

# Bulletin

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## Images

**Sur le dos :** Le dendroctone du pin ponderosa, *Dendroctonus ponderosae* Hopk. (Curculionidae), une espèce épidémique qui détruit périodiquement de grandes surfaces de pinèdes dans l'ouest de l'Amérique du Nord. Photo : D. Linton.

**Sous le titre :** La likenée blanche, *Catocala relictata* Wlk. (Noctuidae), se nourrit de peupliers, de trembles et de saules. Photo : A. Carroll.

1. Récolte de scolytes (Curculionidés) dans un piège à entonnoir Lindgren à Angstad Creek, près de Merritt, Colombie-Britannique. Photo : J. Smith.

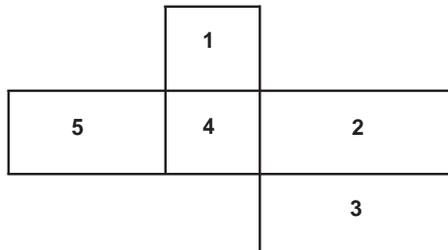
2. *Leptomantispa pulchella* (Banks) photographié à Ojibway Prairie à Windsor, Ontario. L'espèce n'est par ailleurs connue au Canada que de la vallée de l'Okanagan. Photo : S. Marshall.

3. Puceron de l'épinette de Sitka, *Adelges cooleyi* (Gill.) (Adelgidae), exule parthénogénétique avec ses oeufs sur sapin Douglas. Photo : B. Bains.

4. *Formica aserva* Forel (Formicidae), une fourmi agressive qui niche dans les grands débris ligneux partout au Canada, portant une nymphe. Photo : R. Higgins.

5. Cécidomyie du blé, *Sitodiplosis mosellana* (Géhin) (Cecidomyiidae), femelle. Photo : R. Lamb.

**Plat inférieur :** *Tetragnatha viridis* Walck. (Tetragnathidae), seule araignée orbitèle à grands appendices buccaux et à couleur vert brillant au Canada; sa répartition s'étend vers le sud de l'est de l'Ontario et de la Nouvelle-Écosse jusqu'à la rive nord du golfe du Mexique. Photo : M. Larrivée.





I have the honour of being the President of the Entomological Society of Canada this year. Interestingly, I took over the reigns from Peggy Dixon at the Wanuskewin Heritage Park, where we had an informative field trip at the Saskatoon Joint Annual Meeting. This field trip was just one great part of a terrific annual meeting, and I thank the organizers for their efforts. I always find that interacting with other entomologists, and attending a lot of interesting talks on a variety of research subjects, re-kindles my enthusiasm for research. This interaction is one of the key benefits of membership in the ESC and I urge anyone that can (and this is not always easy these days) to make every effort to attend the Joint Annual Meetings. Next year's meeting is in Ottawa, 18-22 October 2008.

By way of introduction, I am a research scientist with the Canadian Forest Service in Victoria and work primarily on mountain pine beetle. I've been involved with the governing board of the ESC for about 15 years in various capacities, as well as with the Entomological Society of BC.

The ESC has a few key issues this year, the most important of which is the future of *The Canadian Entomologist*. As Vice-President

J'ai l'honneur d'être le Président de la Société d'Entomologie du Canada cette année. J'ai pris le flambeau de Peggy Dixon au parc Wanuskewin, où l'on a fait une visite lors de la réunion annuelle à Saskatoon. Cette visite n'était qu'un volet magnifique d'une réunion annuelle incroyable, et je remercie les organisateurs pour leur travail. Je trouve toujours qu'interagir avec d'autres entomologistes et assister à de nombreuses présentations intéressantes sur des sujets de recherche variés renouvelle mon enthousiasme pour la recherche. Cette interaction est un des bénéfices clés de l'adhésion à la SEC et j'incite tous ceux qui le peuvent (et ce n'est pas toujours facile ces jours-ci) d'assister aux réunions annuelles conjointes. La réunion de l'an prochain se tiendra à Ottawa, du 18 au 22 octobre 2008.

En guise d'introduction, je suis un chercheur scientifique au Service Canadien des Forêts à Victoria et je travaille principalement sur le dendroctone du pin. Je suis impliqué dans le conseil d'administration de la SEC depuis environ 15 ans à différents titres, et je suis également impliqué dans la Société d'Entomologie de la Colombie-Britannique.

La SEC a plusieurs problèmes cette année, le plus important étant le futur de *The Canadian Entomologist*. Tel que le Vice-président Paul Fields en a discuté précédemment dans le *Bulletin* de septembre, nous faisons face à une augmentation des coûts de production et d'envoi et une diminution des abonnements institutionnels ce qui rend le statu quo du processus de publication insoutenable dans le futur. Les options afin de résoudre cette situation possèdent un bon nombre de ramifications au cœur de la structure et du but de cette société. Par exemple, si une option est de vendre la revue à un éditeur, comment cette option affecterait-elle les adhésions? La revue est-elle une raison-clé de l'adhésion de la plupart de nos membres? Comment ce changement affecterait-il le nombre de membres, le coût de structure et le budget de la SEC?

Paul Fields has previously discussed in the September *Bulletin*, we are facing increasing production costs and mailing costs and declining institutional subscriptions which may make the status quo publication process untenable in the future. The options for addressing this situation have a number of ramifications on the core structure and purpose of the society. For example, if one option is to sell off the journal to a publisher, how does this affect membership? Is the journal a key reason for membership for many of our members? How will the fallout from this change affect number of members, fee structure and the ESC budget?

I don't want to leave the impression that the Society itself is in poor shape. Our financial situation is relatively good and membership has been fairly steady in recent years. We want to be proactive on a situation that could begin to drain our resources if left unattended. Also, we want to anticipate trends and adapt to them. Is there a future for print journals like *The Canadian Entomologist*, or is everything going to be electronic in a few years?

There are many key questions that need to be addressed for each of the options being considered to address the future of the journal. I have appointed Paul Fields to chair an ad hoc committee to propose a business plan for the future of the journal. Paul has created a site, <http://tce-future.wikispaces.com/> where you can join in the discussion, or email your thoughts to him at [pfields@agr.gc.ca](mailto:pfields@agr.gc.ca).

Je ne veux pas donner l'impression que la Société en soi est en mauvaise posture. Notre situation financière est relativement bonne et les adhésions sont plutôt stables depuis quelques années. Nous voulons être proactifs dans une situation qui pourrait commencer à drainer nos ressources si nous n'y veillons pas. De plus, nous voulons anticiper les tendances et nous adapter en conséquence. Y a-t-il un futur pour les revues imprimées telle que *The Canadian Entomologist*, ou est-ce que tout ne sera qu'électronique dans quelques années?

