considerable time on the importance of flies as pollinators, claiming that they pollinate more plants than bees, and even the potential of flies as food. A segment of the program showed a farmer who decided to make the flies work for him, so he started rearing them, primarily for bait and chicken feed. Another story was about a German tourist who got lost in western Queensland, but survived until he was found by eating flies (<http://www.bbc.com/news/world-asia-26463979>).

You may be wondering what all this has to do with the ESC. I think it illustrates the very important role that entomologists have in society, not only to provide solutions to problems, but also to share our expertise and to promote an appreciation of insects and other arthropods. The question is how to reach the public. At our mid-year ESC Executive conference call, we discussed how to improve our profile in public education. Currently, education and science policy is handled by the same committee, but there is a proposal to split these portfolios with the aim of improving our visibility in both areas. We have all enjoyed the enthusiasm of children, many of whom seem to have an innate interest in “bugs” (at least until their parents transfer their own entomophobia to them). We recently received a request from the father of a young British entomologist about whether or not we have “any programs or printed materials targeted to younger readers from the Entomological Society of Canada that my daughter could participate in”. I am unsure if the ESC should have a youth program, but perhaps directing a student like this young lady to an individual who would answer her questions, just like I

ravi de savoir que l'émission passait également un temps considérable sur l'importance des mouches comme pollinisateurs, disant qu'elles pollinisent plus de plantes que les abeilles, et parlait également du potentiel des mouches comme nourriture. Un segment de l'émission montrait un fermier qui avait décidé de faire travailler les mouches pour lui, et qui avait donc décidé de les élever, principalement comme appât et nourriture à poulet. Une autre histoire concernait un touriste allemand qui s'était perdu dans l'ouest de Queensland, mais a survécu en mangeant des mouches jusqu'à ce qu'il soit retrouvé (<http://www.lapresse.ca/actualites/insolite/201403/06/01-4745372-australie-un-touriste-perdu-survit-en-se-nourrissant-dinsectes.php>)

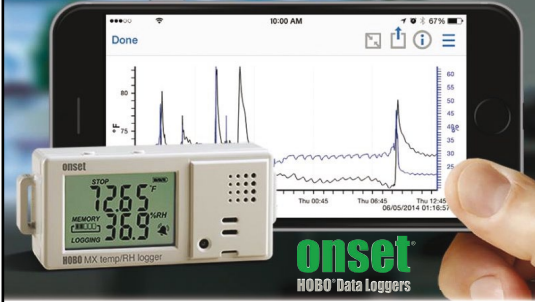
Vous vous demandez peut-être ce que tout ça a à voir avec la SEC. Je pense que ça illustre le rôle très important qu'ont les entomologistes dans la société, pas seulement pour apporter des solutions à des problèmes, mais également pour partager notre expertise et pour promouvoir une appréciation des insectes et autres arthropodes. La question est de savoir comment atteindre le public. Lors de notre appel-conférence de mi année du conseil exécutif de la SEC, nous avons discuté de la façon d'améliorer notre profil en éducation publique. Actuellement, les politiques d'éducation et de science sont gérées par le même comité, mais il a été proposé de les séparer dans le but d'améliorer notre visibilité dans les deux domaines. Nous avons tous déjà apprécié l'enthousiasme des enfants qui semblent, pour la plupart, avoir un intérêt inné pour les « bibittes » (du moins, jusqu'à ce que leurs parents leur transfèrent leur propre entomophobie). Nous avons récemment reçu une demande du père d'une jeune entomologiste britannique voulant savoir si nous avions “des programmes ou du matériel imprimé ciblant les plus jeunes lecteurs de la Société d'entomologie du Canada auxquels ma fille pourrait participer ». Je ne suis pas sûr que la SEC devrait avoir un programme pour les jeunes, mais peut-être que de diriger cette jeune fille vers quelqu'un qui pourrait répondre à ses

l'Traduction littérale de l'anglais

was helped by Dr Holm, would be a way to connect to future entomologists. Or perhaps we should have a separate blog that was more focused on youth? Whatever the solution is, I suspect that we are not keeping up with the rapidly changing communication landscape as well as we could. We are in the process of improving the functionality of the ESC web pages, including better linking to our social media channels and more timely updates of materials. It is my hope that the changes we are making will improve the visibility of our society in the next few years.

questions, tout comme Dr Holm m'a aidé, serait une façon d'atteindre les futurs entomologistes. Ou peut-être que nous devrions avoir un blogue séparé qui serait plus centré sur la jeunesse? Peu importe la solution, je suspecte que nous ne suivons pas le paysage des communications qui change rapidement autant que nous le pourrions. Nous sommes en voie d'améliorer la fonctionnalité des pages Internet de la SEC, incluant de meilleurs liens vers nos médias sociaux et du matériel mis à jour en temps opportun. J'ai espoir que les changements que nous faisons amélioreront la visibilité de notre société dans les prochaines années.

HOBO Temp/RH Logger for Mobile Devices




The new **HOBO MX1101** measures and transmits temp/RH data to mobile devices wirelessly via Bluetooth® Smart technology.

- Easy to deploy and offload using free HOBOMobile App
- Visual and audible high & low alarm thresholds
- Stores 84,000 measurements
- Accuracy: +/- 0.2C and +/- 2%RH
- Find me/pager feature

USE IN CONJUNCTION WITH

HOBOMobile® App for HOBO MX Data Loggers

Using Onset's free HOBOMobile® app, you can view data in graphs, check the operational status of loggers, configure alarm notifications, and share data files. iOS or Android™.

 **Hoskin Scientific Ltd.**
Vancouver | Toronto | Montreal | www.hoskin.ca

(paid advertisement/ publicité payée)



Joint Annual Meeting ESC-SEQ 2015 – Marriott Château Champlain, Montreal – 8-11 November

Dear colleagues:

The meeting is coming soon and the organizing committee is working hard to welcome students and researchers from all the country. For latecomers, do not forget to register online before **1 November**.

Several reminders follow:

Important deadlines:

- 30 September: Deadline to submit your photos and drawings for the contests
- 7 October: Deadline to book your room at the group rate.
- 1 November: Deadline to register online
- 8 November: The JAM starts at 1:00 PM

Plenary speakers:

- Dr Marcel Dicke (Wageningen University) on Sunday afternoon
- Dr Jessica Forrest (University of Ottawa) on Monday morning
- Dr Jessica Hellmann (University of Notre Dame) on Tuesday morning
- Dr May Berenbaum (University of Illinois at Urbana-Champaign) on Wednesday morning

Main activities:

Sunday afternoon:

- Opening Ceremonies, including: ESC Awards, Gold Medal Award Address, Heritage Lecture by Guy Boivin and Graduate Student Showcase.

Sunday evening:

- Welcome Reception at the Insectarium of Montréal
- Activities at the Centre of Biodiversity

Monday:

- Student presentations and posters for President's Prizes
- ESC Editorial Board meeting
- SEQ Annual General Meeting
- "Entomology education" workshop by the education team of the Insectarium.
- Student mixer and Linnaean Games, and President's Reception in the evening.

Tuesday:

- Regular presentations and symposiums
- "Publication" workshop sponsored by Cambridge University Press for students.

Réunion annuelle conjointe

- ESC Annual General Meeting
- Biological Survey of Canada meeting
- Banquet and awards (President's Prizes, photo and drawing contests, SEQ awards)
- For the banquet, you are invited to wear plaid shirt and arrow sash. Initiation to folk dancing!!!

Wednesday:

- Regular presentations and symposium

The complete schedule will be available online soon to help you to prepare your travel in Montréal.

Directions:

Airport transportations:

- Taxi services: 40\$
- Public bus services: 10\$ 747 Aéroport P.-E.-Trudeau / Centre-ville shuttle (Stop 4 or at the Lionel Groulx metro station and take the metro to Bonaventure station on the orange line). See the pdf brochure here: <http://www.stm.info/sites/default/files/planibus/en/747.pdf>.

By train:

- The "Gare Centrale" is 300m (4 min walk) from the hotel.

By car:

- **From Ottawa** (Highway 417) Toronto (Highway 401) or the airport: Highway 20 East. Exit onto Highway 720 (Ville-Marie Expressway). Take the St-Jacques Street exit. At the first light, turn left onto Peel Street. The hotel will be on your right at the corner of Peel and de la Gauchetière.
- **From Quebec:** Highway 20 West. Exit 90 to La Prairie/USA Varennes Highway 132 until the Champlain Bridge.
- **From New York State**
Take Route 87 North which, becomes Highway 15 North in Canada. Continue on 15 and take the Champlain Bridge exit.
- **From Champlain Bridge to the Hotel**
Once on the bridge, take exit 58 (Downtown Montréal) and follow the signs for Centre ville. At University Street, take a left on de la Gauchetière and then another left on Cathédrale Street. The entrance for underground hotel parking will be on your right. To come to the front of the hotel continue on Cathédrale Street, turn right on Antoine and right again on Peel.

Visit our website for more details: http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/index_eng.asp

Join us on Facebook (www.facebook.com/JAMESCSEQ2015MTL) and Twitter ([#ESCJAM2015](https://twitter.com/ESCJAM2015))

Looking forward to welcome you soon in Montreal
The organizing committee of the JAM 2015.





Réunion annuelle conjointe ESC-SEQ 2015 – Marriott Château Champlain, Montréal – 8-11 Novembre

Chers collègues :

Le congrès approche à grands pas et le comité organisateur s'affaire à finaliser la venue des étudiants et chercheurs de tout le pays. Pour les retardataires, n'oubliez pas de vous inscrire en ligne avant le **1^{er} Novembre**.

Quelques petits rappels :

Dates limites importantes :

- 30 Septembre : Date limite pour soumettre vos photos et dessins pour les concours
- 7 Octobre : Date limite pour réserver votre chambre d'hôtel au tarif de groupe
- 1^{er} Novembre : Date limite pour s'inscrire en ligne
- 8 Novembre : Début de la réunion à 13h00

Conférenciers plénières :

- Dr Marcel Dicke (Université de Wageningen), dimanche après midi
- Dr Jessica Forrest (Université d'Ottawa), lundi matin
- Dr Jessica Hellmann (Université de Notre Dame), mardi matin
- Dr May Berenbaum (Université de l'Illinois à Urbana-Champaign), mercredi matin

Activités principales :

Dimanche après-midi :

- Cérémonie d'ouverture incluant : Remise des Prix de la SEC, Allocution du (de la) Médaille(e) d'Or, allocution du patrimoine par Guy Boivin et vitrine des étudiants diplômés.

Dimanche soir :

- Réception d'accueil à l'Insectarium de Montréal
- Activités au Centre de la Biodiversité

Lundi :

- Présentations et posters étudiants pour les Prix du Président
- Réunion du comité éditorial de la SEC
- Assemblée Générale Annuelle de la SEQ
- Atelier-Dîner sur l'éducation de l'entomologie donnée par l'équipe d'animateurs de l'Insectarium
- Coquetel étudiant et Jeux Linnéens, et réception du Président le soir

Mardi :

- Présentations régulières et symposiums

Réunion annuelle conjointe

- Atelier-Diner sur le processus de publication, commandité par Cambridge University Press
- Assemblée Générale Annuelle de la SEC
- Réunion de la Commission Biologique du Canada
- Banquet et remises de prix : (Prix du Président, concours de photos et de dessin, reconnaissance de la SEQ).
- Pour le banquet, nous vous invitons à porter votre plus belle chemise carreautee et votre ceinture flechée puisque nous aurons des danses folkloriques traditionnelles.

Mercredi :

- Présentations régulières et symposiums

Le programme complet sera prochainement en ligne pour préparer au mieux votre séjour à Montréal

Directions pour se rendre à l'hôtel :

Depuis l'aéroport:

- Taxi: 40\$
- Bus 747: 10\$. Navette 747 Aéroport P.-E.-Trudeau / Centre-ville (Arrêt 4 ou à la station de métro Lionel Groulx puis prendre la ligne orange jusqu'à la station Bonaventure). Voir la brochure ici : <http://www.stm.info/sites/default/files/planibus/fr/747.pdf>.

Par train:

- La "Gare Centrale" est à 300m (4 min de marche) de l'hôtel.

En voiture:

- **Depuis Ottawa** (Route 417) **Toronto** (Route 401) ou de l'aéroport: Aut 20 Est. Sortie sur la 720 (Ville-Marie). Prendre la sortie Rue St-Jacques. Au premier feu de circulation, tourner à gauche sur la rue Peel. L'hôtel est à droite au coin de Peel et de la Gauchetière
- **Depuis Québec:** Autoroute 20 Ouest. Sortie 90 (La Prairie/USA Varennes) puis Route 132 jusqu'au Pont Champlain.
- **Depuis New York State**
La 87 North devient l'autoroute 15 Nord au Canada. Continuer sur la 15 et prendre la sortie vers le Pont Champlain.
- **Du Pont Champlain à l'hôtel**
A la sortie du pont, prendre la sortie 58 (Centre-ville Montréal). Tourner à gauche sur la Rue Université, à gauche sur de la Gauchetière et encore à gauche sur Cathédrale. L'entrée du stationnement souterrain de l'hôtel parking est sur la droite. Pour accéder à l'entrée de l'hôtel, continuer sur Cathédrale, tourner à droite sur Antoine et encore à droite sur Peel.

Pour de plus amples informations, visitez notre site internet : http://www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/index_fr.asp

Joignez notre page Facebook (www.facebook.com/JAMESCSEQ2015MTL) et suivez nous sur Twitter ([#ESCJAM2015](https://twitter.com/ESCJAM2015)).

Au plaisir de vous accueillir prochainement à Montréal !

Le comité organisateur de la Réunion Annuelle 2015.



The student wing / L'aile étudiante

Paul Abram and Joanna Konopka



Graduate Student Showcase (GSS) at the ESC-SEQ JAM in Montréal

The GSS is a high-profile opportunity for graduate students who are close to finishing their degrees to present a more complete overview of their research. After a competitive selection process, the following students have been chosen to present at GSS 2015 in Montréal (in alphabetical order):

1. **Paul Abram** (Université de Montréal)
Stink bugs and their parasitoids: their behaviour's plastic, it's fantastic.
2. **Holly Caravan** (Memorial University of Newfoundland)
Defensive mechanisms of the social aphid, *Pemphigus spyrothecae*.
3. **Christina Hodson** (University of Victoria)
Ecological and evolutionary consequences of a selfish sex ratio distorting element in a booklouse (Psocodea: *Liposcelis*).
4. **Leanna Lachowsky** (University of Calgary)
Fitness consequences of sex allocation in mountain pine beetles, *Dendroctonus ponderosae*.
5. **Jean-Philippe Parent** (Université de Montréal)
Parasitoids standing the test of time.

Come out on the Sunday afternoon of the first day of the meeting (November 8, 4-6 pm) to see some of the top graduate student projects from around the country!

Linnaean Games

During the upcoming ESC-SEQ JAM, the

Vitrine aux étudiants gradués à la réunion annuelle conjointe SEC-SEQ à Montréal

Cette vitrine est une opportunité de visibilité pour les étudiants gradués à l'approche de la fin de leur diplôme de présenter un survol plus complet de leurs recherches. Après un processus de sélection compétitif, les étudiants suivants ont été choisis pour présenter lors de la vitrine 2015 à Montréal (en ordre alphabétique) :

1. **Paul Abram** (Université de Montréal)
Les punaises et leurs parasitoïdes: leur comportement est plastique, c'est fantastique.
2. **Holly Caravan** (Université Memorial de Terre-Neuve)
Les mécanismes de défense du puceron social, *Pemphigus spyrothecae*.
3. **Christina Hodson** (Université de Victoria)
Les conséquences écologiques et évolutives d'un élément égoïste distorreur du rapport des sexes chez un pou des livres (Psocodea: *Liposcelis*).
4. **Leanna Lachowsky** (Université de Calgary)
Les conséquences de l'allocation des sexes sur la valeur adaptative du dendroctone du pin ponderosa, *Dendroctonus ponderosae*.
5. **Jean-Philippe Parent** (Université de Montréal)
Des parasitoïdes à l'épreuve du temps.

Venez le premier jour de la conférence, le dimanche après-midi (8 novembre, 16h-18h) pour voir quelques-uns des meilleurs projets d'étudiants gradués du pays!

Les jeux linnéens

Lors de la prochaine réunion annuelle conjointe SEC-SEQ, le comité des affaires étudiantes tiendra des "jeux linnéens"

Student Affairs Committee will be holding a "Linnaean Games" that all students are invited to participate in. Please join us to have some fun and network with other entomological students from across Canada.

XXV International Congress of Entomology (ICE) 2016

For those students planning to attend the [ICE 2016](#) in Orlando, Florida:

- Applications for an international version of the Graduate Student Showcase ([International Graduate Student Symposium](#)) are now open. The deadline is 31 October 2015.

Please consider applying if you are eligible.

Research Roundup

For regular updates on new Canadian entomological research, you can join the ESC Students Facebook page or follow us on Twitter [@esc_students](#).

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

Getting involved with the ESC

If you are interested in joining the Student Affairs Committee, or just have suggestions for new initiatives in the coming year, please email us at students@esc-sec.ca

We look forward to hear from you,
Joanna and Paul

auxquels tous les étudiants sont invités à participer. Joignez-vous à nous pour vous amuser et réseauter avec d'autres étudiants en entomologie de tout le Canada.

XXV Congrès International d'entomologie (ICE) 2016

Pour les étudiants qui prévoient assister au congrès [ICE 2016](#) à Orlando, en Floride :

- Les applications pour la version internationale de la vitrine aux étudiants gradués ([International Graduate Student Symposium](#)) sont maintenant acceptées. La date limite est le 31 octobre 2015.

Considérez d'appliquer si vous êtes éligible.

Aperçu de la recherche

Pour des mises à jour régulières sur la recherche entomologique canadienne, vous pouvez joindre la page Facebook des étudiants de la SEC ou nous suivre sur Twitter [@esc_students](#).

Si vous voulez mettre en valeur votre plus récent article publié (ou si nous l'avons manqué le mois dernier!), envoyez-nous un courriel à entsoccan.students@gmail.com.

S'impliquer au sein de la SEC

Si vous êtes intéressés à joindre le comité des affaires étudiantes, ou si vous avez des suggestions pour de nouvelles initiatives dans la prochaine année, écrivez-nous à students@esc-sec.ca.

Au plaisir d'avoir de vos nouvelles,
Joanna et Paul

Thesis Roundup / Foisonnement de thèses

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

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



Dave Gillespie named to the Order of Canada

Dave Gillespie, the 2014 recipient of the Entomological Society of Canada's Gold Medal, has now received another accolade. On Canada Day 2015, Dave was among the 100 new appointments to the Order of Canada announced by Governor General David Johnston 'for his contributions as an entomologist who has worked to reduce the use of pesticides on agricultural products.'

Currently a Senior Research Scientist at the Agassiz Research Station of Agriculture and Agri-Food Canada and holding an adjunct professorship in the Department of Biological Sciences at Simon Fraser University, Dave has gained an international reputation for his research on the natural enemies of insects and mites. His work has contributed directly to the widespread use of many of these species for biological control in commercial greenhouse operations around the world.

Dave's contributions to pest management, biocontrol and agriculture have previously been recognised through several prestigious awards, including the *Award of Excellence* from the Professional Pest Management Association of British Columbia, the *Award of Excellence* from the Association of Natural Biological Control Producers of North America, the *Gold Harvest Award* from Agriculture and Agri-Food Canada, and election as an *Honorary Member of the International Organization for Biological Control*.

The Order of Canada, one of our country's highest civilian honours, was established in 1967, during Canada's centennial year, to recognize outstanding achievement, dedication to the community and service to the nation. Over the last 48 years, more than 6 000 people from all sectors of society have been invested into the Order.





**Gold Medal
Jon Sweeney**

Contributions to the Entomological Society of Canada

Dr Sweeney has been an extremely active member of the Entomological Society of Canada since 1981 and has contributed to a wide range of activities associated with the Society: Director at Large; Director representing the Acadian Entomological Society; Subject Editor, Division Editor, and Associate Editor of *The Canadian Entomologist*; Chair of the Membership Committee; Chair of the Organizing Committee of the 1996 Joint Annual Meeting of the Entomological Society of Canada & Acadian Entomological Society; Chair of the Scientific Program of the 2004 Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society; Co-Chair of the President's Prize Graduate Student Awards, 2011 Joint Annual Meeting of the Entomological Society of Canada and Acadian Entomological Society; and a judge for Graduate Student Paper Competitions at multiple Annual Meetings.

**Médaille d'or de la SEC
Jon Sweeney**

Contributions à la Société d'entomologie du Canada

Dr Sweeney est un membre très actif de la Société d'entomologie du Canada depuis 1981 et a contribué à différentes activités associées avec la Société : conseiller; représentant de la Société d'entomologie acadienne; éditeur thématique, éditeur de division et éditeur associé pour *The Canadian Entomologist*; président du comité de l'adhésion; président du comité organisateur de la réunion annuelle conjointe avec la Société d'entomologie acadienne 1996; président du programme scientifique de la réunion annuelle conjointe avec la Société d'entomologie acadienne 2014; co-président des prix étudiant du président à la réunion annuelle 2011 conjointe avec la Société d'entomologie acadienne; et juge pour les compétitions étudiantes à plusieurs réunions annuelles.

Service pour le Service Canadien des Forêts, l'industrie forestière et les Canadien(ne)s

Dr Sweeney est un chef de file depuis plus d'une décennie dans les études sur l'écologie et la gestion du longicorne brun de l'épinette (*Tetropium fuscum*) (LBÉ) au Canada atlantique. Le LBÉ est actuellement le ravageur envahissant le plus destructeur de l'épinette en Nouvelle-Écosse et est une menace majeure pour les forêts dans l'est du Canada. Le LBÉ a été découvert en 1990 au parc Point Pleasant de Halifax, Nouvelle-Écosse. Cet insecte ravageur envahissant provient d'Europe et de l'ouest de la Sibérie et est probablement entré à Halifax par des palettes de bois importées dans des conteneurs

Service to the Canadian Forest Service, the Canadian forest industry and Canadians

Dr Sweeney has been the leader for more than a decade studying the ecology and management of the brown spruce longhorn beetle (*Tetropium fuscum*) (BSLB) in Atlantic Canada. BSLB is currently the most destructive invasive pest of spruce in Nova Scotia and is a major threat to forests throughout eastern Canada. BSLB was first discovered in 1999 in Point Pleasant Park, Halifax, Nova Scotia. This invasive insect pest originates from Europe and western Siberia and likely entered Halifax from wood pallets imported into the container port, adjacent to the park. BSLB usually attacks older and otherwise weakened spruce trees but has been found attacking apparently healthy trees. Red spruce is especially susceptible. Red spruce is relatively less common in Canada and there was concern that BSLB outbreaks could put Nova Scotia populations under additional pressure. In 2000, Dr Sweeney was at the forefront of establishing a collaborative network to address the invasion of BSLB, which involved people from the Canadian Food Inspection Agency (CFIA), CFS researchers from the Atlantic Forestry Centre and other CFS labs, and the local municipal and provincial governments and forest industry in Nova Scotia.

As part of his research activities, Dr Sweeney has been an excellent representative for the Government of Canada, NRCan and the CFS in what has proven to be a difficult and controversial research effort. He has the ability to explain complex science principles that are comprehensible to non-experts and in a way that is not only enlightening but also enjoyable for his audiences. He is a gifted speaker and has what is generally considered to give the best BSLB sniffer dog impression in Atlantic Canada, if not all of Canada. His talent for communication was highlighted during his early years of research in BSLB in Point Pleasant Park, a much-cherished forest oasis in Halifax. When CFIA began removal and destruction of affected trees from the

du port, adjacent au parc. Le LBÉ attaque généralement les épinettes âgées ou affaiblies, mais a été trouvée sur des arbres d'apparence saine. L'épinette rouge, particulièrement susceptible, est relativement moins commune au Canada et il y avait des inquiétudes que des épidémies de LBÉ pourraient mettre les populations de N-É sous une pression additionnelle. En 2000, Dr Sweeney était au front de l'établissement d'un réseau collaboratif afin de gérer l'invasion du LBÉ, réseau impliquant des gens de l'Agence canadienne d'inspection des aliments (ACIA), des chercheurs du SCF du CFA et d'autres labos, et les gouvernements municipaux et provinciaux et l'industrie forestière de Nouvelle-Écosse.

Dans le cadre de sa recherche, Dr Sweeney a été un excellent représentant pour le Gouvernement du Canada, NRCan et le SCF dans ce qui s'est avéré être un effort de recherche difficile et controversé. Il a la capacité d'expliquer des principes scientifiques complexes à des non-experts d'une façon qui n'est pas seulement instructive, mais aussi agréable pour son auditoire. Il est un orateur talentueux et fait ce qui est généralement considéré comme la meilleure imitation de chiens pisteurs de LBÉ au Canada atlantique, si ce n'est dans tout le Canada! Son talent pour la communication a été mis en valeur durant ses premières années de recherche sur le LBÉ au parc Point Pleasant, une oasis de forêt appréciée à Halifax. Quand l'ACIA a débuté le retrait et la destruction des arbres affectés dans le parc, il y a eu un tollé public très vigoureux. Dr Sweeney a souvent donné des entrevues à la radio et à la télévision, et il s'est adressé au public dans de nombreux forums. Malgré l'entrée dans une atmosphère aussi chargée en émotions, il est toujours resté calme et a été une voie respectueuse de la raison pour des auditoires souvent agités. Bien que la recommandation de trier les arbres du parc n'a pas toujours été la bienvenue, la façon dont Dr Sweeney a interagit avec les parties concernées a toujours été appréciée et respectée.

park there was a vigorous public outcry. Dr Sweeney was frequently interviewed on radio and television, and he addressed audiences at numerous public forums. Despite stepping into such an emotionally charged atmosphere, he was always a calm and respectful voice of reason to the often agitated audiences. While the recommendation of culling trees from the park was not always welcomed, the manner in which Dr Sweeney interacted with the concerned parties was always appreciated and respected.

Further complications arose in managing the BSLB issue after Hurricane Juan passed through Nova Scotia. Early in the study of BSLB, infested tree removal showed some progress in reducing BSLB numbers. Bait logs put out to attract BSLB and related beetles showed that indigenous species numbers were increasing and BSLB numbers were going down. But, in September 2003, Hurricane Juan flattened and killed many of the spruce in Point Pleasant Park, thus providing fodder for BSLB. The result was a significant rise in BSLB numbers and a rapid spread beyond the initial quarantine zone. As the outbreak spread, thus reducing the likelihood of eradication, Jon also shifted his research focus to examine many of the more poorly understood aspects of BSLB biology and ecology, which facilitated the development of detection, monitoring, and potential control techniques. This work produced a number of scientific journal articles and other reports on BSLB and Dr Sweeney has become a sought-after expert on invasive insect species. He is frequently contacted by colleagues seeking his expertise and (ideally) collaboration and has received numerous invitations to speak at international conferences and symposia. Dr Sweeney is the chair of the BSLB Science Committee, which is the main body responsible for the development of science-based risk mitigation measures for the BSLB. He is also the lead scientist on the BSLB containment program. In these roles, he provides critical science knowledge and expertise on which important

Des complications additionnelles sont arrivées dans la gestion du LBÉ après que l'ouragan Juan soit passé par la Nouvelle-Écosse. Tôt dans l'étude du LBÉ, le retrait des arbres infestés a amené un certain progrès dans la réduction du nombre de LBÉ. Les bûches-pièges pour attirer le LBÉ et autres coléoptères ont montré que le nombre d'espèces indigènes augmentait et que le nombre de LBÉ descendait. Cependant, en septembre 2013, l'ouragan Juan a mis à terre et tué de nombreuses épinettes dans le parc Point Pleasant fournissant ainsi du fourrage au LBÉ : le nombre de LBÉ a significativement augmenté et une dispersion au-delà de la zone de quarantaine initiale a été observée. Alors que l'épidémie progressait, réduisant ainsi la probabilité de l'éradication, Jon a modifié ses recherches afin d'examiner plusieurs aspects mal compris de la biologie et de l'écologie du LBÉ, ce qui a facilité le développement de la détection, la surveillance et les techniques potentielles de lutte. Ces travaux ont produit un bon nombre d'articles de revues scientifiques et d'autres rapports sur le LBÉ et Dr Sweeney est devenu un expert recherché sur les espèces d'insectes envahissants. Il est fréquemment contacté par ses collègues qui recherchent son expertise et (idéalement) sa collaboration et a reçu de nombreuses invitations pour participer à des conférences et symposiums internationaux. Dr Sweeney est le président du comité scientifique du LBÉ, qui est le principal responsable du développement de mesures de mitigations des risques basés sur la science pour le LBÉ. Il est également le principal investigateur sur le programme de confinement du LBÉ. Dans ces rôles, il fournit des connaissances scientifiques critiques et une expertise sur lesquelles les décisions importantes sont prises concernant les programmes de mitigations du LBÉ.

Les efforts de recherche dévoués du Dr Sweeney ont un impact majeur sur le ralentissement de la dispersion du LBÉ. À ce jour, il n'y a eu qu'un seul rapport du LBÉ au Nouveau-Brunswick, probablement résultant

decisions are made concerning BSLB mitigation programs.

Dr Sweeney's dedicated research efforts have had a major impact on slowing the spread of BSLB. To date, there has been only one report of BSLB in New Brunswick, probably as a result of firewood being transported from Nova Scotia, and BSLB was not able to establish in the area. The containment of BSLB to Nova Scotia and, for the most part, to within 80 km of Halifax, is in no small part because of the efforts of Dr Sweeney and those working with him to define and facilitate the monitoring of the quarantine area, as well as to his persistent efforts to inform the public of the potential risks of anthropomorphic movement of BSLB-laden logs. The economic impacts of further spread of BSLB should not be underestimated as there is significant potential for BSLB to invade the largely continuous tracts of spruce spanning Nova Scotia through Manitoba. Through providing the information needed to monitor and manage BSLB effectively, Dr Sweeney's research has enabled the continued export of timber products from the Maritime region that might otherwise be restricted.

Awards

Dr Sweeney's contributions to forest insect ecology and pest management, in particular his work on BSLB, have also earned him a number of prestigious awards. He was honored by the BioAtlantech and the New Brunswick bio-science community with the "2012 New Brunswick Bio-sciences Achievement Award" in 2012. Other awards include: Canadian Forest Service Merit Award in recognition for outstanding contribution in Collaboration and Partnership Addressing Alien Forest Species through Collaboration and Science, 2007; Natural Resources Canada Departmental Merit Award in recognition for outstanding contribution in Collaboration and Partnership Addressing Alien Forest Species through Collaboration and Science, 2007; City of Fredericton Meeting Planners' Recognition Award, 1996.

du transport de bois de chauffage de Nouvelle-Écosse, et le LBÉ n'a pas pu s'établir dans cette région. Le confinement du LBÉ à la Nouvelle-Écosse et, pour la majeure partie, à l'intérieur de 80 km de Halifax, est en grande partie dû aux efforts du Dr Sweeney et de ceux qui travaillent avec lui pour définir et faciliter la surveillance de l'aire de quarantaine, ainsi qu'à son effort constant pour informer le public des risques potentiels des mouvements anthropomorphiques des bûches infestées par le LBÉ. Les impacts économiques de la dispersion du LBÉ ne devraient pas être sous-estimés puisqu'il a un potentiel significatif d'envahir le tracé assez continu d'épinettes qui va de la Nouvelle-Écosse au Manitoba. En fournissant l'information requise pour surveiller et gérer le LBÉ efficacement, les recherches du Dr Sweeney ont permis de continuer l'exportation de produits de bois d'œuvre de la région des maritimes qui serait restreinte sinon.