Il y a de nombreuses questions importantes qui ont besoin d'être résolues pour chacune des options considérées afin de régler l'avenir de la revue. J'ai mandaté Paul Fields de présider un comité ad hoc afin de proposer un plan d'affaires pour le futur de la revue. Paul a créé un site web, <http://tce-future.wikispaces.com/> où vous pouvez vous joindre à la discussion, mais vous pouvez également lui envoyer vos opinions à [pfields@agr.gc.ca](mailto:pfields@agr.gc.ca).



Joanne Bovee



## Ento-tainment for the Holidays

Regardless of which holiday you are celebrating, the question everyone is asking nowadays is how do you turn holiday entertaining into ENTO-taining? This seemingly simple question can be deceptively multi-segmented. In order to guide you through the potential pitfall traps that holiday entertaining can become, Moth Balls offers the following advice which will help ensure a memorable occasion for any gathering of the entomologically inclined.

**1) Food.** I have previously dealt with the use of insects as food (q.v. *Bulletin* E.S.C. 37(1)) and I vaguely recall my lack of a ringing endorsement for insects as a viable (or at least palatable) food source. But entertaining entomological colleagues without offering insects as food could be viewed as neglectful, if not downright rude! Having said this, the proper balance of ento- and non-ento-foods

should be observed. The inclusion of some entomological finger food adds a pleasant, conversation-invoking touch to a party (mmmm... mealworms...) whereas a formal dinner with a main course of sautéed dynastines in a belostomatid demi-glace may be too rich for all but the most seasoned veterans of ento-cuisine. Certainly, if you are aware that any non-entomologists may be attending your party, having several types of “ento-free” fare available is recommended. This does not preclude adding an ento-twist to the serving of standard foods, for example, garnishing your appetizer plates with “ento-surprises” or even using insects to help serve your food (for a fun snack, try adding live dung beetles to a tray of Ferrero-Rocher)!

**2) Drink.** Of course, for alcoholic drinks, the ethanol of choice is definitely Mezcál “con gusano”, although if this is not available, lab-strength ethanol (with or without ento-additives) will suffice. Inclusion of ice-cube frozen crickets or wasps in everybody’s drinks is sure to be appreciated (at least by your more discerning guests). Whether serving ethanol or ethanol-free holiday punch, carefully timed addition of gerrids or gyrinids to the punch-bowl is sure to amuse the ento-majority. And just a warning – do not make the mistake of leaving Malaise trap residues or other ethanol-preserved insects in plain view in case these samples become irresistibly tempting to any intoxicated guests later in the evening.

**3) Decoration.** The inclusion of insects in a festivity’s decoration plan should bring cheer to all participants. Whereas adorning the house with pinned or ethanol-preserved insects is a long-standing tradition in many homes, the entomologically savvy now employ live insects as at least part of their entertaining strategy. For Christians, decking the halls with boughs of budworm or festooning a *Dendroctonus*-riddled Christmas tree with pheromone traps adds a special touch, especially if one has taken the time to alter diapause so that your insect guests are active during the festivities.

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

You should be aware of the species identity of any decorative insects employed and also their current distribution to ensure that federal or provincial regulations are not contravened (e.g., live emerald ash borers can add a touch of glitz to any place setting, but this may not be appreciated in British Columbia or the Maritimes). Also note that lack of cleaning of your home in order to enhance cockroach or silverfish populations is generally not considered an acceptable method of ento-decorating for the holidays.

**4) Games.** What holiday celebration is complete without games? Some might say

ANY celebration, but a well-planned game can make an occasion so much more enjoyable and memorable for even the crustiest of curmudgeons. Traditional games such as “Pin the Pedipalp on the Amblypygid” are always fun, but if you feel more familiar with your guests (or wish to become more familiar) try a rousing game of “Find the Gryllid” by secreting male crickets in your guests’ handbags/ briefcases and/or clothing.

Join me next issue as I continue to bedeck the hallways of entomology with festive Moth Balls



**What is it?** Can you recognize this insect with the comical face-like anterior end? (Answer on p. 184)

# Meeting announcements / Réunions futures

## The 18th Biennial International Plant Resistance to Insects Workshop

Fort Collins, Colorado, USA, 10-13 February 2008

<http://www.oznet.ksu.edu/ipri/>

## XXIII International Congress of Entomology

Durban, South Africa, 6-12 July 2008

[www.ice2008.org.za](http://www.ice2008.org.za)

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

Ottawa, Ontario, 18-22 October 2008

<http://esc-sec.org/agm.htm>

## XLI Annual Meeting of the Society for Invertebrate Pathology

Warwick, United Kingdom, 3-8 August 2008

<http://www.sipweb.org/meetings.cfm>

## 3rd International Symposium on Biological Control

Christchurch, New Zealand, 8-13 February 2009

<http://www.isbca09.com/>



## ADDRESSING REVIEWER COMMENTS

BAD REVIEWS ON YOUR PAPER? FOLLOW THESE GUIDELINES AND YOU MAY YET GET IT PAST THE EDITOR:

### Reviewer comment:

"The method/device/paradigm the authors propose is clearly wrong."

### How NOT to respond:

✗ "Yes, we know. We thought we could still get a paper out of it. Sorry."

### Correct response:

✓ "The reviewer raises an interesting concern. However, as the focus of this work is exploratory and not performance-based, validation was not found to be of critical importance to the contribution of the paper."

### Reviewer comment:

"The authors fail to reference the work of Smith et al., who solved the same problem 20 years ago."

### How NOT to respond:

✗ "Huh. We didn't think anybody had read that. Actually, their solution is better than ours."

### Correct response:

✓ "The reviewer raises an interesting concern. However, our work is based on completely different first principles (we use different variable names), and has a much more attractive graphical user interface."

### Reviewer comment:

"This paper is poorly written and scientifically unsound. I do not recommend it for publication."

### How NOT to respond:

✗ "You #@% reviewer! I know who you are! I'm gonna get you when it's my turn to review!"

### Correct response:

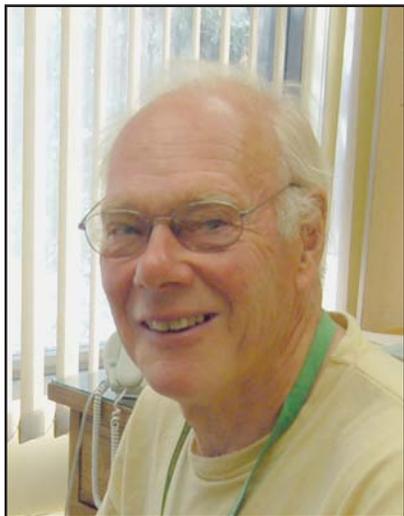
✓ "The reviewer raises an interesting concern. However, we feel the reviewer did not fully comprehend the scope of the work, and misjudged the results based on incorrect assumptions."

[www.phdcomics.com](http://www.phdcomics.com)

JORGE CHAM © 2005

'Piled Higher and Deeper' by Jorge Cham is the popular comic strip about life, or the lack thereof, in grad school. Check it out by going to [www.phdcomics.com](http://www.phdcomics.com)

by Peter Harris



Shannon Little

## Drifting and Diagonal Swimming in the Ag. Canada Flow

This is an account of Canadian biocontrol and particularly of weed biocontrol. My English school goal was forestry. However, I lacked the Latin required to enter Oxford University since I went blank when the teacher drummed me on the head with his silver pencil. A great uncle had immigrated to British Columbia where the war trapped my grandparents on a visit, so the University of British Columbia was a good alternative. I took forest entomology under Ken Graham and joined the track team of six which won against colleges in the United States. I came second in the half mile and won the one and two mile events.

Membership on the track team required a

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*Dr. Peter Harris presented the Heritage Lecture at this year's joint meeting of the Entomological Society of Canada and the Entomological Society of Saskatchewan, in Saskatoon, Sk, 29 September - 3 October.*

summer job on campus. I was hired by the federal Division of Entomology to work at the Belleville Ontario substation at UBC by Jim McLeod. The work lacked variety for Ottawa's biweekly progress reports, so my reports were often on other insects such as the bark beetle with the melodic name of *Pseudohylesinus nebulosus*. I rewrote my Ottawa report on this insect for a student essay contest that in 1957, was my first publication. I also reported on a moth in white pine needle bundles that sometimes committed suicide by pupating the wrong way round. Editing of papers and reports was done in Ottawa by a process called 'wigmorization', after the editor, Wigmore. He was renown for long explanations about each correction. To focus him, I wrote that this moth committed insecticide and was delighted with two pages on the misuse of the term 'insecticide'. Life was good. I had met Irene, my future wife, and applied to do a PhD in Entomology at UBC, but was told it had to be in Forestry.

The federal research station at Belleville was established in 1929 by the Entomology Division, and had a national mandate for biocontrol with insects. The station was a mansion called 'Carman House'. It was near enough to Ottawa that you could get there rapidly, but far enough away that the brass never visited. A quarantine building of 40 rooms was added by the forest industry in 1935. In 1955, a red-brick building was built around the house, which was then torn down. The new building was known locally as 'The Bug House', of which Bryan Beirne became Director in 1956.

The European pine shoot moth project was a collaboration between five scientists at Belleville and Sault St. Marie, Ontario. I joined the project in 1955 as a PhD student in Forestry at London University. The university housed me with 30 or so postgraduate entomologists in a country house at Silwood Park, Ascot. The students (including the Canadians, Web Haufe and Norm Anderson) were multinational with wide experience so supervisors were



Carmen House in Belleville, Ontario

rarely needed. Ascot was on a sandy tract of the Windsor Castle estate planted to pines and watched by the police for escapees as it extended to Broadmoor, a lunatic asylum for criminals. My Royal permit did not convince the police that looking for caterpillars in pine buds was a sane activity. My supervisor then justified himself by assuring the police that I was a harmless lunatic. On graduation, a year later, Irene followed and we married in England.

I joined the Belleville station in 1959 after closure of the Vancouver substation (my first station closure) and after the federal government had reassigned stations into the Department of Forestry and the Department of Agriculture. Belleville opted for Agriculture. Many of its big successes had arisen from cooperative projects on forest insects with the lab in Sault Ste. Marie. Because the latter lab was reassigned to Forestry, such cooperative projects were terminated. Many Belleville staff changed projects and the quarantine building was underused. I published my thesis, but it was the last thing from the Belleville station published on a forest insect.

I inherited weed biocontrol from Morris

Smith. Many of the best targets for weed biocontrol are on forest lands in British Columbia. Smith picked the European St. John's wort, which was a huge problem on North American rangelands. Australia had released two European species of beetles that remained scarce for seven years before exploding to achieve control. The beetles also worked soon after their release in California. In British Columbia, however, beetles remained rare in 1958 following releases in 1952. Smith was re-assigned to another project after six years of poor results and then left the Department. However, by 1959, the beetles were providing successful weed control such that, after wigmorization, I had publishable results. Wigmorization continued until Don Chant, the Belleville mite expert, threw an ink bottle at Wigmore. It missed, but got him banned from seeing Wigmore without two senior staff being present. Perhaps fearing a hail of ink bottles, management subsequently excluded entomologists from wigmorization. Chant left in 1962 for high profile jobs California and then Ontario.

Weed biocontrol involved surveys, field and lab studies in Europe and then insect propagation, release, distribution and assessment in Canada. The European work was contracted to an organization now called CABI. Helmut Zwoelfer at the CABI lab in Delémont, Switzerland, and I at Belleville started and ran the program together which continued with Dieter Schroder. CABI surveyed insects in western Europe. The Iron Curtain prohibited access to eastern European localities that were better climatic matches to Canada. It seems unbelievable now, but post-war budgets gave Belleville ample funds that we were beseeched to spend to prevent lapsing. Smith's fate was a prod to supplement CABI's insects with quick successes, such as the cinnabar moth on tansy ragwort that already had been tested by Australia and the USA. At this time, I also supervised Ikram Mohyuddin from CABI for PhD research on Canadian bindweed.

Zwoelfer screened the nodding thistle seed-head weevil, *Rhinocyllus conicus*. The

chief concern was that crops not be attacked so with proof that the weevil starved on crops in no-choice tests the Director General (DG) - I moved in lofty circles then - approved a release that rapidly achieved control. Farmers were still wary; but finally, several near Regina, Saskatchewan, agreed to use the weevils and were given stock. Three years later I was phoned to ask why it had only worked on the property of a disliked neighbor. Apparently all of his neighbours had released their weevils on his farm. Colleagues in New Zealand wanted large numbers of the weevils, which I estimated by weight. My New Zealand colleagues counted the weevils they received and sent me a telegraphed apology that they had bad news - two of my rhinoceroses may have escaped on the plane!

The research was not without its challenges. Release of agents into Canada requires federal approval. However, because insects do not stop at borders, concurrence was needed with the United States. I obtained their agreement to share screening reports on biocontrol agents, which we agreed could be done without loss of sovereignty. The United States had a review committee. Ottawa appointed a similar committee to replace the DG. I gave the screening reports to provinces with the weed, but not the agent unless they wanted it. Tacit land user approval was obtained by field days to explain the program, provide bags and lend nets to those wanting agents. Sweep netting brings out the kid in farmers who then make their friends envious. This is the best advertising possible. At one memorable field day, two ranchers fought and a wife cried because they had felt they had collected too few beetles for knapweed control. This was a big change from the insect phobia present when I started. Land user distribution is cheap, rapid, gives the user a stake in the project and eliminated a job for which I did not have staff. Insects spread, so farmers not releasing agents, perhaps unknowingly, may have them on their property anyway.