Prix

Les contributions du Dr Sweeney en écologie des insectes forestiers et en gestion des ravageurs, en particulier sur le LBÉ, lui ont valu un nombre de prix prestigieux. Il a été honoré par BioAtlantech et la communauté de biosciences du Nouveau-Brunswick avec le Prix de réalisations en biosciences du N.-B. 2013. Il a aussi reçu le prix au mérite du service canadien des forêts en reconnaissance de sa contribution exceptionnelle à la prise de mesures concernant les espèces forestières exotiques grâce à la collaboration et à la science, 2007; le prix au mérite du ministère de Ressources Naturelles Canada en reconnaissance de sa contribution exceptionnelle en Collaboration à la prise de mesures concernant les espèces forestières exotiques grâce à la collaboration et à la science, 2007; le prix de reconnaissance du Fredericton Meeting Planners en 1996.

Supervision et mentorat

Dr Sweeney a supervisé un grand nombre de techniciens et biologistes, d'étudiants

Supervision and mentorship

Dr Sweeney has supervised and mentored a great number of technicians and biologists, undergraduate and graduate students, as well as postdocs. He is very much a hands-on supervisor and has faith in the skills and abilities of the people working with and for him. As a testament to his effectiveness as a supervisor, many of the students and postdocs that worked under him have moved on to successful careers in academia and government. He is one of the most collegial and popular people working at the CFS laboratory in Fredericton and has been a mentor and collaborator to numerous technicians and new scientists at the Atlantic Forestry Centre. Jon Sweeney's impact on the future of entomological research in eastern Canada cannot be overestimated.

de premier cycle et diplômés, ainsi que des postdocs. Il est un superviseur très pratique et croit dans les capacités et habiletés des gens qui travaillent avec et pour lui. Comme preuve de son efficacité de superviseur, plusieurs des étudiants et postdocs ayant travaillé pour lui ont des carrières réussies à l'université ou au gouvernement. Il est une des personnes les plus collégiales et populaires qui travaillent au laboratoire du SCF à Fredericton et a été un mentor et collaborateur de plusieurs techniciens et nouveaux scientifiques au Centre de foresterie de l'Atlantique. L'impact de Jon Sweeney sur l'avenir de la recherche entomologique dans l'est du Canada ne peut pas être surestimé.



**ATELIER JEAN
PAQUET INC.**

**MATÉRIEL ENTOMOLOGIQUE
ENTOMOLOGICAL SUPPLIES**

Courriel: jeanpaquet@webnet.qc.ca

www.atelierjeanpaquet.com

(paid advertisement/ publicité payée)



C Gordon Hewitt Award Cory Sheffield

As an early-career researcher, Dr Cory Sheffield has made numerous contributions to entomology, insect conservation, teaching/training, and outreach, in Canada and internationally.

Since 2003, he has published 39 scientific publications, 1 book chapter, and 3 peer-reviewed conference proceedings papers on bee biology and conservation, and pollination. Several of his papers have been published in high-impact journals such as *Molecular Ecology Resources* and *PLoS ONE*, and almost all illustrate a breadth of collaboration, and expertise in multiple areas.

After completing his PhD in Guelph in 2006, Dr Sheffield began a post-doc at York University with Laurence Packer, to work on taxonomy of Canadian bees. He was one of the first to apply DNA barcoding to bees during his PhD work, which yielded the first published evaluation of this method on a regional bee fauna. In 2009, he became a research associate at York University with the NSERC funded Canadian Pollination Initiative (CANPOLIN). In this capacity, he identified, processed, and catalogued an enormous number of specimens, from many projects, across the country. Linked to these collaborations within CANPOLIN,

Prix C Gordon Hewitt Dr Cory Sheffield

En tant que jeune chercheur, Dr Cory Sheffield a apporté de nombreuses contributions à l'entomologie, la conservation des insectes, l'enseignement, la formation et la vulgarisation au Canada et à l'international. Depuis 2003, il a publié 39 articles scientifiques, 1 chapitre de livre et 3 comptes rendus de conférences sur la biologie et la conservation des abeilles et la pollinisation. Plusieurs de ses articles ont été publiés dans des revues à fort impact, telles que *Molecular Ecology Resources* et *PLoS ONE*, et presque tous ses articles illustrent d'importantes collaborations et une expertise dans plusieurs domaines.

Après avoir terminé son doctorat à Guelph en 2006, Dr Sheffield a débuté un postdoc avec Laurence Packer à l'Université York sur la taxonomie des abeilles canadiennes. Il a été parmi les premiers à appliquer les codes à barres d'ADN aux abeilles durant son doctorat, ce qui a amené la première évaluation publiée de cette méthode sur une faune d'abeille régionale. En 2009, il est devenu chercheur associé à l'Université de York avec l'initiative de pollinisation canadienne financée par le CRSNG (CANPOLIN). Il a ainsi identifié, traité et catalogué un très grand nombre de spécimens de plusieurs projets dans tout le pays. En lien avec ces collaborations au sein de CANPOLIN, Dr Sheffield a joué un rôle critique dans la formation d'étudiants diplômés sur la taxonomie des abeilles, autant par des sessions privées que par le développement d'ateliers de formation. En support additionnel au programme CANPOLIN, il est activement impliqué dans la taxonomie des abeilles et a publié une clé des genres de l'est du Canada, et des révisions pour les espèces canadiennes de *Megachile* et *Dufou-*

Dr Sheffield played a critical role in training graduate students in bee taxonomy, both through one-on-one sessions, and through development of training workshops. Further supporting the CANPOLIN program, he is actively involved in bee taxonomy and has published a key to the eastern Canadian genera, and revisions for Canadian *Megachile* and *Dufourea* species, with ongoing projects on other Canadian bee genera, as well as chrysidid and philanthine wasps. Due to his efforts, our understanding of the Canadian bee fauna is now on very firm ground. He has named three bee species, and has also had two sweat bees named in his honour. Through his recent publications, Dr Sheffield has promoted the use of functional diversity in studies of bee communities, particularly the inclusion of life-history to measure bee responses to disturbance. Building on this, he introduced the concept of using cleptoparasitic bees as indicator taxa of bee communities.

Since 2013, Dr Sheffield has served as a subject editor for *The Canadian Entomologist*. He also regularly serves as a manuscript reviewer for many other journals. He has served on the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Arthropods Subcommittee since 2012, and has authored/co-authored status reports for two bee species: the western bumble bee (*Bombus occidentalis*), and the macropis cuckoo bee (*Epeoloides pilosulus*), a species that was thought extinct until re-discovered by Sheffield in 2002. In 2014 he finished the first conservation assessment of the 800+ species of Canadian bees for the Canadian Wildlife Service.

Since becoming a research scientist and Curator of Invertebrate Zoology at the Royal Saskatchewan Museum, Dr Sheffield has been successful in obtaining research funding to support work on bee conservation and crop pollination in Canada. He holds adjunct status, and co-supervises grad students at the University of Regina and Laval University. He continues to attract graduate students to pollination research; in 2014, the Royal Saskatchewan Museum launched a graduate student scholarship, which will be offered in alternate years

rea, avec des projets en cours sur d'autres genres d'abeilles canadiennes, ainsi que des guêpes chrysididés et philanthines. Par ses efforts, notre compréhension de la faune d'abeilles canadiennes a maintenant des bases solides. Il a nommé trois espèces d'abeilles, et deux abeilles de la sueur ont été nommées en son honneur. Par ses récentes publications, Dr Sheffield a promu l'utilisation de la diversité fonctionnelle dans les études de communautés d'abeilles, particulièrement l'inclusion de l'histoire de vie pour mesurer les réponses des abeilles aux perturbations. Il a introduit le concept d'utiliser des abeilles cleptoparasites comme indicateur de communautés d'abeilles.

Depuis 2013, Dr Sheffield est éditeur thématique pour *The Canadian Entomologist*. Il sert également de façon régulière comme réviseur pour d'autres revues. Il siège depuis 2012 sur le Comité sur la situation des espèces en péril au Canada (COSEPAC) dans le sous-comité des arthropodes et a écrit/co-écrit des rapports de situation pour deux espèces d'abeilles : le bourdon de l'ouest (*Bombus occidentalis*) et l'abeille-coucou poilue (*Epeoloides pilosulus*), une espèce qui était considérée comme éteinte et qui a été redécouverte par Sheffield en 2002. En 2014, il a terminé la première évaluation de conservation des plus de 800 espèces d'abeilles canadiennes pour la Fédération canadienne de la faune.

Depuis qu'il est chercheur scientifique et curateur de la Zoologie des invertébrés au Musée royal de Saskatchewan, Dr Sheffield a reçu des fonds de recherche pour soutenir des travaux sur la conservation des abeilles et la pollinisation des cultures au Canada. Il est associé et co-supervise des étudiants gradués à l'Université de Régina et Laval. Il continue d'attirer des étudiants gradués vers la recherche en pollinisation: en 2014, le Musée royal de Saskatchewan a lancé une bourse pour étudiants gradués qui sera offerte en alternance aux étudiants qui poursuivent des études en lien avec les abeilles.

Dr Sheffield s'est impliqué dans plusieurs initiatives internationales sur la conservation des abeilles et la pollinisation, particulièrement avec l'Organisation des Nations unies

to students pursuing bee-related studies.

Dr Sheffield has been involved in several international initiatives on bee/pollination conservation, particularly with the United Nations Food and Agriculture Organization (UN-FAO). He prepared and facilitated an apple pollination workshop in Nepal. In partnership with the UN-FAO, an apple pollination manual is currently being prepared, particularly for apple growing industries in developing countries, focussed on sustainable pollination services with native bee pollinators.

Dr Sheffield has given over 60 presentations at national and international conferences, including a keynote address at the first ApiEcoFlora conference in the Republic of San Marino. He has organized symposia at annual meetings of the Entomological Society of Canada. Many of his presentations have been outreach directed at farmer and gardener groups concerned with native pollinators. In 2014, he was invited to Ottawa as an expert witness to testify on behalf of the status of native bees for the Canadian Senate.

Dr Sheffield taught two national courses on bee taxonomy, targeted at graduate students, during his tenure with CANPOLIN. He has also provided instruction on bee identification through other workshops. He continues to offer taxonomic assistance to graduate students in Canada, visiting their universities or arranging for them to visit the bee collection at the Royal Saskatchewan Museum.

He is now teaching entomology at the University of Regina, the first time that entomology has been offered as a course there in over a decade.

pour l'alimentation et l'agriculture (ONU-FAO). Il a préparé et facilité un atelier sur la pollinisation de la pomme au Népal. En partenariat avec ONU-FAO, un manuel sur la pollinisation de la pomme est présentement en préparation, particulièrement pour les industries de culture de pommes dans les pays en développement, se concentrant sur les services de pollinisation durable avec les abeilles natives pollinisatrices.

Dr Sheffield a donné plus de 60 présentations dans des conférences nationales et internationales, incluant une conférence plénière à *la première conférence ApiEcoFlora* à la République de Saint-Marin. Il a organisé des symposiums dans des réunions annuelles de la Société d'entomologie du Canada. Plusieurs de ses présentations ont été dirigées vers des groupes de fermiers et jardiniers préoccupés par les pollinisateurs indigènes. En 2014, il a été invité à Ottawa comme témoin-expert pour témoigner sur la situation des abeilles natives pour le Sénat canadien.

Dr Sheffield a enseigné deux cours nationaux sur la taxonomie des abeilles, adressés aux étudiants gradués, durant son mandat avec CANPOLIN. Il a aussi fourni des instructions sur l'identification des abeilles par différents ateliers. Il continue d'offrir de l'assistance taxonomique aux étudiants gradués au Canada, en visitant leurs universités ou en organisant leur visite à la collection d'abeilles du Musée royale de Saskatchewan.

Il enseigne actuellement l'entomologie à l'Université de Régina, la première fois que l'entomologie est offerte comme cours depuis plus d'une décennie.





Fellow of the Entomological Society of Canada

Charles Vincent

Dr Charles Vincent is an international leader in agricultural entomology who has demonstrated innovation in research and development of alternative insect management methods to conventional insecticides. After earning MS and PhD degrees in entomology (McGill University), Dr Vincent began working as a Research Scientist (Entomology) with Agriculture and Agri-Food Canada in 1983. Thus, he has worked in our core discipline of entomology for his entire career.

His research at Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, Quebec, was instrumental in the development and commercialization of multiple biopesticide products. For example, he developed (in collaboration with Biotepp) Virosoft CP4®, the first insecticidal virus registered for agricultural use in Canada (also registered in the United States), and (in collaboration with Codena [Agraquest]) Requiem®, a *Chenopodium*-based botanical registered in 2008 in the United States against aphids, thrips and other soft bodied arthropods. Beyond biopesticide research, Dr Vincent has achieved an international reputation for important

Membre associé de la SEC Charles Vincent

Dr Charles Vincent est un chef de file international en entomologie agricole faisant preuve d'innovation dans la recherche et le développement de méthodes de gestion des insectes alternatives aux insecticides conventionnels. Après avoir obtenu sa maîtrise et son doctorat en entomologie (Université McGill), Dr Vincent a commencé à travailler comme chercheur scientifique (entomologie) avec Agriculture et agroalimentaire Canada en 1983. Il a donc travaillé au cœur de notre discipline toute sa carrière.

Ses recherches à Agriculture et agroalimentaire Canada, à St-Jean-sur-Richelieu (Québec) ont notamment été déterminantes dans le développement et la commercialisation de différents produits bio pesticides. Par exemple, il a développé Virosoft CP4® (en collaboration avec Biotepp), le premier virus insecticide homologué pour l'utilisation agricole au Canada (aussi homologué aux États-Unis), et Requiem® (en collaboration avec Codena [Agraquest]), un produit à base de *Chenopodium* homologué en 2008 aux États-Unis contre les pucerons, les thrips et d'autres arthropodes à corps mous. Au-delà de la recherche sur les biopesticides, Dr Vincent a acquis une réputation internationale pour ses importantes contributions en lutte biologique classique et en lutte physique pour la gestion des insectes ravageurs dans divers systèmes agricoles.

Ces accomplissements sont bien documentés dans un nombre impressionnant de publications (172 articles scientifiques évalués par les pairs; 3 publications spéciales; 8 bulletins techniques; 24 livres édités; 5 articles de synthèse; 46 chapitres de livres; 142 comptes rendus de conférence; 191

contributions to classical biological control and physical control methods for management of insect pests in diverse agricultural systems.

These accomplishments are well documented in an impressive number of publications (172 scientific peer-reviewed papers; 3 special publications; 8 technical bulletins; 24 edited books; 5 refereed review articles; 46 book chapters; 142 conference proceedings; 191 miscellaneous publications (non-refereed); 17 research reports; and 12 book reviews) and through more than 500 presentations for diverse audiences in Canada, the USA, France, The Netherlands, China, Switzerland, Brazil, Australia and Burkina Faso.

His articles have appeared in a wide range of prestigious journals including the *Annual Review of Entomology*, *Entomologia experimentalis et applicata*, *Journal of Economic Entomology*, *Environmental Entomology*, *Annals of the Entomological Society of America*, *Crop Protection*, *Plant Disease*, *The Canadian Entomologist*, *Canadian Journal of Botany*, and *Pest Management Science*. Particular note should be made of his work in producing the first book (co-edited) in French on biological control, a co-edited book on botanical biopesticides in French (also published in Spanish and English, with a Chinese version planned), and his edited book (in French, and in English) on physical control methods in plant protection.