Much work was done how to determine agent safety. When concern was limited to

crop plants host range limits proved a better indication of safety than no-choice tests and such limits became the international standard. Currently, an additional concern is for native plants related to the weed which needs a different approach.

Further, most research requires networks. Provincial field days took care of agent distribution. The provinces were also major clients. My first cooperater was Jim Milroy of the British Columbia Forest Service, who had worked with Smith and hated St. John's-wort. He believed in testing new PhDs by walking them off their feet. I knew that I had passed when he slowed a modicum without being asked. Smith's releases were in isolated places on random plots that, if occupied by a Douglas fir tree, had a 1/4 m<sup>2</sup> frame nailed to it. Milroy's successors, Jack King, Bob Drinkwater, Val Miller and Roy Cranston of British Columbia Agriculture made releases, collections, held field days, sent me samples and told me when to visit. Miller's MSc showed that biocontrol agents in knapweed seed heads made them acceptable winter deer forage.

I met Judy Myers, the ESC 2004 Gold Medal Winner, at my cinnabar moth site on Vancouver Island. She has eclectic interests including weed biocontrol to which she and students have made major contributions. Her delight in being a devil's advocate was often helpful. However, her suggestions that biocontrol is a lottery worried British Columbia Agriculture, a major sponsor, since governments cannot invest in lotteries. One losing lottery ticket was the cinnabar moth, because its host regrew after defoliation. Ragwort was controlled on the British Columbia coast by a root-feeding flea beetle from Rome, Italy, obtained via the USA. It starts laying with the October rains and, in mild winters, continues into January. In the Maritimes, however, oviposition stops with mid-October frosts. Sixteen years after release, Chris Majka (Nova Scotia Natural History Museum) noted a thriving population of overwintering third-instar larvae that emerged to breed in the spring. These are only a few examples of the people who have helped

biocontrol research in Canada. Indeed, many people supplemented information on basic survival and impact with studies of their own such that we now know a fair amount about the insect-plant system. This has been compiled in a weed biocontrol web site for the Canadian species.

Zwoelfer in 1969 held a world weed biocontrol meeting at Delémont, Switzerland that became a four-year event. Remarkably it works without a constitution or an executive and funding is provided by the host country. Since 1982 the 70 countries practicing weed biocontrol have submitted weed-agent-outcome lists for collation and publication by Mic Julian of Australia. A hundred years of weed biocontrol has resulted in release of about 350 agents, many in the early days when the aim was to establish many agents per target weed. Julian's catalogue shows that one agent, or one per habitat often does the job at lower costs and risks. The international network helps in other ways. I sent Oleg Kovalev in Leningrad a leaf beetle to control North American ragweed in Russia. Air Canada only flew to Moscow with no connections to Leningrad. However, Kovalev arranged for the beetles to fly with the Bolshoi ballet company and was thrilled when the beetles were delivered to him by a ballet dancer. On release, the beetles formed 10 m wide bands that marched 3 m a day leaving defoliated ragweed stems on which the larvae ate the regrowth. This quadrupled potato yields and resulted in a 1986 invitation to collect knapweed insects from the Caucasus. When the United States Department of Agriculture (USDA) banned the importation of insects from the Soviet Union, Oleg collected the desired insects, which were sent to me for rearing so they would be 'Canadian' when forwarded to my American colleagues.

The ever cheerful Dieter Peschken joined the weed biocontrol program in 1964. When drifting snow threatened the roof of the research greenhouse in Regina, Dieter, singing in the storm, cleared it with only a few broken panes that a fuming carpenter replaced with plywood. In 1984, Alex McClay started an

Alberta program on additional weeds to maximize Canadian coverage and Alan Watson at McGill worked on weed pathogens. A sign of weed biocontrol acceptance was that projects started without federal initiation. Jim Corrigan (now of British Columbia) did an impact study of biocontrol on purple loosestrife in Ontario for Environment Canada. Cory Lindgren worked on purple loosestrife in Manitoba for Ducks Unlimited.

A setback to Belleville was Beirne's 1967 departure with eight scientists to Simon Fraser University, rumored to be the new national biocontrol center. In 1956, Belleville had 37 researchers and three visiting scientists. Reduced recruitment and the exodus reduced this number to 21. The new Director, Philip Corbet, fresh from a two-year mosquito survey at Hazen Lake, demonstrated his unbelievable concentration. Hearing a crash, his secretary opened Corbet's office door to find him on the floor still talking in a tangle of phone and three-legged government chair. The carpenter subsequently made Corbet a large round table with a slot to a hole in the middle where he sat with his work around him and no danger of falling. Corbet made biting flies a Belleville theme as they were pests without a study center. Even I published two mosquito papers as a coincidence of circumstances. I had nothing



Tom Stovel

Mosquitoes feed on a caterpillar of the Spurge Hawk-moth, *Hyles euphorbiae* (Sphingidae)

ing to publish one year on weed biocontrol to meet Ottawa's requirement of two papers a year in international journals. During this same year, I was eaten alive vainly counting caterpillars that had been released to control spurge. Later, at a seminar at Queens University by Al West, I asked if mosquitoes took insect blood meals to be told they only fed on vertebrates. I then tested this by caging mosquitoes with my caterpillars. The mosquitoes fed on the caterpillars and laid viable eggs. This discovery yielded papers in *Science* and *Nature*. Although switching research topics was taboo, I hoped to be challenged as I was proud of the finding. However, I don't think it was noticed!

Life settled until someone decided that biting flies were not in Agriculture Canada's mandate, because they are human pests. Clearly they had not seen cattle in fly season! The Belleville staff was re-aligned with Murray Maw joining weed biocontrol. Corbet left for the University of Waterloo, then New Zealand followed by the University of Dundee in Scotland. His passion was dragonflies so he moved to study unfamiliar populations and published the definitive book on dragonflies in 1999.

I was made Acting Director of the Belleville station in 1971. Hearing nothing, I went to Ottawa with ideas that I outlined for 20 minutes. I was thanked and informed that Ottawa had decided to close the station. However, I was sworn to secrecy for a month until after the Minister announced the closure. It was hard vetoing future plans from Belleville staff without apparent reason. On the fatal day I had a staff meeting at 9 a.m. Within 5 minutes of ending the meeting, I was the only one left to explain to the newspaper why the flag was at half mast. I beat the Minister's 3 p.m. announcement, which could have caused problems. However, I reported to Tony Ludwig, the former Director of the Plant Research Institute, whose strategy was to do anything sensible and he would deal with the flak. Hiring in the Research Branch was on hold, although stations without vacancies could add Belleville staff.

For two years I helped staff with problems. Corbet wanted his desk and the Branch didn't and so they were happy it disappeared. Government moving regulations covered the effects of an employee's wife, but not vice versa. Obviously, the wife should claim everything. However, one husband with a ton of weight-lifting equipment objected. I and the union talked to the couple, but to no avail. One person was mystified that he could not sell his house with geese under the billiard table and an iron boat sunk into his lawn. Removal solved the problems. The weed group destined for Winnipeg was re-directed to Regina. Finally, I was asked what was I going to do about the \$3/4 million spent without Treasury Board approval. This was my second station closure!

The 1972 Belleville closure almost ended the biocontrol program for agricultural pest insects. Such research was at a low ebb globally from lack of attention to agent habitat needs and release of untested species that often attacked non-target insects. Canada did the right thing in 1929 by establishing a biocontrol center in Belleville, but then killed this initiative by dividing biocontrol research between forestry and agricultural, moving staff to Simon Fraser University, and dispersing elsewhere those staff that were left. Recently, insect biocontrol has been rejuvenated with collaborations between nine entomologists and an agrologist variously located in Lethbridge, Saskatoon, Beaverlodge, the University of Alberta and Alberta Agriculture. Cooperation is now in!

To accommodate the staff acquired from Belleville, the Research Branch built an extension to the Regina station. Knud Mortensen was hired as a plant pathologist. He was the only interviewee who saw the potential for weed pathogens. I supervised Roberte Machowski's PhD research on a round-leaved mallow fungus. The aim was to develop host-specific pathogen sprays to be registered like herbicides. However, Canada lacked testing protocols for bioherbicides. The pathologists and Philom Bios, the company that sponsored the research, proved to be a powerful team. The

former located problems with existing requirements intended to register chemical herbicides that Philom Bios could get the Deputy Minister to remove. One such requirement called for the injection of 1.25 litres of the product into 10-day old ducklings! I supervised Alan Watson's PhD research on a Russian knapweed gall nematode and Joe Shorthouse's postdoctoral research on gall insects. Joe convinced me that gall insects were promising biocontrol agents, but I never convinced him that other insects were also fascinating. However, he and his associates did publish several papers on gall-forming weed agents. The year 1986 ended with large chunks of asbestos insulation falling from the ceiling. That winter was in comfortable but cramped trailers.

Funding from the Canadian government to CABI stagnated for 25 years, which reduced the overseas research program. In 1980, successful control of leafy spurge at spurge beetle release sites stimulated Saskatchewan's desire for more agents. They agreed to give me \$50,000/year, which I was able to match with funding from provinces, states, and other jurisdictions with spurge problems. Initial hostilities evaporated when everyone understood that their funds would be pooled to contract the work to CABI, but all would decide on priorities and share agents. This was the start of the Biocontrol Consortium. With funding for other weeds, Consortium funding exceeded \$600,000 in 1986 and led Ottawa to complain that they had lost control.

The Consortium obtained agents and spurge biocontrol was very successful. One person working for the USDA quit to collect spurge beetles in Canada. He sold these at a dollar each to perhaps make \$100 000 for a Sunday's work. I complained, but the United States said that they could not refuse importation of approved insects. Ottawa said that they already had enough issues with the United States and, besides, Canada lacked legislation making insect theft a crime. I finally stopped showing the USDA our release sites and the provinces agreed not to place biocontrol billboards near release sites.



Sign at a release site in British Columbia used to educate the public about biocontrol.

In 1970, it was noticed that Agriculture Canada had a higher ratio of entomologists than the USDA. In response, Canadian entomologists in weed biocontrol were made 'weed scientists' to be supervised by a 'weed coordinator' with whom I shared little vocabulary and no philosophy. He wanted to know which agent would win when several were released against a target weed. I explained about damage thresholds. Then, rather than throw ink bottles, which had almost disappeared, I wrote a paper on insect competition. I don't think he read it, but I found the process educational. Eleven agents released for knapweed had reduced knapweed seed production by 95% without achieving control. I added a bud weevil with few expectations, because it attacked the buds at a later developmental stage than the other agents. However, spring feeding stunted and twisted bolting stems that, with bud destruction and the death of small lateral branches, increased the dispersal of these agents to reduce competition for the weevil. All agents survived and seed production is now below the replacement threshold.

Word of the Regina station's pending closure leaked in 1991, and denied by the minister, occurred in 1992 with its land transferred to Swift Current. I went to Lethbridge, Mortenson to Saskatoon, and Maw and Peschken finished

manuscripts before retiring. Makowsky moved with her husband to the United States and is now a patent attorney. Rose De Clerck-Floate and Rob Bouchier filled vacancies transferred to Lethbridge to make a small weed biocontrol center. Lethbridge started downsizing shortly after I arrived. However, it did not signal my fourth station closure as I retired in 1995. I kept an office and completed supervision of Fang-Hoa Wans's postdoctoral research. Prospects brightened with design of a new

containment facility in 1996 that, with much effort by Rose, opened in 2004. Things have changed, both for good and bad, so Rob's and Rose's priorities are not the same as mine.

It has been a good 44 years. I received the Order of Canada in 1997 for the collective efforts of many. With Ottawa's rulings and my ignorance, it is remarkable how much was accomplished. I am still working on the Canadian weed biocontrol web site which is slow without bureaucrats to rile me into action.



Ron McCrystal

Staff from the Regina Research Station in 1973: Front centre - Peter Harris; Back row (left to right) - Marg Malloy, Murray Maw, Diether Peschken, Dick Voroney.

# ESC 2007 award winners / Gagnants des prix SEC 2007

## 2007 Norman Criddle Award

### Anna L. Leighton

**A**nna Leighton is an ethnobotanist by training and profession. She received her Bachelor's and Master's degrees from the University of Saskatchewan in 1977 and 1982, respectively. She has made numerous contributions to our knowledge of Saskatchewan's flora and is an acknowledged expert on the prairie lily, Saskatchewan's floral emblem. In 2005, with co-author Bonnie Lawrence, she published *'Prairie Phoenix, The Red Lily, Lilium philadelphicum, in Saskatchewan'*.

Her interest in insects has flourished relatively recently. In association with the late Bernie Gollop, the Norman Criddle Award winner in 1999, Anna compiled the Saskatchewan Butterflies report from 1998-2003, co-ordinating and collating annual butterfly survey data provided by the Province's keen amateur lepidopterists. The primary purpose of these surveys is to advance our understanding of the current distribution and occurrence of butterflies in Saskatchewan. However, some of this information is included in the annual 4th July survey undertaken by the North American Butterfly Association which is interested in fluctuations in levels of all butterfly species across the continent. Anna has become recognized as an expert on Saskatchewan butterflies, along with Ron Hooper and John Koziol, also past Criddle Award winners.

Anna and her husband, Ted, are co-editors of *Blue Jay*, the quarterly periodical of the Saskatchewan Natural History Society. It is pleasing to note that under their editorship, the journal has seen a significant increase in the number of insect-related articles. Anna herself has written several of these articles.