Dr Vincent's direction and mentoring of graduate students at three universities (McGill University; Université du Québec à Montréal; Université Picardie Jules Verne, Amiens, France) has resulted in 14 PhD and 22 MSc students completing their degree. Additionally, Dr Vincent has directed the research of 6 post-docs and 100 student interns, mostly from Europe. The high quality of his mentoring and teaching is revealed by the fact that most of his former graduate students are working scientists in Canada, the USA, France, Switzerland, Guinea, and Burkina Faso.

Dr Vincent has received numerous awards during his career. He was the 2010 recipient

publications diverses (sans évaluation par les pairs); 17 rapports de recherche; et 12 résumés de livres) et par plus de 500 présentations devant différents auditoires au Canada, aux É.-U., en France, au Pays-Bas, en Chine, en Suisse, au Brésil, en Australie et au Burkina Faso.

Ses articles sont parus dans une vaste gamme de revues prestigieuses, incluant *Annual Review of Entomology*, *Entomologia experimentalis et applicata*, *Journal of Economic Entomology*, *Environmental Entomology*, *Annals of the Entomological Society of America*, *Crop Protection*, *Plant Disease*, *The Canadian Entomologist*, *Canadian Journal of Botany*, *Pest Management Science*, et plus encore. Mentionnons la production du premier livre (co-édité) en français sur la lutte biologique, un livre co-édité sur les bio pesticides botaniques en français (aussi publié en espagnol et en anglais, avec une version chinoise en préparation), et son livre édité (Vincent et al. 2000 en français, et 2001 en anglais) sur les méthodes de lutte physique dans la protection des plantes.

La supervision et le mentorat d'étudiants gradués par Dr Vincent dans trois universités (Université McGill, Université du Québec à Montréal, Université Picardie Jules Verne à Amiens, France) a résulté en 14 étudiants au doctorat et 22 en maîtrise. Dr Vincent a également dirigé 6 post-docs et 100 stagiaires, principalement d'Europe. La grande qualité de son mentorat et de son enseignement se reflète dans le fait que la plupart de ses anciens étudiants gradués travaillent comme scientifiques au Canada, aux É.U., en France, en Suisse, en Guinée et au Burkina Faso.

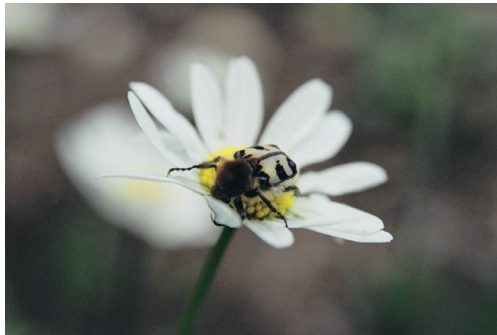
Dr Vincent a reçu de nombreux prix durant sa carrière. Il a reçu la médaille d'or de la Société d'entomologie du Canada en 2010, pour une contribution exceptionnelle en entomologie canadienne. En 2012, il a été reconnu avec deux autres prix prestigieux : la distinction entomologique de la Société d'entomologie du Québec et l'élection comme Membre étranger par l'Académie d'agriculture

of the Gold Medal from the Entomological Society of Canada for outstanding achievement in Canadian entomology. In 2012, he was recognized with two more prestigious awards: the 'Distinction entomologique' award from the Entomological Society of Quebec and was elected 'Foreign Member' (Membre étranger) by the Académie d'Agriculture de France, an election that was approved by a decree from the President of France. In 2013, he was awarded the L. O. Howard Distinguished Achievement Award from the Entomological Society of America (Eastern Branch) and he was elected Fellow of the Entomological Society of America. In 2014, he was presented with the Gold Harvest Award (Innovation, Collaboration and Service Excellence) by Agriculture and Agri-Food Canada, and was elected Fellow of the Royal Entomological Society (London, UK). Further evidence of his global leadership in entomology is his long-standing title of 'Invited Professor' (2000-present) from the Université de Picardie Jules Verne (Amiens, France).

For his exceptional standing as a world leader in agricultural entomology and his consistent level of exemplary service to the science of agricultural entomology, Dr Charles Vincent is richly deserving of election as a Fellow of the Entomological Society of Canada.

de France, une élection approuvée par un décret du Président de France. En 2013, il a reçu le prix « L.O. Howard Distinguished Achievement Award » de la Société d'entomologie d'Amérique (branche de l'est) et a été élu membre associé par cette même Société. En 2014, il a reçu le prix Moisson d'or (Innovation, collaboration et excellence) d'Agriculture et agroalimentaire Canada, et a été élu membre associé de la Société entomologique royale (Londres, UK). Comme preuve additionnelle de son leadership global en entomologie, mentionnons son titre de professeur invité de longue date (depuis 2000) de l'Université de Picardie Jules Verne (Amiens, France).

Pour son statut exceptionnel de chef de file mondial en entomologie agricole et son niveau constant de service exemplaire à la science de l'entomologie agricole, Dr Charles Vincent mérite amplement son élection comme membre associé de la Société d'entomologie du Canada.



Alicia Leroux



Criddle Award

Louis Handfield

Louis Handfield, a title attorney by profession, has also been an amateur entomologist for more than 40 years. He is best known for his work on moths and butterflies, and has published and co-authored technical research articles and popular guides about Lepidoptera, especially for the province of Quebec. He was, at first, interested in the fauna from the area in which he lived, Mont-Saint-Hilaire, southeast of Montreal. His ongoing collecting and research in this region has allowed the identification of more than 800 species of macrolepidoptera in the Mont-Saint-Hilaire area. He then broadened his interests and his field work to the whole province of Quebec, Labrador, and occasionally to the neighbouring provinces. He was the lead author, along with J.-F. Landry and J.D. Lafontaine, on the 1997 volume *Liste des lépidoptères du Québec et du Labrador*. This was followed, 2 years later by his well-known book, “*Les papillons du Québec – Guide d’identification*”. This volume, which is an illustrated identification guide, an overview of natural history, ecology, and distribution, and a guide to collecting, has sold more than

Prix Criddle

Louis Handfield

Louis Handfield, notaire de profession, est un entomologiste amateur depuis plus de 30 ans. Il est surtout connu pour ses travaux sur les papillons, et a publié et co-écrit des articles de recherche techniques et des guides populaires sur les Lépidoptères, principalement du Québec. Il s’est d’abord intéressé à la faune de sa région, Mont-Saint-Hilaire au sud-est de Montréal, QC. Sa collection et ses recherches dans la région ont permis l’identification de plus de 800 espèces de macrolépidoptères dans la région du Mont-Saint-Hilaire. Il a ensuite élargi ses intérêts est se travaux de terrains à la province de Québec, le Labrador, et occasionnellement les provinces voisines. Il est l’auteur principal, avec J.F. Landry et J.D. Lafontaine du livre *Liste des lépidoptères du Québec et du Labrador* en 1997. Deux ans plus tard, son fameux livre « *Les papillons du Québec – Guide d’identification* » est paru. Ce livre, qui est un guide illustré d’identification, présente un survol de l’histoire naturelle, l’écologie, la distribution et un guide pour collecter, et s’est vendu à plus de 7000 copies dans sa version populaire, et près de 400 copies dans sa version scientifique. C’est un livre essentiel pour quiconque s’intéresse aux Lépidoptères du Québec ou de l’est du Canada. Il a également écrit ou co-écrit plusieurs publications scientifiques sur des nouvelles espèces ou des nouvelles occurrences de Lépidoptères. Ces articles ont été publiés dans des revues comme *The Canadian Entomologist*, *Systematic Entomology*, *Zookeys* et *Faberies*.

M. Handfield est fréquemment consulté comme expert de l’identification et de la biologie des Lépidoptères. Par exemple, il

7000 copies in its popular version, and nearly 400 copies in its scientific version. It is an essential volume for anyone interested in the Lepidoptera of Quebec or eastern Canada. He has also authored and co-authored several journal publications about new species and new records of Lepidoptera. These papers have been published in journals including *The Canadian Entomologist*, *Systematic Entomology*, *Zookeys*, and *Faberies*.

Louis Handfield is frequently consulted as an expert for Lepidoptera identification and biology. For example, he contributed to the identification of moths and butterflies for the 5-year assessment of the Lepidoptera of the Monts-Valin and Point-Taillon national parks in Quebec. He has been consulted for the analysis of 50 insect species at risk in Quebec for the Ministère du loisir, de la chasse et de la pêche du Québec. He has also provided expert consultation on other taxa, such as for the COSEWIC assessment on the common nighthawk in Canada.

Louis Handfield has contributed to the knowledge and appreciation of Lepidoptera by many amateur entomologists in Quebec, and his expertise is equally valued by professional collaborators in Lepidoptera taxonomy and biology. He is widely recognized for his valuable contributions and expertise on moths and butterflies, and the Société d'entomologie du Québec and Entomological Society of Canada have thus selected him as the recipient of the 2015 Norman Criddle Award.

a contribué à l'identification de papillons pour le bilan quinquennal de l'inventaire des lépidoptères des parcs nationaux des Monts-Valin et de la Pointe-Taillon au Québec. Il a été consulté pour l'analyse de 50 espèces d'insectes à risque au Québec pour le Ministère du loisir, de la chasse et de la pêche du Québec. Il a également fourni des consultations d'expert pour d'autres taxons, par exemple pour le rapport de situation du COSEPAC sur l'engouement d'Amérique.

M. Handfield a contribué à la connaissance et à l'appréciation des lépidoptères par de nombreux entomologistes amateurs au Québec, et son expertise est également appréciée par ses collaborateurs professionnels sur la taxonomie et la biologie des lépidoptères. Il est largement reconnu pour ses contributions importantes et son expertise sur les papillons, et la Société d'entomologie du Québec et la Société d'entomologie du Canada l'ont donc choisi comme récipiendaire du prix Norman Criddle 2015.



Asterocampa celtis

Evolution of information technologies viewed through Joint Annual Meetings of the ESC/SEQ held in Montreal in 1991, 2000 and 2006.

Charles Vincent

The next meeting of the Société d'entomologie du Québec (SEQ) and the Entomological Society of Canada (ESC) will be held in Montreal from 8 to 11 November 2015. In this context, I was asked by Julien Saguez to write an article about the last three JAM SEQ/ESC held in Montreal. As I have been involved in their organization, I agreed to write the paper. The storyline appeared as the project unfolded: to address the formidable evolution of information technologies that dramatically changed scientific organizations during that period.

It also became appropriate to note the work of people who became involved or have been distinguished by these Societies. I immersed myself in old files, discovered an interesting technology (scanning of black and white films) and contacted people whose memories were essential to validate some facts or to identify people on old photographs.

This article has one table and three plates featuring information relevant to the tripartite meetings of 1991 (SEQ-ESC-ESO [Entomological Society of Ontario]) and 2000 (SEQ-ESC-ESA [Entomological Society of America]), as well as the bipartite meeting of 2006 (SEQ-ESC). Because of space constraints, only selected photos are published here. Several other photos of the JAMs in 1991 and 2000 will be posted for the first time on the websites of the SEQ and the ESC.

SEQ-ESC-ESO (21 - 23 October 1991)

This meeting was held at the Ramada Renaissance Hotel. Several technologies used during this meeting have been since replaced by more efficient technologies.

Because the internet did not exist at the time, the organization of the meeting was done by postal services, telephone and fax. The program (Fig. 1), available in paper copy only, was crafted with a personal computer and mailed to the members. Paper copies of the program were also available on site.

Archival photographs that I found (examples Figs. 2 to 5) were black and white negatives that were scanned to facilitate their digital treatment and posting as archival material on the internet. At that time, scientific meetings did not have themes. Presentations were done exclusively with slide projectors and payments of registration fees were done with bank checks.

SEQ-SEC-ESA (3 - 7 December 2000)

This tripartite meeting, that had for its theme "Science and Art, a vision for the future" (Fig. 6), was held at the Palais des Congrès de Montréal. It was a turning point concerning information technologies used to organize and run meetings. For the first time, presentations could be made with either slide or Power Point projectors.

Charles Vincent (charles.vincent@agr.gc.ca), ESC President in 2004, is a research scientist at the Centre de recherche et de développement en horticulture, Agriculture et agroalimentaire Canada, Saint-Jean-sur-Richelieu, Quebec. This article was published originally in French in Antennae (Fall 2015).

Special features

It is noteworthy that no digital copies of the program exist. The organization of the meeting was done through postal services and email. The Palais des Congrès allowed digital and physical display of functions.

Although digital cameras were beginning to be popular in 2000, I could not find digital photographs of this meeting. I therefore enquired of the ESA for archival material. ESA mailed me photographs (color, paper) that I scanned.

Table 1. A summary of the people and technologies associated with the three Montreal Meetings. Numbers after names indicate the figure numbers for photo(s) in which these people are shown.

	1991	2000	2006
Theme	none	Science and Art, A vision for the future	Diversity
Venue	Hotel Ramada Renaissance	Palais des Congrès	Holiday Inn Midtown
Date	20-23 October	3-6 December	18-22 November
Program	paper (80 pp)	paper (206 pp)	paper (63 pp)
Archives	physical	physical	ESC website
Projection	slides	slides/Power Point	Power Point
Correspondence	post	post and email	email
Number of participants	200	2680	330
Number of symposia	4	25	6
Number of posters	22	831	75
LOC Chair	Charles Vincent, 3	ESA team	Charles Vincent, 3
Scientific program chair	Daniel Coderre, 2,5	Marlin Rice (ESA) Noubar J. Bostanian (SEC) Hélène Chiasson (SEQ)	Terry Wheeler, 15
Local arrangements	Yves Mauffette, 2	Steve Clement Charles Vincent, 3	Pierre Lemoyne
Poster sessions	Michèle Roy	Z. B. Mayo	Christopher M. Buddle, 12, 15
Finances	Yves Mauffette, 2	ESA team	Michel Cusson, 14
SEQ			
President	Domingos D. de Oliveira, 3	François Lorenzetti, 7	Éric Lucas, 13
Vice-president	Michèle Roy	André Poliquin	Daniel Cormier
Past President	Pierre Therrien	André Bouchard	Jacques Brodeur
Secretary	Marcel Mailloux	Luc Pelletier	Mireille Marcotte
Treasurer	Claude Bouchard	Steeve Bourassa	Nancy Larocque
Regional Director to ESC	Daniel Coderre, 2, 5	Nancy Larocque	Michèle Roy
Bulletin Editor	Christian Hébert	Christine Jean	Christine Jean
Scientific Editor	David Lewis	not available	not available
Webmaster	not available	Benoit Rancourt	Thierry Poiré
Emeritus member	Léo Raynault	not available	not available
Honorary member	Claude Ritchot	not available	not available
Léon-Provancher Prize Professional	Charles Vincent, 3	Gérald Chouinard, 10	Christine Jean
Léon-Provancher Prize Amateur	Raymond Hutchison	Bernard Landry	not available
Léon-Provancher Prize Young Researcher	non-existent	non-existent	Eric Lucas
Melville Duporte Prize	not available	Mathieu St-Louis	Magali Merckx-Jacques (oral) Philippe Boucher (poster)
ESC			
Président	John E. Laing, 4, 5	Dan Johnson, 7, 9	Dan Quiring, 5, 12, 15
First Vice-president	Richard Ring, 5, 15	Robert Footit, 5, 10	Peggy Dixon, 12
Second Vice-président	Paul W. Riegert, 5	Bernard Roitberg, 5	Terry Shore, 12
Past President	Jeremy N. McNeil, 5	Linda Gilkeson, 5	Robert Lamb, 12
Secretary	Rick West, 5, 12	Rick West, 5, 12	Rick West, 5, 12
Treasurer	Robert Footit, 5, 10	Gary Gibson	Patrice Bouchard, 12, 15
Editor, TCE	Al B. Ewen, 5	Jean Turgeon	Richard Ring, 5, 15
Editor, Bulletin	Fiona F. Hunter, 5	Hugh J. Barclay	Paul Fields, 12
Webmaster	non-existent	non-existent	Barry Lyons, 12
Gold Medal	Roger G.H. Downer	Bernard J.R. Philogène, 9	Richard Ring, 5, 15
C Gordon Hewitt Award	Murray Isman, 4	Kevin D. Floate, 10	Christopher M. Buddle, 12, 15
Norman N. Criddle Award	not available	Stéphane Le Tirant	André Beauvoisin
Regional:	ESO	ESA	
President	Mark Sears	Sharon Quisenberry 7, 8	
Vice-president	Steve A. Marshall	Larry L. Larson	
Past President	Jim Cunningham	Christian Oseto	
Treasurer	S. MacDonald		
Editor	Peter Kevan		