As an active member of the Saskatoon Nature Society, Anna is regularly called upon to give talks on these insects to the general public and, from May to September each year,



Barry Lyons

Anna Leighton receives the Norman Criddle Award from ESC President, Terry Shore, at this year's annual meeting in Saskatoon.

leads biweekly hikes in search of butterflies, a role she assumed following Bernie Gollop's untimely death in 2000. She has been an assistant in the S.O.S. Elms tree inventory program, and she was the co-ordinator of an educational program on Dutch Elm Disease for Grade 6 students in numerous Saskatoon schools.

As a passionate spokesperson for all living creatures, including insects, Anna Leighton is the quintessential amateur entomologist, and is well deserving of the Norman Criddle Award for 2007.

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*So, naturalists observe, a flea  
Hath smaller fleas that on him prey;  
And these have smaller still to bite 'em;  
And so proceed ad infinitum.  
Thus every poet in his kind,  
Is bit by him that comes behind.*

*from: Observe, a Flea  
"On Poetry: A Rhapsody"  
Jonathan Swift, 1733*

## Nominees Sought for Gold Medal and The C. Gordon Hewitt Award

Members of the Society are invited to nominate individuals whom they regard as eligible for these awards. Nominations shall be made only by Members of the Society; they shall be signed by the nominator and by at least one seconder who shall also be a member of the Society.

Nominators should include: (1) the name and address of the nominee(s); (2) a statement of relevant achievements (3-5 pages) which may include but is not limited to, the following: outline of research areas, particularly major contributions; numbers of articles in refereed journals, books, book chapters, patents; editorial activities; teaching history, numbers of graduate students, teaching awards; value of grants; involvement in ESC; active involvement and/or memberships in other Societies; entomological extension/community involvement; organizing of symposia, meetings; (3) a current curriculum vitae; and (4) the name of the nominator and at least one seconder. Such documentation should stress the particular achievement or achievements to be considered and not merely the general competences of the nominee. Other seconders may merely state their support, without documentation in a letter of endorsement of the nomination. The Committee shall not prepare the documentation nor conduct research connected with it. **Nominees for the C. Gordon Hewitt Award must be less than 40 years of age throughout the calendar year** in which the award is both announced and awarded.

Nominations should be sent to the ESC office in an envelope marked "Confidential" postmarked no later than **28 February 2008** or emailed to the Chair of the Achievement Awards Committee [pfields@agr.gc.ca](mailto:pfields@agr.gc.ca).

Nominators shall be prepared to submit full documentation should their nomination survive screening based on the initial two-page

## Médaille d'Or et Prix C. Gordon Hewitt

La Société invite les membres à lui faire parvenir les noms des personnes qu'ils considèrent éligibles à ces deux prix. Seuls les membres de la Société peuvent présenter des candidatures. Chaque mise en candidature doit porter la signature du présentateur et d'au moins une autre personne appuyant la proposition.

Les mises en candidatures doivent inclure : (1) le nom et l'adresse du (des) candidat(s); (2) les accomplissements pertinents (3-5 pages) qui peuvent inclure, mais ne se limitent pas à : un résumé du domaine de recherche, les contributions majeures; le nombre d'articles dans des revues avec réviseurs, de livres, de chapitres de livres, de brevets; les activités éditoriales; l'historique en enseignement, le nombre d'étudiants gradués, les prix d'enseignement; la valeur des subventions; l'implications dans la SEC; l'implication active et/ou l'adhésion à d'autres sociétés; la vulgarisation et l'implication dans la communauté; l'organisation de symposia et réunions; (3) un curriculum vitae à jour; et (4) le nom du présentateur et au moins une personne appuyant la proposition. Les candidatures doivent être envoyé au bureau de la SEC dans une enveloppe cachetée identifiée "Confidentiel" au plus tard le **28 février 2008**, le cachet de la poste faisant foi, ou envoyé électroniquement au président du Comité des prix d'excellence ([pfields@agr.gc.ca](mailto:pfields@agr.gc.ca)). **Le candidat désigné pour le prix C. Gordon Hewitt doit être âgé de moins de 40 ans pour toute la durée de l'année** au cours de laquelle le prix est annoncé et décerné.

La sélection initiale des candidats se fait sur la base des renseignements fournis dans les textes de deux pages envoyés par les présentateurs, qui doivent être prêts à fournir une documentation complète sur le candidat s'il est sélectionné. Cette documentation additionnelle doit comprendre un curriculum

statements. Such documentation shall include a curriculum vitae and any other documentation the nominators care to provide.

vitae et les autres renseignements que les présentateurs jugent bon de fournir.

### Criddle Award Winners since inception in 1977\*

Year	Location of Meeting	Winner
1977	Winnipeg	Terry Galloway
<b>1978</b>	<b>Ottawa</b>	?
<b>1979</b>	<b>Vancouver</b>	?
<b>1980</b>	<b>Quebec City</b>	?
1981	Banff	Buck Godwin
<b>1982</b>	<b>Toronto</b>	?
1983	Saskatoon	Ron Hooper
<b>1984</b>	<b>St. Andrews</b>	?
<b>1985</b>	<b>Ottawa</b>	?
1986	Winnipeg	Paul Klassen
<b>1987</b>	<b>Penticton</b>	?
<b>1988</b>	<b>Vancouver</b>	?
1989	St. John's	no award (confirmed)
1990	Banff	John and Bertha Carr
<b>1991</b>	<b>Montréal</b>	?
1992	Saskatoon	John Kozial
<b>1993</b>	<b>Sault-Ste-Marie</b>	?
1994	Winnipeg	William B. Preston
1995	Victoria	Jim Troubridge
1996	Fredericton	Paul Brunelle
1997	Edmonton	Ruby Larson
<b>1998</b>	<b>Québec City</b>	?
1999	Saskatoon	Bernie Gollop
2000	Montréal	Stéphane Le Tirant
2001	Niagara Falls	Ross Layberry
2002	Winnipeg	Robyn Underwood
2003	Kelowna	Rex Kenner
2004	Charlottetown	Henry Hensel
2005	Canmore	Gary Anweiler
2006	Montréal	André Beaudoin
2007	Saskatoon	Anna Leighton

\* Updated October 2007. Please send names of missing winners to T. Shore, [TShore@pfc.cfs.nrcan.gc.ca](mailto:TShore@pfc.cfs.nrcan.gc.ca)

## The student wing / L'aile étudiante



Mike Borkent

Chris Borkent



Jessica Smith

Greg Smith

**H**ello everyone. We hear that the ESC meeting in Saskatoon was a good one and regret not being able to attend due to field work and studying for comprehensive exams. First thing we need to do this issue is give a big thank you to the University of Saskatchewan for donating the conference fees for the five invited speakers of the Graduate Student Symposium. Once again, the symposium was packed with excellent talks and the generosity of U of S made it much easier for these students to attend.

Another big thank you goes out to Lars Andreassen and Michelle Franklin for organizing and running this year's silent auction. Over \$500 was raised for student awards of the ESC. Thank you to all of the donators and bidders as well, without whom the silent auction would be... well, very silent.

Last year we had a request to put a bulletin board up for students to get in touch with each other, post questions to others, share experiences, etc. The Board of Directors has approved placing a link on the ESC student page (<http://www.esc-sec.org/students.htm>) to a Facebook group dedicated solely to the student members of the ESC. We are currently working on creating the group and will have the link up shortly. In the meantime, if you are already a Facebook member, search for '**entomological society canada**' in 'Groups'. When you reach the site, hit 'request to join group' and we will add you. This is a closed group and only available to ESC student members. If you are not a Facebook member, go to [www.facebook.com](http://www.facebook.com) and join up, then follow the above directions. If you have any questions about this, email Greg at [gregsmith@telus.net](mailto:gregsmith@telus.net).

Have a productive holiday and good luck with your work next semester.

Greg and Chris

## Graduate Student Symposium

**Joint Annual Meeting of the  
Entomological Society of Canada  
and the Entomological Society  
of Saskatchewan 2 October 2007  
Saskatoon, Saskatchewan**

**Organizers: Chris Borkent, Greg  
Smith**

### **The Importance of Host Specificity and Host Synchronization for Classical Biological Control of Cabbage Maggot in Prairie Canola**

Lars D. Andreassen<sup>1,2</sup>, Ulrich Kuhlmann<sup>2</sup>,  
Peter G. Mason<sup>3</sup>, Neil J. Holliday<sup>1</sup>

<sup>1</sup>University of Manitoba Department of Entomology, 214 Animal Science Entomology Building, Winnipeg, MB Canada, R3T 2N2; <sup>2</sup>CABI Europe – Switzerland, 1 Rue des Grillons, 2800 Delemont, Switzerland; <sup>3</sup>Agriculture and Agri-Food Canada, Eastern Cereal and Oilseed Research Centre, 960 Carling Avenue, Ottawa, ON Canada K1A 0C6

Canola crops in western Canada are fed upon by larvae of the cabbage maggot, *Delia radicum* (L.) (Diptera: Anthomyiidae). Surveys across the prairies demonstrated that the area and severity of damage by *D. radicum* increased over the past 25 years. Since *D. radicum* is native to Europe it may be possible to complement existing pest management strategies with the introduction of European natural enemies. *Aleochara bipustulata* L. (Coleoptera: Staphylinidae) has the greatest potential; adults feed on immature cabbage maggots, and larvae are parasitic on cabbage maggot puparia.

The fundamental host range of *A. bipustulata* was studied in the laboratory. Recently proposed international standards were used to select and test 18 non-target species. Species with unusual puparium structure, relatively large puparia, or a relatively short pupal stage were not suitable hosts. All beneficial Diptera

species tested are unlikely to be attacked if *A. bipustulata* is introduced to Canada.

To help identify an *A. bipustulata* population with a seasonal cycle well-suited to the cabbage maggot on the prairies, the post-diapause thermal accumulation requirements of prairie *D. radicum* were compared with a population from Ontario and with *A. bilineata*, a natural enemy already found in Canada. Nonlinear models describing the relationship between temperature and rate of post-diapause development revealed that *D. radicum* from across the prairies develop more slowly than the Ontario population, and that *A. bilineata* develops too slowly to be an effective predator of *D. radicum* eggs in canola. This suggests that particular Eurasian *A. bipustulata* populations may be better suited than others for introduction, and that considerable potential exists to reduce *D. radicum* populations with a predator active earlier in the season. Field studies in Europe indicate that *A. bipustulata* overwinters as an adult, and therefore likely is capable of spring predation.

### **Multi-scale research on oribatid mites in eastern managed boreal forest**

Andrea D. Déchêne<sup>1</sup> and Christopher M. Buddle

McGill University, Department of Natural Resource Sciences, Ste. Anne de Bellevue, QC, H9X 3V9

Partial-cut harvesting retains some components of natural forest structure such as deadwood and may have less impact than clearcutting on forest floor fauna. Oribatid mites represent much of the biodiversity in forest litter and soil and are essential to decomposition and nutrient cycling processes. We tested how partial-cut harvesting affects oribatid assemblages and explored the spatial influence of decomposing logs on oribatids on the forest floor at the SAFE (sylviculture et aménagement forestiers écosystémique) research station in Abitibi, Quebec. In June 2006, litter and soil were sampled in the mixed-wood boreal forest where the following treatments were applied and replicated three times: clear-

cut harvest, 1/3 partial-cut harvest, 2/3 partial-cut harvest, controlled burn (after harvest) and uncut control. As well, six decayed logs were sampled at three distances each: directly on top of the log, directly beside the log and at least one meter away from the log. Each log sample consisted of an upper and lower layer. Results show that harvesting treatment has little significant effect on oribatid abundance, richness and composition, although diversity and composition in controlled burn is distinct. Oribatid species richness is higher and composition is significantly different directly on logs; total abundance is not different, although there are considerable species specific changes in abundance with distance from logs. These results suggest that oribatid mites may be more resilient to large scale physical disturbance than previously thought; however, more research is necessary to explore the influence of microhabitat on oribatid assemblages.

### Sampling flour beetles in flour mills

Karen Hawkin<sup>1</sup>, Paul Fields<sup>2</sup>, Dean Stanbridge<sup>3</sup>

<sup>1</sup>Department of Entomology, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2, [karen.hawkin@gmail.com](mailto:karen.hawkin@gmail.com); <sup>2</sup>Agriculture and Agri-Food Canada, Cereal Research Centre, 195 Dafeo Rd., Winnipeg, Canada, R3T 2M9, [pfields@agr.gc.ca](mailto:pfields@agr.gc.ca); <sup>3</sup>The Steritech Group Corp., Box 246 Stn. Main, 348 Bronte St South, Unit 9 and 10, Milton, Ontario, L9T 4N9.

The flour beetles *Tribolium castaneum* and *Tribolium confusum* are important pests of flour mills. Competition studies between these two species, which are often cited in animal ecology textbooks, show that one species always eliminates the other when the two species are placed in a vial together. Laboratory research on these flour beetles (i.e. competition studies) has focused on their behaviour in small and confined spaces like vials and jars. It is unclear how those findings relate to the behaviour seen in the larger and more complex flour mill environment. This presentation will focus on the efficacy of *Tribolium* pheromone

traps in flour mills and discuss how these species can exist together in flour mills but not in a confined laboratory environment.