1. Université du Québec à Montréal

Congrès annuel conjoint 1991
Société d'Entomologie du Canada
Société d'Entomologie du Québec
Entomological Society of Ontario
20 au 23 octobre 1991



Joint Annual Meeting 1991
Entomological Society of Canada
Société d'Entomologie du Québec
Entomological Society of Ontario
October 20-23, 1991

Hôtel Ramada Renaissance
Montréal, Québec



SEQ-SEC-
ESO meeting,
Montreal 1991

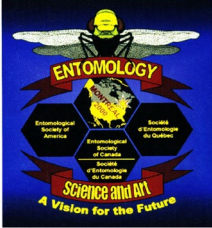


Fig. 1. Cover of the SEQ-SEC- ESO program, Montreal 1991; **Fig. 2.** From L to R. Mime artist. Yves Mauffette, Daniel Coderre; **Fig. 3.** André Cloutier, Charles Vincent, Domingos de Oliveira. **Fig. 4.** Murray Isman, John E. Laing; **Fig. 5.** 1991 ESC Governing Board. *Back row:* Steve A. Marshall, Alec McClay, Robert Footitt, Ken Richards, Dan Quiring, Daniel Coderre, Guy Boivin, Paul Fields, Rick West. *Middle row:* Al B. Ewen, Robert S. Vernon, Linda Gilkeson, Valerie Behan-Pelletier, Peter Kevan, Fiona Hunter, Bernard Roitberg. *Front row:* Paul Riegert, John E. Laing, Richard Ring, George H. Gerber, Jeremy N. McNeil.

6. 2000 JOINT ANNUAL MEETING

Société d'entomologie du Québec
Entomological Society of Canada
Entomological Society of America

December 3–6, 2000
Palais des Congrès de Montréal
Montréal, Québec, Canada



ENTOMOLOGICAL SOCIETY OF AMERICA
5001 ANAPULIS ROAD, SUITE 300
LANHAM, MD 20706-3115
U.S.A.

BULK RATE
U.S. POSTAGE PAID
LANCASTER, PA
PERMIT #161

SEQ-SEC-ESA meeting, Montreal 2000

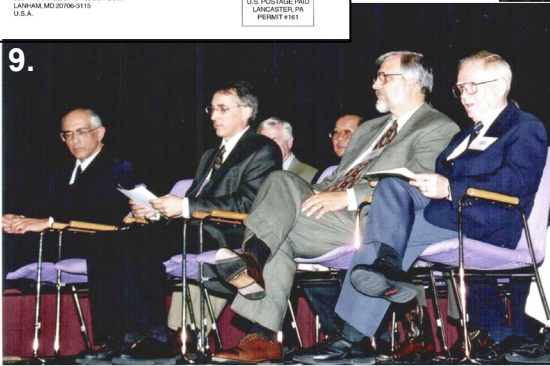


Fig. 6. Cover of the SEQ-SEC-ESA program, Montreal 2000; **Fig. 7.** Dan Johnson, François Lorenzetti, Sharron Quisenberry; **Fig. 8.** Sharron Quisenberry, Georges Brossard; **Fig. 9.** Bernard J. R. Philogène, Dan Johnson, James Frazier, Marcos Kogan; **Fig. 10.** James H. Tumlinson, 1?, 2?, Gérald Chouinard, Robert Footitt, Kevin Floate.

11. **ESC-SEQ 2006**



diversité

Société d'entomologie du Québec
 Société d'entomologie du Canada
 Entomological Society of Canada

18-22 novembre 2006

Holiday Inn Midtown
 Montréal, Québec




**SEQ-ESC meeting,
Montreal 2006**

12.



14.



13.



15.



Fig. 11. Cover of the SEQ-SEC program, Montreal 2006; **Fig. 12.** 2006 ESC Governing Board. *Back row:* Terry Shore, Chris Borkent, Greg Smith, Dan Quiring, Paul Fields, Robert Lamb, Sheila Fitzpatrick, Lorraine Braun, Christopher M. Buddle, Patrice Bouchard. *Front row:* Barry Lyons, Patricia MacKay, Rob Roughley, Rick West, Hector Carcamo, Peggy Dixon, Kenna McKenzie, Rosemarie De Clerck-Floate; **Fig. 13.** Marilyn Shorthouse, Joe Shorthouse, Martha Becker, Ed Becker; **Fig. 14.** Eric Lucas, Michel Cusson, Marjolaine Giroux; **Fig. 15.** Richard Ring, Vince Nealis, Patrice Bouchard, Dan Quiring, Terry Wheeler, Christopher M. Buddle.

Presidents François Lorenzetti (SEQ), Dan Johnson (ESC) and Sharron Quisenberry (ESA) (Fig. 7), worked in harmony so that the event, which gathered 2680 participants, could be a success. In that spirit, the awardees of the three Societies were all on stage (Figs. 9, 10) at the plenary session. Accordingly, the ESA asked George Brossard (Fig. 8) to make a plenary presentation that he entitled “Modern Entomology, a Social Responsibility”. In order to network, several organizations (Association des entomologistes amateurs du Québec, Biodôme de Montréal, Insectarium de Montréal, La Maison des insectes, Entomological Society of Canada, Société d’entomologie du Québec) and private firms (Atelier Jean Paquet, AEF Global Inc., Urgel Delisle & Asso.) had kiosks in the exhibit hall.

This meeting had exceptional media coverage. As example, I gave interviews to the television network TQS (André St-Roch, Le petit journal: 150 000 viewers), and Télé-UQAM (Anne-Marie and Isabelle Tremblay: 10 000 viewers) and radio stations CJMF radio FM93 - Quebec City (André Arthur: 250 000 listeners), Radio-Canada (Chantal Srivastava, Les années-lumière: 40 000 listeners).

From an economic perspective, the Palais des Congrès estimated that this meeting left Can\$4 million of fresh money in the economy of the province of Quebec.

SEQ-ESC (18-22 November 2006)

This bipartite meeting, that had for a theme “Diversity” (Fig. 11), was held at the Holiday Inn Midtown Hotel. Its organization was done mainly by internet. The program, produced on a personal computer, was available in paper and digital (pdf) versions: a pdf has since been made available on the ESC web site as public archive. At the suggestion of Chris Buddle (Fig. 15), the Treasurer (Michel Cusson - Fig. 14) offered, for the first in SEQ and ESC meetings, an option to pay registration fees by PayPal. Presentations were made only with Power Point projectors. As digital cameras were more popular, several digital photographs were easily posted on the ESC web site. Figures 12 to 15 are from that collection.

Conclusion

This overview of the last three SEQ-ESC meetings organized in Montreal was an opportunity to underscore the tremendous progress that information technology has experienced. For a few years, the ESA has favored the distribution of the program of its meetings in digital format so that participants can access it via iPad or Android tablets, while a pdf version can also be freely downloaded. However, the paper version of the program must be purchased. As free wi-fi is available in venues where ESA meetings occur, the iPad or Android versions of the program can be updated by information pushed in real time. The ESA also uses Twitter, Facebook and YouTube to foster interactions amongst participants.

The ESC and SEQ also make their programs available in paper and pdf formats. Their liaison Bulletin is distributed via the internet and is available to both members and the general public. The essence of scientific meetings is interactions between people having a common goal, and information technologies are tools to reach that objective. This is the reason why most of the selected photographs here featured people - because without people, there would be no Societies...

Acknowledgements

Julien Saguez gave me the idea to write this article. He also processed several images. I thank the late Léo-Guy Simard (photos taken in 1991 on behalf of SEQ), Richard Levine (access to archival photos of the SEQ-ESC-ESA 2000 meeting and permission to reproduce them), and Rick West (photographs of the 2006 meeting on the ESC web site). Thanks also to Gary Gibson, Christine Jean, Christian Hébert, Danielle Thibodeau and Christopher P. Dufault for a variety of information.

The European bagworm, *Dahlica triquetrella* (Hübner, 1813), (Lepidoptera: Psychidae), in Edmonton, Alberta, and environs, with notes on a parasitoid (Braconidae: Microgastrinae: *Dolichogenidea* sp.)

Robin Leech and Alan Popil

The second author's continuous interests in and efforts to photograph the arthropods around him (Popil & Leech 2015) brought us together again, this time with photographs and research about life stages of the bagworm, *Dahlica triquetrella* (Hübner, 1813). This species has rarely been photographed before, and certainly not in the detail shown here.

The European bagworm is known to be in Canada since at least 1927 in Vernon, British Columbia, and Montréal, Québec (Leech & Sugden 1967). It is now widespread in North America (Hodges et al. 1983). There are records for all provinces except Prince Edward Island and Newfoundland-Labrador, but none yet for the Territories (Greg Pohl, pers. comm. 25 May 2015). The species became common in the Edmonton, Alberta, area in the early 1980s (Pohl et al. 2005). Though winged males of this species are found sporadically in European populations (Sauter 1956), it appears to be parthenogenetic in North America, as males have yet to be found (Pohl et al. 2005; Bugfacts. Royal Alberta Museum 2004).

A number of bagworm cases were collected in St Albert, Alberta, for study and picture taking (Figs 1, 2). Shortly after the cases were collected, and while pictures were being taken, a pupa emerged from one case, and subsequently a female adult emerged from within the pupal skin (Figs 3, 4, 5), as did an adult braconid wasp from another case (Figs 6, 7).



Fig. 1. Cryptic bagworm case on a tree trunk. The larva is inside the case, with the head and prothorax visible. 16 April 2015. Grandin Pond, St Albert, Alberta.



Fig. 2. Close-up of bagworm larva feeding on a tree trunk (eating lichens). The case is held together with silk, but small grains of sand, parts of insects, pieces of plant material and other debris cover the case. 16 April 2015.

Robin Leech (releech@telus.net) is a professional biologist and an araneologist, and Alan Popil (al@alpopil.com) is a professional photographer.



Fig. 3. The adult, parthenogenetic, apterous female moth emerged from the pupa. Shortly after emerging from the pupa, she inserted her ovipositor into the case to deposit her eggs. Her abdomen is distended with eggs. Note that the sclerites are separated and that the inter-sclerite membranes are showing clearly. 27 April 2015.



Fig. 4. The female laid her eggs, and has extracted her ovipositor from inside the case. Note that the abdominal membranes are barely visible, and that the abdominal sclerites are in contact with one another. She is moribund. 28 April 2015.



Fig. 5. With the eggs laid, the shrivelled female died. The adult female moth lives for only a few days after emerging, in this case, 2 days. 29 April 2015.



Fig. 6. A bagworm case was collected on the outside wall of the second author's home in St Albert. From this one case, an adult female *Dolichogenidea* sp. emerged. Note the small size of the exit hole in the case. 26 April 2015.



Fig. 7. The adult female braconid, *Dolichogenidea* sp., freshly emerged from the bagworm case. 26 April 2015.

The pictures were taken by the second author with the following equipment:

Camera: Canon 1D Mark III (10 MP sensor); lens, Canon MPE 65 mm, 1X-5X macro lens.

Flash unit: Canon MR-14EX ring flash;

SanDisk Extreme 8 gigabyte card.

The camera was hand-held (i.e., no supports such as tripods). Though the MPE 65 mm lens is rated at 1X-5X, if used with the Canon 1D Mark III, and some other Canon cameras, the actual potential magnifications are 1.3X~6.5X. All pictures were taken on location in St Albert, Alberta, on a pressure treated post, on the stucco surface of a house, and in the lab. The depth of field at the higher powers is about 0.25 mm. To obtain the higher image quality photos as seen here, use a digital camera with a sensor of at least 18 or more MPs (megapixels), and a high resolution macro lens are recommended.

Wherever this species is found in Alberta, numerous bags or cases are seen in the autumn on the outside walls of buildings, and on trees, fence posts and railings. It is here that the larva will overwinter (Bugfacts, Royal Alberta Museum 2004). The bags are about 7-8 mm long, and triangular in cross-section (Figs 1, 2). Greg Pohl (pers. comm., 25 May 2015) reported that they become active on warm winter days on the south sides of buildings, where they can be seen moving up on the outside walls. Because of the habit of the larvae of adhering to vertical surfaces (e.g., boxes), the species is prone to being transported and dispersed anthropochorously.

The adult female moth is parthenogenetic and wingless (Figs 3, 4, 5). The females emerge in spring, mid- to late April, in the Edmonton, Alberta, area. She lives for a few days as an adult, and during this short time, she deposits her eggs into the bag in which she overwintered (Fig. 3).

After hatching, the larvae leave the mother's bag to make their own bags or cases. As the main diet of the larvae is lichens, they are not considered to be a pest species. However, larval diets have to be supplemented with dead insects (Kimber 2015) for successful development.

The moth family Psychidae is remarkable among the Lepidoptera for its propensity to avoid or minimize sexual reproduction (G.E.Ball, pers. comm., 10 May 2015; Elzinga et al. 2103; Galliker 1958; Sauter 1956; Seiler 1961; Suomalainen et al. 1981). H. Hendrickx, pers. comm., 10 May 2015, commented humorously, "*D. triquetrella* also has an occasional case of male offspring in a parthenogenetic colony: the male from Aubrig."

We have to wonder: if only a few occasional males are produced, are these males able to contribute sexually to future generations? Are the males fertile? Could these males breed successfully with diploid, tetraploid and various polyploid females? We have our doubts. We do not know if the males produce haploid or viable sperm.

The female of *Dolichogenidea* (Figs 6, 7) that emerged from the bagworm case is the first record of a microgastrine wasp (Hymenoptera: Braconidae: Microgastrinae) parasitizing *Dahlica triquetrella* (Jose Fernandez Triana, pers. comm., 22 May 2015). Nine species of *Dolicogenidea* have been recorded as parasitoids of Psychidae, almost all from the Palearctic Region (Jose Fernandez Friana, pers. comm., 21-22 May 2015; Yu et al. 2012).

As it is unlikely that an introduced species would change genetically in so short a time (less than 100 years) to become strictly parthenogenetic, we suggest that it is most likely that the North American representatives of *Dahlica triquetrella* are from parthenogenetic populations in the Palearctic Region. This suggestion should be explored genetically. The presence of rare males does not mean that sexual reproduction is occurring.

Acknowledgements

The authors thank the following: Greg R. Pohl, Edmonton, for bagworm literature, manuscript editing and observations on the bagworms; Andrew Bennett, Ottawa, for ichneumonoid literature and e-mail discussions; Jose Fernandez Triana, Guelph, for identification of the braconid parasitoid, *Dolicogenidea*, ichneumonoid literature, and e-mail discussions; George E. Ball, Edmonton, for discussions, and editing the manuscript. Kenneth Kinman, Hays, Kansas; Hans Hendrickx, Belgium; Alec McClay, Sherwood Park; Henrik Enghoff, Denmark; and Paul Beuk, Holland, sent information by the list server Taxacom.

REFERENCES

- Bugfacts. Royal Alberta Museum. 2004. Searched 3 May 2015. <http://royalalbertamuseum.ca/research/lifeSciences/invertebrateZoology/bugsfaq/bagworm.htm>
- Elzinga, J.A., J. Jokela, and L.N.S. Shama. 2013. Large variation in mitochondrial DNA of sexual and parthenogenetic *Dahlica triquetrella* (Lepidoptera Psychidae) shows multiple origins of parthenogenesis. *BMC Evolutionary Biology*, **13**: 90-100.
- Galliker, P. 1958. Morphologie und Systematik der Präimaginalen Stadien der schweizerischen *Solenobia*-Arten (Lep. Psychidae). *Revue Suisse de Zoologie*, **65**: 95-183.
- Hodges, R.W., T. Dominick, D.R. Davis, D.C. Ferguson, J.G. Franclemont, E.G. Munroe & J.A. Powell (eds). 1983. Checklist of the Lepidoptera of North America North of Mexico. E.W. Classey Ltd and the Wedge Entomological Research Foundation, Washington, DC, USA. 284 pages.
- Kimber, I. 2015. *Dahlica triquetrella* (Hübner [1813]). In UK Moths (<http://ukmoths.org.uk/show.php?bf=176>). Accessed 4 May 2015.
- Leech, H.B., & B.A. Sugden. 1967. *Solenobia triquetrella* Hübner, a flightless parthenogenetic moth, in British Columbia (Lepidoptera: Psychidae). *Journal of the Entomological Society of British Columbia*, **64**: 56-59.
- Pohl, G.R., C.D. Bird, J.-F. Landry, and G.A. Anweiler. 2005. New records of microlepidoptera in Alberta, Canada. *Journal of the Lepidopterists' Society*, **59**: 61-82.
- Popil, A. & R. Leech. 2015. Is the green tortoise beetle finding a home in Alberta? *BIOS*, **30**: 9-10.
- Sauter, W. 1956. Morphologie und Systematik der schweizerischen *Solenobia*-Arten. *Revue Suisse de Zoologie*, **63**: 451-550.
- Seiler, J. 1961. Untersuchungen über die Entstehung der Parthenogenese bei *Solenobia triquetrella* F.R. (Lepidoptera, Psychidae). III. Mitteilung. Die geographische Verbreitung der drei Rassen von *Solenobia triquetrella* (bisexual, diploid und tetraploid parthenogenetisch) in der Schweiz und in angrenzenden Ländern und die Eiszeit. Bemerkungen über die Entstehung der Parthenogenese. *Zeitschrift für Vererbungslehre*, **92**: 261-316.
- Suomalainen, E., J. Lokki, and A. Saura. 1981. Genetic polymorphism and evolution in parthenogenetic animals. X. *Solenobia* species (Lepidoptera: Psychidae). *Hereditas*, **95**: 31-35.
- Yu, D.S.K., C. van Achterberg, K. Horstman. 2012. Taxapad 2012, Ichneumonoidea 2011. Database on flash-drive, Ottawa, Ontario. <http://www.taxapad.com>.

L Laurent LeSage, a research scientist at the Canadian National Collection of Insects, Arachnids and Nematodes (CNC) since 1979, died on 2 May 2015 at the age of 69 following a battle with cancer. He leaves behind two daughters, six brothers and one sister, in addition to several nephews, nieces and many friends.

For his MSc thesis at the University of Montreal, Laurent studied the biology of species in the beetle family Elmidae. For his PhD his interests switched to chironomid flies as he focused on the study of the taxonomy and ecology of *Cricotopus* species from Salem Creek Ontario. He graduated with his PhD from the University of Waterloo in 1979. He spent the rest of his career at the CNC, where he dedicated most of his time studying adults and larvae of economically important leaf beetles (family Chrysomelidae).

His research contributions were both numerous and important. These include 87 articles in scientific journals, 14 book chapters and 2 books/monographs. Most of Laurent's publications focused on the taxonomy and ecology of beetles (including Carabidae, Chrysomelidae, Coccinellidae, Curculionidae, Dryopidae, Elmidae, and Megalopodidae) although he also authored several papers on other insect groups such as Diptera (Chironomidae, Tipulidae, Ptychopteridae, and Trichoceridae), Plecoptera (Nemouridae) and Neuroptera (Hemerobiidae). His passion for invertebrates did not stop at insects though, as he published, along with collaborators, new data on the fauna of Arachnida: Opiliones, Arachnida: Araneae (Salticidae, Theridiidae, Araneidae, and Linyphiidae), and Oligochaeta: Lumbriculida and Diplopoda.

Through his love for field collecting, Laurent helped the CNC develop a vast and diverse collection of beetle immature stages. This valuable collection, preserved in ethanol, expanded into 16 cabinets containing beetle larvae and pupae (often with their associated adults) from all taxonomic groups. He also accumulated a massive collection of samples he obtained in the area of his home at Aylmer, Quebec, using many trapping and field techniques, seemingly on a daily basis and in every accessible habitat.

Over the years, Laurent held memberships in the Entomological Society of Canada, Entomological Society of Ontario, Association des Entomologistes Amateurs du Québec, Biological Survey of Canada and the Society for the Preservation of Natural History Collections. He was also a founding member of the Montreal Insectarium and of the Insectarium of Newfoundland.

Laurent's colourful personality will be missed by his family, friends and colleagues.

P. Bouchard, A. E. Davies, K. Savard
CNC, Ottawa



**Laurent LeSage
(1946-2015)**



K. Bolte

Laurent spent a large part of his career working towards a revision of North American flea beetles in the genus *Altica*. *Altica litigata* Fall, 1910 is a native species found only in Ontario in Canada.

Book reviews / Critiques de livres

The Braconid and Ichneumonid Parasitoid Wasps: Biology, Systematics, Evolution and Ecology. Donald L. J. Quicke, 2015. Wiley Blackwell, Oxford, UK. 704 pages, ISBN: 978-1-118-90705-4, hard cover. \$241.95

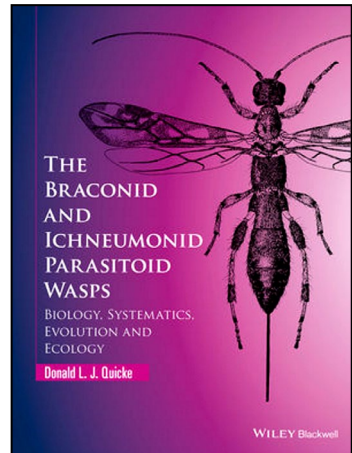
I should admit right away that I requested to review this book, that I was excited about it when I first heard that it would be published, and that I would have been surprised if didn't enjoy it. This is the book that I wish had been around a decade ago when I made my first forays into studying host-parasitoid interactions, or even 5 years ago when I began to focus more exclusively on ichneumonid biodiversity and community ecology. It is a book that I know I will refer to repeatedly over time, and that I will recommend to others who are interested in the field. I wanted to say these things up front to put my criticisms in context; a careful and invested reader can be a harsher judge than a less attentive one.

As it says in the title, the book focuses on the biology, systematics, evolution, and ecology of the two largest families of parasitoid wasps – Braconidae and Ichneumonidae – which together make up the superfamily Ichneumonoidea. Although other books have covered the biology and systematics of parasitoids as a whole (Gauld & Bolton 1988; Godfray 1994; Quicke 1997), there is no other book that has dealt with just these two families. By focusing on only the braconids and ichneumonids, Quicke is able to go into much more detail than authors of previous texts, and has put together what is almost certainly the most comprehensive review of ichneumonoid research ever.

The book is organized into three sections: 1) morphology and biology; 2) taxonomy and systematics; and, 3) ecology and diversity. Two additional chapters are provided at the end; one on collecting and rearing Ichneumonoidea, and an epilogue with Quicke's top 10 lists of unanswered questions in different areas of the field (a nice feature that would be great to see in more texts). The book finishes with a set of comprehensive indices – in addition to a general index there is a host index, a subfamily/tribe/genus index, a species index, and an author index. In general, the writing is in the style of a textbook – information is repeated as necessary, so that sections can be read and understood independently of one another.

While the first section contains some of what I found to be the driest material in the book (apologies to the anatomists), it also contains some of what I found most useful and most interesting. For example, Chapter 2, *Adult external morphology*, contains helpful tables for translating the terminology used by different workers to describe wing veins and cells. Photocopies of these will certainly be added to the reference material beside my microscope. Chapter 3, *The ovipositor and ovipositor sheaths*, does a good job of explaining the relationship between form and function in ovipositors – much of which I have to admit I had never considered before. For example, the notched ovipositor that is used to distinguish some subfamilies from others is associated with koinobiont endoparasitoids, and its hypothesized use is in preventing the ovipositor from going too far into the host's cuticle.

I also really enjoyed Chapter 10, *Convergent adaptations*. I have seen many of the traits discussed in this chapter briefly referred to in keys as likely being associated with certain life histories (e.g., toothed hind femora associated with parasitoids of wood-borers), but had not appreciated all of the traits that can be found repeated across the superfamily. To have all of the



existing information on these adaptations together in one chapter is quite impressive. However, I found it problematic that many of the explanations for how the traits evolved or are used were presented without evidence, or with minimal evidence, to support them. Well-informed speculation, especially by someone as knowledgeable in the area as Donald Quicke, can be very useful in moving a field forward. However, when speculation is presented with confidence it is in danger of becoming dogma (especially when it is found in the only text on the subject) – as Quicke himself points out in regards to earlier speculation on the ancestral biology of Ichneumonoidea by Ian Gauld (p. 196).

The second section includes an overview of the systematics of the superfamily, and two large chapters on the phylogeny and systematics of each family. These chapters are the core of the book, and should prove to be immensely useful to anyone interested in learning more about particular groups. The biology and ecology of each subfamily is thoroughly reviewed, including taxonomic changes through time, synapomorphies, host ranges, life history, use in biocontrol, and any other aspects that may have been studied (e.g., host feeding, egg morphology). Quicke's best-guess phylogenetic trees are presented at the start of the chapter for each family, and much emphasis is put on the improvements that these molecular based phylogenies provide over other trees. I will leave it to others more familiar with the arguments in this area to debate whether or not this is true.

As someone more familiar with ichneumonids, I couldn't help but notice that the braconid chapter in this section is significantly longer than the ichneumonid chapter – despite the fact that braconids have a smaller number of described genera and species. This seems more likely to be due to the fact that Quicke spent most of his career working on the former group than to less research having been conducted on the latter group. In addition, although the braconid chapter consistently lists the available generic keys for each subfamily, this information is not always presented for the ichneumonids. A useful addition to the book would have been a table of the available keys by subfamily for both groups; I know that this would have helped me a great deal when I was starting work in this area.

The last section is the shortest of the three, weighing in at only two brief chapters. I believe that this is mostly a reflection that work in parasitoid ecology is challenging and there are still many unanswered research questions. However, I did observe that some studies I am aware of were left out; I especially noted this in the food webs section, with which I am the most familiar, although there are surely other examples. A wide variety of topics are covered in these chapters (diapause, cold hardiness, color patterns, competition, biogeography, and many more), with existing research in each area briefly reviewed. In contrast with other sections of the book, these chapters read more like an annotated bibliography – with little synthesis and few conclusions drawn. Even so, having all of this information together in one place is remarkable and should greatly facilitate future research – leading to hopefully much longer chapters on ecology and biodiversity in the next edition of this book.

Finally, as a minor point I'll note that the text has many typos; I would hazard a guess of an average of one per page. Sometimes these are minor annoyances, and sometimes they are more unfortunate. As one example, in the paragraph defining the difference between two modes of parasitism that are often used to describe ichneumonoids – ectoparasitoids and endoparasitoids – both are referred to as endoparasitoids, which could obviously lead to some confusion for someone unfamiliar with the terms (p. 5). Other instances involve confusion between ichneumonoid (i.e., pertaining to the superfamily) and ichneumonid (i.e., pertaining to the family). The publication of a list of errata would help alleviate these more serious mistakes.

It sounds like a backhanded compliment to say that this is the best book of its kind, when I have already said that it is the only book of its kind. However, *The Braconid and Ichneumonid*

Parasitoid Wasps goes beyond being the best of a limited field – it is a truly impressive assemblage of information on an intriguing and important group of insects. I hope that it inspires more people to work in the field.

Laura Timms
Credit Valley Conservation, Toronto

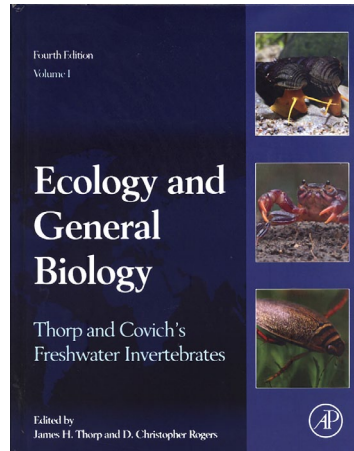
References

Gauld, I.D., and Bolton, H.B. 1988. *The Hymenoptera*. Oxford University Press, New York.
Godfray, H.C.J. 1994. *Parasitoids: behavioral and evolutionary ecology*. Princeton University Press, Princeton.
Quicke, D.L.J. 1997. *Parasitic wasps*. Chapman & Hall, London.

Thorp and Covich's Freshwater Invertebrates. Fourth Edition, Volume 1. Ecology and General Biology. James H. Thorp and D. Christopher Rogers, editors. 2015. Academic Press, Amsterdam, NL. 1118 pp. plus front matter. ISBN: 978-0-12-385026-3, US\$177.00 with free shipping from Elsevier (as of 30 July 2015), 220 x 280 x 55 mm, hard cover.

Keeping up with the Thorp and Covich series "*Ecology and Classification of North American Freshwater Invertebrates*" has been *de rigueur* for any freshwater invertebrate biologist since 1991. These books complement Merritt et al. (2008) "*An Introduction to the Aquatic Insects of North America*" by providing information and keys to non-insect invertebrates of freshwater habitats. "*Ecology and Classification*" reached its third edition in 2010. A few years after that, James Thorp decided to do something novel for the fourth. In the 2015 version, still called "Thorp and Covich" despite the latter editor having been replaced by D.C. Rogers, ecology and biology are decoupled from taxonomy, and instead of being focused on North America, the volume provides an overview of freshwater invertebrates of the world. The intent is to follow this with volumes focused on the keys to biota of different biogeographic realms, with that for Nearctic fauna to be first off the press (a preview can be seen on Amazon.com).

"*Ecology and General Biology*" is a massive book (3 kg!), with much of its heft coming from the high quality glossy pages, amply illustrated with line, halftone and colour images. There are 41 chapters divided into 6 sections. The first section (three chapters) provides overviews of freshwater invertebrate diversity, habitats, and methods for collecting, preserving and culturing. The second section (three chapters) covers general ecology and human impacts. The third (11 chapters) provides detailed reviews of ecology and biology of freshwater invertebrate taxa other than molluscs, annelids and arthropods. This is followed by sections covering molluscs (2 chapters), annelids (4 chapters) and arthropods (18 chapters, 9 of these on hexapods). The taxa covered include all inhabitants of fresh and saline inland waters, but exclude estuarine and exclusively parasitic organisms; however, taxa that are free-living and potentially collectable



by normal sampling methods, such as gordian worms, are included. At this point I should disclose that I was one of 82 authors who contributed to the book (for the chapter on freshwater arachnids). I strongly emphasise that this has not biased my evaluation.

Those who already own the third edition of Thorp and Covich may wonder what new topics or taxa are covered in the fourth. The new edition contains more introductory material (six chapters instead of two, including one on invasive freshwater invertebrates), Platyhelminthes and Nemertea each get their own chapter rather than having to share, Nematoda and Nematomorpha in contrast now are combined in a single chapter, Annelida have been expanded from one to four chapters, Arachnida includes many semi-aquatic taxa of mites and spiders not discussed in the third edition, there is a new (albeit short) chapter on freshwater millipedes, non-decapod malacostracans get their own chapter, and hexapod coverage greatly expands from two chapters (107 pp) to nine (223 pp). The number of colour illustrations has also increased. One major change in referencing style is that the new edition includes all references in the printed volume, whereas the previous edition had only a subset of references in the book, with the rest being available online. This has resulted in a smaller number of total cited references but reduces the annoyance of having to be connected to the internet to look up citations.

As someone who has been working on and teaching about freshwater organisms for a couple of decades, I felt that the six introductory chapters (109 pp.) do not provide enough information to allow them to substitute for a more dedicated text on freshwater ecology. Likewise, the key to upper level taxa will probably never be used for the intended purpose, because those who are able to recognize the major taxa (most freshwater invertebrate folk) don't need it, and those who need it probably won't be able to understand the dense and unillustrated terminology (e.g., "metameres lacking paired lateral lobes", "thoracopods segmented, never lamellar", "genitalia positioned at posterior end of thorax"). Excluding about 80% of the material in the non-taxonomic sections wouldn't have harmed the value of the book, and would have made it a few hundred grams lighter. That said, I did find many tidbits of novel information in the first 100 pages that made reading them worthwhile.

Writing this review gave me a wonderful excuse to read the taxon chapters in great detail, including those (e.g., protists) that I would normally skip over when preparing lectures. Although the chapters vary in degree of detail and style of writing, not one was poorly done (though I preferred the old Copepoda chapter to the new Maxillopoda chapter), and all provided at least a few new insights into the morphology and lifestyle of the various taxa. Many provide estimates of global species richness and geographical distribution of biodiversity of the target taxon. Inclusion of taxa from around the world means that the ecological diversity of each taxon is also expanded. Did you know there is a barnacle species that lives in fresh water? I didn't. Many chapters include updates on phylogenetic hypotheses for their groups, most strikingly obvious in the change of one chapter's title from 'Introduction to the Subphylum Crustacea' in the third edition to 'Introduction to "Crustacea"' in the fourth. Although there are numerous images and tables shared between "Ecology and General Biology" and the third edition, there are also many new ones, especially in those chapters whose authors have changed between the editions. Unlike in the third edition, in which there were only two non-North American authors, many contributors in the fourth edition are from countries other than Canada and the U.S. I did note some sections seemed quite similar to those in the previous edition, including those on rotifers, nematodes, tardigrades and bivalves.

Overall, the editing is very good, with only a few spelling and typesetting errors. I personally experienced Jim Thorp's demand for high quality writing and intelligent consistency of structure within and among chapters. And finally, viewed purely as an object, the book is beautifully laid out, solidly bound, with crisp print and vibrant (mostly) high-resolution images. My recommendation is to purchase this book even if you already own the third edition, as

redundancies are outweighed by new material; this is especially obvious in chapters that cover groups that are more diverse in tropical areas such as Odonata. Until the Nearctic taxonomy volume is released (with luck in early 2016), you will need to hold onto the third edition for keying. It will be interesting to see if the Nearctic volume includes good keys to freshwater insect genera. If it does, then one may be able to retire Merritt et al. and have a single massive book to identify all freshwater invertebrates in Canada.

Heather Proctor

Department of Biological Sciences, University of Alberta

References:

Merritt, R.W., K.W. Cummins and M.B. Berg. 2008. An Introduction to the Aquatic Insects of North America. Kendall Hunt Publishing Company, Dubuque, USA. 1158 pp.

Thorp, J.H. and A.P. Covich (eds.). 2010. Ecology and Classification of North American Freshwater Invertebrates. Third Edition. Academic Press, Amsterdam, NL. 1021 pp. plus front matter.

Books available for review / Livres disponibles pour critique

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

If you wish to review one of these books, please send an email to the Chair of the Publications Committee (Tom Lowery, Tom.Lowery@agr.gc.ca).

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

Preference will be given to ESC members.

Guidelines

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

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

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

Si vous souhaitez critiquer un de ces livres, veuillez envoyer un message au président du comité des publications (Tom Lowery, Tom.Lowery@agr.gc.ca).

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

La préférence est donnée aux membres de la SEC.

Lignes directrices

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

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

Currently available for review / Disponibles pour critique

- Vega, F.E. and R.W. Hofstetter. 2015. Bark Beetles: Biology and Ecology of Native and Invasive Species. 640 pp.; colour photographs. Academic Press. ISBN print: 9780124171565; e-book: 9780124171732 [hardcover or e-book]
- Oberhauser, K.S. et al. [Eds.]. 2015. Monarchs in a Changing World: Biology and Conservation of an Iconic Butterfly. 333 pp.; illustrated. Cornell University Press. ISBN 9780801453151 [hardcover]
- Vane-Wright, D. 2015. Butterflies: A Complete Guide to their Biology and Behavior (2nd Edition). 128 pp.; colour photographs. Cornell University Press. ISBN 9781501700170 [soft cover]
- Giberson, D.J., & H.A. Cárcamo [Eds.]. 2014. Arthropods of Canadian Grasslands. Vol. 3: Biodiversity and Systematics, Part 1. 413 pp.; photos, maps, checklists. Biological Survey of Canada. ISBN 9780968932162 [soft cover]
- Cárcamo, H.A., & D.J. Giberson [Eds.]. 2014. Arthropods of Canadian Grasslands. Vol. 4: Biodiversity and Systematics, Part 2. 479 pp.; photos, maps, checklists. Biological Survey of Canada. ISBN 9780968932179 [soft cover]
- Wright, D.J. & T.M. Gilligan. 2015. *Eucosma* Hübner of the Contiguous United States and Canada (Lepidoptera: Tortricidae: Eucosmini). 256 pp., 133 species accounts, 30 colour plates, 49 monochrome plates. Wedge Entomological Research Foundation. ISBN 9780933003163 [hardcover]
- Bouchard, P. (Ed.). 2014. The Book of Beetles. 656 pp.; 2,400 colour plates. University of Chicago Press. ISBN 9780226082752 [hardcover]
- Charabidze, D. & Gosselin, M. 2014. Insectes, cadavres et scènes de crimes : Principes et application de l'entomologie médico-légale. 261 pp. DeBoeck Supérieur. ISBN: 9782804184957 [paperback]
- Williams, P., Thorp, R., Richardson, L., & S. Colla. 2014. Bumble Bees of North America. 208 pp.; 150 colour illus. Princeton University Press. ISBN 9780691152226 [paperback, e-book]
- Lemelin, R.H. (Ed.) 2013. Management of Insects in Recreation and Tourism. 365 pp. Cambridge University Press. ISBN: 9781107012882 [hardcover]
- Abrol, D.P. (Ed.). 2013. Integrated Pest Management, 1st Edition, Current Concepts and Ecological Perspective. 584 pp. Academic Press. ISBN : 9780123985293 [hardcover, e-book]



Highlights from the Executive Meeting of 19 July 2015

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

President's report

As reported by Christopher Dufault, the house in Ottawa that served as ESC headquarters was sold. We owe a huge thanks to Christopher, Peter Mason and all other volunteers who sacrificed their time to facilitate the sale and move. This was a significant undertaking which went well beyond the call of duty for the individuals involved.

With the sale of headquarters, the Headquarters Committee is no longer needed. In its place, a Physical Assets Committee should be struck to look after the assets owned by the ESC.

The terms of the Dr Lloyd M. Dodsall Memorial Scholarship have been agreed in consultation with Mrs Teresa Height Dodsall and the deadline for applications was set for 31 July 2015 for the first scholarship award(s) to be presented at the ESC-SEQ JAM in Montreal in November.

Treasurer's report

ESC's investments were transferred from National Bank Financial to TD Wealth on 16-17 December 2014. Despite the recent market downturn due to the Greek crisis, low oil prices, and the slowdown in China, the investment portfolio has gained slightly in value since December 2014.

The sale of the old headquarters building at 393 Winston Ave., Ottawa, was completed on 26 February 2015 at a selling price of \$525,000. After fees and taxes, ESC realized the sum of \$492,225.82. This was deposited on 26 February 2015 to ESC's bank account at TD Canada Trust and transferred on 27 February 2015 to ESC's General Investment Fund at TD Wealth.

The audit of ESC's financial statements for the financial year ended 31 December 2014 was completed in June 2015 by Bouris Wilson LLP.

ESC's financial records (other than those provided to Strauss Event & Association Management) are now stored at Parkdale Mini Storage in Ottawa. Also held in the storage locker are sets of *The Canadian Entomologist*, its *Bulletin* and *Memoirs*.

Membership numbers were 309 as of 30 June 2015, compared with 442 as of November 2014. Additional members may be expected to join in advance of the JAM in November but the Membership Committee is contacting former members to encourage them to renew their memberships in ESC and, in so doing, is attempting to determine why numbers are down more than they should be.

The Treasurer recommended that membership dues be raised by 5% for the 2017 membership year to keep pace with inflation since the last dues increase. The Executive agreed to place this before the Board for consideration in November.

Because of unforeseen additional work performed by Strauss over the last 8 months, the hours contracted for by the Society will not be sufficient to cover our needs until the end of December 2015. Strauss have offered to charge additional hours beyond the contracted amount at 50% of the normal rate. The Executive noted and approved the Treasurer's recommendation to ask ESC members to contribute volunteer time to reduce the need for hours from Strauss for the remainder of 2015. There was discussion of the number of signatures required for transactions on the Society's investment accounts and the Treasurer will make a recommendation.

Secretary's report

The plebiscite to select candidates for Societal Director (Second Vice-President) and Director at Large was conducted from 15 June to 15 July, using the Expression Engine script that has been in use since 2013. Although the polling mechanism was simple to set up, we realized in discussions with ESC's membership coordinator Éireann Macauley that the Expression Engine script was consulting the old version of the membership database, not the current version maintained by Strauss. Considerable work was required by Éireann and the Secretary to manually synchronize the Expression Engine database with the current membership list and ensure that all currently paid-up members, and only they, would be able to access and use the polling page. If the Society is to continue using an online polling process, an alternative mechanism needs to be set up for the 2016 elections that will link directly to Strauss's current membership database.

Strauss Event and Association Management

ESC requested and received an exemption from holding the AGM within 6 months of the financial year-end, as required under the Canada Not-for-profit Corporations Act.

Scholarship Fund Board of Trustees

A change in the Scholarship Fund's financial year end from 31 December to June 30, consistent with the change in ESC's financial year, has been requested from the Canada Revenue Agency, and is on record in their system.

Annual Meetings Committee

The committee will develop an ESC policy statement outlining the requirements for JAM organization. Regional societies organizing Joint Annual Meetings will need to take out their own liability insurance in addition to that carried by the ESC. Committee Chair Chris MacQuarrie observed that this is essentially the beginning of a different model for the annual meeting, under which the ESC and Strauss will take on more of the financial and administrative tasks associated with the annual meeting, leaving the local organizing committees responsible for the scientific program. The Fundraising Committee will be tasked with developing a fundraising strategy that would be implemented for every JAM and would build a relationship with a group of sponsors who would regularly donate.

By-Laws, Rules and Regulations Committee

The process of translating the By-Laws and Standing Rules to French has commenced. Given the large amount of work involved it is anticipated that this will take some time to complete, but the work likely will be done by the fall AGM.

Publications Committee

Changes to the *TCE* instructions to authors have been proposed regarding citation of taxonomic expertise and publications used in species determinations. Some latitude must be given to the Editor due to the nature of many *TCE* papers, but we feel it is important to ensure that taxonomic expertise is cited.

Achievement Awards Committee

Nominations for the Gold Medal and Hewitt Award are under review by the Committee and will be sent out to the Board for approval shortly.

Membership Committee

The membership Committee is developing a plan for simplification of the Society's dues structure. It is proposed to eliminate the differential between dues paid by Canadian and foreign members. The Committee has been attempting to follow up with non-renewing members through the Regional Directors.

Science Policy and Education Committee

The Committee recommended that the ESC not proceed with the development of a science policy fellowship program.

Committee Chair Neil Holliday has proposed that the committee be split into separate Science Policy and Public Education Committees. Guidelines for the proposed new committees are being developed and will be presented for discussion by the Board in November.

International Congress of Entomology 2016

Murray Isman reported that a pledge for 50% of the funding needed for student travel awards for ICE has already been secured and further funding is being sought from industry in Ontario. Murray will contact Rosina Romano (the ESA's Director of Meetings) shortly after Labour Day to talk about our requirements for space and catering so she can begin making reservations for us. Dr Alvin Simmons, ICE co-chair, has asked for time at the plenary session of the 2015 JAM in Montreal to promote ICE.

Archiving of headquarters materials

Library and Archives Canada has been approached about archiving historical materials from the former headquarters building, and a response is awaited. A full set of back issues of *The Canadian Entomologist* and the *Bulletin* are in storage at the Society's storage unit in Ottawa, and a location is being sought for a second set. A few issues are still needed to complete the second set.

Web Content Committee

The Web Content Committee is developing a plan for updating and coordinating the various aspects of the Society's online presence, including the website, blog, and social media.

65th Annual Meeting of Members and Board of Directors Meetings

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

65e assemblée annuelle et réunions du conseil d'administration

L'assemblée annuelle de la société d'entomologie du Canada se tiendra à l'hôtel Marriott Château Champlain, Montréal, Québec, le mardi 10 novembre 2015 à 17h00. La réunion du conseil d'administration se tiendra au même endroit, le samedi 7 novembre 2015 de 8h30 à 17h00. Le nouveau conseil d'administration se réunira également immédiatement après l'assemblée annuelle. Les sujets à aborder pour n'importe laquelle de ces réunions doivent être envoyés à Alec McClay, secrétaire de la SEC (voir le troisième de couverture pour les coordonnées détaillées).

Annual Financial Statements

The financial statements of the Entomological Society of Canada and its Scholarship Fund for the financial year ended 31 December 2014 can be accessed by members at <http://www.esc-sec.ca/ee/index.php>. Due to the recent change in the ESC's financial year end from 31 December to 30 June, a set of financial statements for the half-financial year from 1 January to 30 June 2015 will also be posted to the same website in late September or early October 2015. Beginning in 2016, full-year financial statements for each new financial year running from 1 July to 30 June will be posted in the autumn.

Call for missing back issues of the *Memoirs* and *The Canadian Entomologist*

The Society currently has one full printed set of back issues of the *Memoirs of the Entomological Society of Canada* and *The Canadian Entomologist* in our storage unit in Ottawa. We also have an almost-complete second set, which we would like to complete in order to have a full backup set at a different location. If you can help in locating copies of any of the missing issues which could be donated to complete the second set, please contact the Secretary, Alec McClay. The issues needed are:

Memoirs: 1 (Maxwell), 5, 22, 39, 42, 48, 65, 82, 84, 86, 88-90, 97, 105, 121, 122, 130, 131, 151, 170.

The Canadian Entomologist: (1871) Vol. 3 Nos. 3-6, 8-9, 11; (1872) Vol. 4 Nos. 7, 9, 10; (1873) Vol. 5 Nos. 3, 4, 6; (1874) Vol. 6 Nos. 1, 3-7, 10-12; (1875) Vol. 7 Nos. 1-4, 6-7, 10; (1876) Vol. 8 Nos. 4, 7-8.

Announcements / Annonces

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

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

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

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



THE CANADIAN PHYTOPATHOLOGICAL SOCIETY
LA SOCIÉTÉ CANADIENNE DE PHYTOPATHOLOGIE

CPS.SCP News
Vol 59(2) June 2015

Table of Contents

President's Message	31
Message de la présidente	36
CPS Calendar of Events	40
Annual Committee Reports	42
Membership Committee	
Nominating Committee	
Strategic Planning Committee	
Workshops and Symposia Committee	
Future Meetings Committee	
Science Policy Committee	
Committee on International Co-operation	
Website Committee	
Information Products Committee	
Journal Editorial Committee	
CPS Proposed Amendments to the By-Laws	56
Notice of Motion	
Awards	68
2015 Student Travel Award Winners	
2015 Student Scholarship Award Winners	
International IPM Award of Excellence	
International Connections	72
Plant Pathology and the Pakistan Phytopathological Society	
The Polish Phytopathological Society	
Announcements	77
11th International Symposium on Adjuvants for Agrochemicals	
Fracture™ Fungicide Now Available in Canada	
In Memoriam	79
Dr. P. R. Verma	
Publications	80
ISPP – International Newsletter on Plant Pathology ToC	

This issue may be viewed online at / Ce numéro peut être visionné en ligne sur :
<http://phytopath.ca/wp-content/uploads/2015/06/CPS-SCP-News-59-2-June-2015.pdf>



Canadian Weed Science Society
Société canadienne de malherbologie

Contents of the Summer 2015 Newsletter / Contenu du bulletin d'été 2015

President's Message	1-2
Join CWSS-SEM	3
CWSS-SCM 2015 Photo Contest	3
2015 Annual Meeting in Edmonton	4
2015 Annual Meeting in Edmonton — Plenary Session	5-6
2015 Annual Meeting in Edmonton — Pre-conference tour	7
2015 Annual Meeting in Edmonton — Wednesday's schedule	7
2014 Montreal CWSS-SCM Photo Contest	8-9
OAC Weeds Team 2015 wins at U.S. National Weed Contest	10-11
AIC 2015 - Conference Report & Draft Policy	12
Knowledge Nexus	13
Bulletin Table of Contents for Entomological Society of Canada	14
Call for Nominations for 2016 CWSS-SCM Board of Directors	15
Upcoming Meetings	16
CWSS-SCM Facebook and Twitter	16
2015 CWSS-SCM Board of Directors	16

This issue may be viewed online at / Ce numéro peut être visionné en ligne sur :
<http://weedsociety.ca/resources/newsletters/>

Meeting announcements / Réunions futures

4th International Entomophagous Insects Conference

Torre del Mar, Malaga, Spain, 4-9 October 2015

<http://www.ihsn.uma-csic.es/IEIC4/SP.html>

The IOBC Working Group Meeting on Integrated Control in Protected Crops, Mediterranean Climate, Hebrew University, Rehovot, Israel, 11-15 October 2015

<http://www.agri.huji.ac.il/icpc-working-group/>

Entomological Society of British Columbia Annual General Meeting, Symposium, and Photography Workshop: 16-17 October 2015, Kamloops, B.C.

<http://entsocbc.ca/2015/09/2015-agm-symposium/>

ESBCP-BIOCICON 2015 (Joint International Conference of Eco-friendly Applied Biological Control of Agricultural Pests and Phytopathogens), Cairo, Egypt, 20-23 October 2015

<http://www.esbcp.org/conferences/conference.html>

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

Montreal, Quebec, 8-11 November 2015

www.seq.qc.ca/activites/reunions/SEQ-ESC_2015/index_eng.asp

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

Minneapolis, Minnesota, 14-18 November 2015

<http://www.entsoc.org/entomology2015>

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

The Fifth Encuentro de Lepidoptera Neotropicales

Tucumán, Argentina, 16-20 November 2015

<http://www.elen5.com.ar/>

The 13th Arbovirus Surveillance and Mosquito Control Workshop

St. Augustine, Florida, 29-31 March 2016

For more information, write to xueamcd@gmail.com.

The 11th International Symposium on Adjuvants for Agrochemicals

Monterey, California, 20-24 June 2016

<http://events.isaa-online.org/page/269/welcome-to-isaa-2016.html>

Entomological Society of Canada Annual Meeting

Orlando, Florida, 25-30 September 2016

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

XXV International Congress of Entomology (Entomology without Borders)

Orlando, Florida, 25-30 September 2016

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

www.ice2016orlando.org

12th International Congress of Orthopterology (Orthoptera in a Changing World)

Ilhéus, Bahia, Brazil, 30 October–3 November 2016

The Third Hemipteran-Plant Interactions Symposium

Madrid, Spain, 4-8 June 2017

<http://www.hpis2017.csic.es/>

Bulletin of the Entomological Society of Canada

Editor: Cedric Gillott
Assistant Editor: Donna Giberson

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

Published by the
Entomological Society of Canada
386 Broadway, Suite 503
Winnipeg, Manitoba R3C 3R6
E-mail: info@esc-sec.ca
www.esc-sec.ca/

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

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

ISSN: 0071-0741

Contents copyrighted 2015 by the Entomological Society of Canada

Submission deadline for the next issue: 31 October 2015



Bulletin de la Société d'entomologie du Canada

Rédacteur: Cedric Gillott
Rédactrice adjointe: Donna Giberson

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

Publié par la
Société d'entomologie du Canada
386 Broadway, Suite 503
Winnipeg, Manitoba R3C 3R6
E-mail: info@esc-sec.ca
www.esc-sec.ca/

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

Envoyer vos soumissions à:
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

ISSN: 0071-0741

Droits d'auteur 2015 Société d'entomologie du Canada

Date de tombée pour le prochain numéro: 31 octobre 2015

Officers of affiliated Societies, 2014-2015

Dirigeants des Sociétés associées, 2014-2015

Entomological Society of British Columbia

President Steve Perlman
1st Vice President: Bob Lalonde
2nd Vice President: Brian van Hezewijk
Past President Michael Smirle
Treasurer Ward Strong
Editor (Journal) Dezene Huber
Editors (Boreus) Gabriella Zilahi-Balogh
Webmaster Alex Chubaty
Secretary Tracy Hueppelsheuser
Plant Health Unit, B.C. Ministry of Agriculture
1767 Angus Campbell Road, A
Abbotsford, BC, V3G 2M3
Tel: (604) 556-3031
E-mail: Tracy.Hueppelsheuser@gov.bc.ca
<http://entsocbc.ca>

Entomological Society of Alberta

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

Entomological Society of Saskatchewan

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

Entomological Society of Manitoba

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

Editor (Proceedings) Terry Galloway
Webmaster Rob Currie
Secretary David Wade
City of Winnipeg Insect Control Branch
1539 Waverley Street, Winnipeg, MB, R3T 4V7
E-mail: dwade@winnipeg.ca
<http://home.cc.umanitoba.ca/esm/>

Entomological Society of Ontario

President Joel Gibson
President-Elect Gard Otis
Past President Ian Scott
Treasurer Shiyu Li
Editor (Journal) Chris MacQuarrie
Webmaster Trevor Burt
Secretary Michelle Locke
Vista Centre
1830 Bank St. P.O. Box 83025
Ottawa, ON K1V 1A3
E-mail: entsocont.membership@gmail.com
<http://www.entsocont.ca>

Société d'entomologie du Québec

Présidente Caroline Provost
Vice-président Julien Saguez
Présidente sortante Véronique Martel
Trésorier François Fournier
Rédactrice (Antennae) Louise Voynaud
Webmestre Thierry Poiré
Secrétaire Danielle Thibodeau
Centre de recherche et de développement
en horticulture
430, boul. Gouin
Saint-Jean-sur-Richelieu (Québec) J3B 3E6
Tél : 450-346-2097
Email : secretariat@seq.qc.ca
thibodeaudanielle@hotmail.com

Acadian Entomological Society

President Drew Carlton
Vice-President Kirk Hillier
Past President Chris Cutler
Journal Editor Don Ostaff
Webmaster Rick West
Secretary/Treasurer Andrew Morrison
Atlantic Forestry Centre
P.O. Box 4000, 1350 Regent Street South
Fredericton, NB, E3B 5P7
Tel: (506) 452-3239
E-mail: treasurer@acadianes.ca
<http://www.acadianes.ca>

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



Then, as now

As entomologists we enjoy the constant company of insects, whether we are describing them, observing them in the field, dissecting them, or measuring some aspect of their physiology. By contrast, an increasing number of members of the public are being traumatized by an insect ‘friend’ who has been our constant companion since we lived in caves. I refer, of course, to the bed bug (*Cimex lectularius*).

On the return flight from a recent vacation in Britain, I read ‘*Plain folk: a story of the Canadian prairies*’, a story of a small prairie community (Gopherburg) with as its central character the town’s new bank manager. The book’s author, (Francis Cecil Whitehouse), incidentally, was an entomologist with a particular interest in Odonata (see, for example, *Can Ent* 71: 199-202 [1939]. Notes on some tropical dragonflies). On several occasions, the book shows the writer’s fascination with insects, including the first chapter where the new manager, on checking into his hotel room for the night, declines to enjoy the comfort of the hotel bed; rather, he makes up a temporary resting place using his luggage on a table in the middle of the room! Apparently, bed bugs (*Cimex lectularius*) were as common in human dwellings then as they are becoming nowadays.

Closer to home, the bed bug resurgence has recently led the Regina Housing Authority to implement a ban on tenants bringing used

À l’époque, comme aujourd’hui

En tant qu’entomologistes, nous apprécions la compagnie constante des insectes, que ce soit pour les décrire, les observer sur le terrain, les disséquer, ou mesurer certains aspects de leur physiologie. Au contraire, un nombre croissant de membres du public sont traumatisés par un « ami » insecte qui est notre compagnon depuis l’époque où nous vivions dans des grottes. Je parle, bien sûr, de la punaise de lit (*Cimex lectularius*).

Sur le vol de retour d’un récent voyage en Angleterre, j’ai lu ‘*Plain folk: a story of the Canadian prairies*’, l’histoire d’une petite communauté des prairies (Gopherburg) dont le personnage principal est le nouveau directeur de la banque du village. L’auteur du livre (Francis Cecil Whitehouse) était d’ailleurs un entomologiste ayant un intérêt particulier pour les Odonates (voir, par exemple, *Can Ent* 71: 199-202 [1939]. Notes on some tropical dragonflies). À plusieurs reprises, le livre montre la fascination de l’auteur pour les insectes, incluant le premier chapitre où le nouveau directeur refuse de profiter du confort du lit à son arrivée à l’hôtel : il installe plutôt un endroit de repos temporaire en utilisant sa valise sur la table au milieu de la chambre! Apparemment, les punaises de lit (*Cimex lectularius*) étaient aussi communes dans les habitations humaines à l’époque qu’elles le deviennent aujourd’hui.

Plus près d’ici, la résurgence de punaises de lit a récemment amené la société de logement de Régina à interdire aux locataires d’amener des biens d’occasion (meubles, tissus, etc.) dans les propriétés qu’ils gèrent. Cette stratégie a son parallèle dans le 18^e siècle quand les problèmes de punaises de lit sur les bateaux amenant les colons aux « colonies » amenaient les passagers à ne pouvoir apporter autre chose que le strict minimum.

La tactique adoptée par la société de

goods (furniture, clothing, etc.) into the properties it manages. This strategy had its parallel in the eighteenth century when bed bug problems on ships taking settlers to ‘the colonies’ led to passengers being forbidden from bringing on board all but the barest essentials.

The tactic adopted by the RHA, introduced as a way of reducing the possible spread of the pest, seems like ‘overkill’ and an infringement of privacy as there are simple ways of ensuring the material is bug free. One wonders whether the RHA has any real expertise on bed bug management or whether we are seeing yet another example of government bureaucrats dictating the lives of the very people they are intended to serve.

logement, introduite comme une façon de réduire la dispersion possible de l’insecte nuisible, semble être de la sur-extirpation et une infraction à la vie privée puisque qu’il existe des façons simples de s’assurer que le matériel est exempt de punaises. On pourrait se demander si cette société a vraiment une expertise sur la gestion des punaises de lit ou si nous voyons un autre exemple de bureaucrates du gouvernement dictant la vie des gens mêmes qu’ils doivent servir.



Bed bug (*Cimex lectularius*)

S. McCann

Executive Council / Conseil exécutif

President / Président

Staffan Lindgren
University of Northern British Columbia
Prince George, British Columbia, V2N 4Z9
Tel: 250-960-5846
Fax: 250-960-5539
E-mail: Staffan.Lindgren@unbc.ca

First Vice-President / Premier vice-président

Terry Wheeler
Department of Natural Resource Sciences
McGill University
Ste-Anne-de-Bellevue, QC, H9X 3V9
Tel: (514) 398-7937
Fax: (514) 398-7990
E-mail: terry.wheeler@mcgill.ca

Second Vice-President / Second vice-président

Neil Holliday
Department of Entomology
University of Manitoba
Winnipeg, MB, R3T 2N2
Tel: (204) 474-8365 Fax: (204) 474-7628
E-mail: Neil_Holliday@UManitoba.CA

Past President / Présidente sortante

Rebecca Hallett
University of Guelph
50 Stone Road East
Guelph, ON N1G 2W1
Tel: (519) 824-4120 ext54488
Fax: (519) 837-0442
E-mail: rhallett@uoguelph.ca

Directors-at-Large / Conseillers

Zoë Lindo (2015)
Kirk Hillier (2016)
Chris Cutler (2017)

Regional Directors / Directeurs régionaux

Bill Riel (ESBC), Rob Longair (ESA), Jeff Boone (ESS), Barbara Sharanowski (ESM), Patrice Bouchard (ESO), Annabelle Firlej (SEQ), Gaëtan Moreau (AES)

Student Representative / Représentant des étudiants

Joanna Konopka
Western University
E-mail: jkonopk@uwo.ca

Trustees / Fiduciaires

Treasurer / Trésorier

Christopher P. Dufault
461 Tweedsmuir Ave.
Ottawa, Ontario, K1Z 5P1
Tel: (613) 261-1314
E-mail: [christopher.p.dufault\(at\)gmail.com](mailto:christopher.p.dufault(at)gmail.com)

Secretary / Secrétaire

Alec McClay
Tel: (780)464-4962 Fax: (780)410-0496
E-mail: secretary@esc-sec.ca

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

Asst. Bulletin Editor / Rédactrice adj. du Bulletin

Donna Giberson
Dept. of Biology
University of Prince Edward Island
Charlottetown, PE, C1A 4P3
Tel: (902) 566-0797
E-mail: giberson@upei.ca

Webmaster / Webmestre

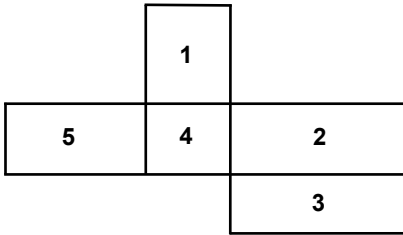
Dicky Yu
Agriculture and Agri-Food Canada
K.W. Neatby Building, Rm.2125
960 Carling Avenue
Ottawa, Ontario K1A 0C6
Tel: 613-792-2045
Fax: 613-759-1970
E-mail: dickyyu@gmail.com

The Canadian Entomologist Editor-in-Chief / Rédacteur en chef

Kevin Floate
Lethbridge Research Centre
Agriculture and Agri-Food Canada
Lethbridge, AB T1J 4B1
Tel: (403) 317-2242
E-mail: kevin.floate@agr.gc.ca

Head Office / Siège social

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



www.esc-sec.ca

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

Date of issue: September 2015 /
 septembre 2015

ISSN: 0071-0741

Front cover/Plate supérieur:

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

Back cover/Plate inférieur:

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