Samples of flour were taken from different areas inside a Canadian flour mill. Both *T. confusum* and *T. castaneum* were found in all samples. The ratio of *T. confusum* and *T. castaneum* found in these samples was compared the ratios found inside pheromone traps placed in the flour mill; the results indicate *T. confusum* are caught less often in traps than *T. castaneum*. This species difference was also seen when beetles were released into a warehouse containing pheromone traps.

Milling equipment in three different Canadian flour mills was sampled and the numbers of beetles found inside the machines were compared with the numbers of beetles caught in traps placed next to the machines. There was no correlation found between trap capture rates and infestation inside machinery.

The information from these studies will help milling companies to better monitor insect populations, which will lead to better control of infestations.

### Who goes first and why: Pioneering and joining in the mountain pine beetle (*Dendroctonus ponderosae*)

Tanya Latty and Mary Reid  
Department of Biological Sciences, University of Calgary, 2500 University Drive N.W. Calgary AB Canada T2N 1N4

How and why animals cooperate is a central issue in evolutionary and behavioural ecology. In some group-living animals, aggregations are initiated by individuals known as pioneers who find new settlement sites instead of joining established aggregations. While alone, pioneers may suffer higher costs than individuals that join aggregations. Given the cost of pioneering, why do individuals become pioneers? By arriving at the settlement area first, pioneers might gain a “head start” advantage. If they recruit conspecifics, pioneers may produce more offspring than joiners. Alternatively, pioneering may be a “desperation” strategy, such that individuals only pioneer when they

have no alternative. We examined these two hypotheses using the mountain pine beetle (*Dendroctonus ponderosae*; herein MPB). The reproductive success of MPB's depends on group-attack to overcome the defences of live trees. Aggregations are initiated by pioneers who attract conspecifics with pheromones. MPB pioneers are thought to experience high mortality because of the onslaught of tree defences. We confirmed that 70% of pioneers fail to recruit conspecifics, and that of these, 19% died. Contrary to our "head start" hypothesis, pioneers did not produce more offspring than joiners. We also found that beetles became pioneers faster when they were in poor condition, but that overall, good condition beetles had a greater probability of pioneering. These results give partial support for the desperate pioneering hypothesis. Interestingly, individuals were more likely to pioneer early in the season. Finally, we used a simulation model to examine why cheaters (individuals who never pioneer) do not overrun this system. We found that cheaters settle in higher density trees and often do not locate suitable hosts before the season ends. These costs outweigh the benefits of avoiding pioneering. MPB has proven to be an excellent "micro-scale" model animal for answering big questions about altruism, cheating and the dynamics of groups.

**Patch size and colonisation patterns: an experimental analysis of the species-area relationship using artificial canopy habitats**  
Zoë Lindo

University of Victoria, Department of Biology, P.O. Box 3020, Stn CSC, Victoria, BC, V8W 3N5

An observed species-area relationship in assemblages of oribatid mites inhabiting natural canopy habitats (suspended soils) led to an experimental investigation of the mechanisms underlying this relationship. Specifically, I tested the habitat heterogeneity hypothesis, random placement hypothesis, and principles of island biogeography theory.

Ninety artificial canopy habitats (ACHs) of three sizes were placed at three heights along

the trunks of ten ancient western redcedar trees in the Walbran Valley, Vancouver Island, British Columbia, for one year. The relationship between oribatid mite species richness, abundance, and moisture content of ACH substrate associated with size and height parameters was modelled using regression and analysed by ANOVA. Rarefaction curves were used to extract patterns of non-randomness, and the oribatid mite community composition was compared to other habitats that were identified as potential source pools.

Fifty-nine species of oribatid mites colonised the ACHs. A significant effect of ACH size on species richness supported a positive species-area relationship described by the power law function:  $S = 0.223 * dwt^{0.616}$  ( $R^2 = 0.313$ ,  $p < 0.001$ ). Community compositional analysis suggested the colonising source pools were naturally occurring canopy suspended soils. Habitat heterogeneity hypothesis, random placement hypothesis and island biogeography theory were not supported as primary structuring mechanisms of the observed species-area relationship. However, elements of these mechanisms apply to the observed patterns in species richness that were attributed to gradients in the abiotic environment and differences in colonisation/extinction dynamics among artificial canopy habitats.

Canopy ecosystems in ancient temperate rainforests, where diversity is dominated by oribatid mites, are ideal model ecosystems to test principles of resource limitation, island biogeography and metacommunity dynamics. This study demonstrates how microscale subjects such as oribatid mites are serving to address megascale research questions.

## Seeking Graduate Students

### University of Alberta

A PhD opportunity is available for research on the threatened Mormon metalmark (*Apo-demia mormo*) butterfly population in and around Grasslands National Park, Saskatchewan, Canada. The successful candidate will study at the University of Alberta, Edmonton, Alberta. Fieldwork will take place in southern Saskatchewan and possibly Alberta. Working conditions are challenging and *A. mormo* field sites are hot, dry, remote, and typically occur in "badlands". The ideal candidate will have considerable experience working in an arid prairie or desert environment as well as a background in conservation genetics and insect biodiversity/systematics. A significant portion of this research is funded by Parks Canada. Teaching assistantships are available depending on the applicant's GPA. The successful candidate will start in either January or May 2008. The applicant must meet or exceed the entrance requirements for The University of Alberta, Department of Biological Sciences (<http://www.biology.ualberta.ca/programs/graduate/prospective/?Page=4511>).

Interested individuals should send their CV and a copy of any publications to:

Dr. Shelley Pruss

Resource Conservation, Western and  
Northern Service Centre,  
Parks Canada Agency  
13th Floor, 635 - 8th Ave., S.W.,  
Calgary, AB, T2P 3M3  
Ph: (403) 292-5451; Fax: (403) 292-4404  
Email: [Shelley.Pruss@pc.gc.ca](mailto:Shelley.Pruss@pc.gc.ca)

or

Dr. Felix Sperling  
Department of Biological Sciences  
CW405a Biological Sciences Centre,  
University of Alberta  
Edmonton, AB, T6G 2E9  
Ph: (780) 492-3991  
Email: [felix.sperling@ualberta.ca](mailto:felix.sperling@ualberta.ca)

### University of Prince Edward Island

We are seeking an MSc candidate to work on changes in the lady beetle (Coccinellidae) fauna of Canada. The focus will be on the arrival of non-native species and changes in range of native species. Interested students should contact:

Dr. D. Giberson,  
Department of Biology,  
University of Prince Edward Island,  
Charlottetown, PE, C1A 4P3  
Ph: (902) 566-0797  
Email: [Giberson@upeu.ca](mailto:Giberson@upeu.ca)

or

Dr. D. McCorquodale,  
Department of Biology,  
Cape Breton University,  
Sydney, NS, B1P 6L2  
Ph: (902) 563-1260  
Email: [david\\_mccorquodale@cbu.ca](mailto:david_mccorquodale@cbu.ca)  
<http://discovery.capebretonu.ca/biology>

### Laurentian University (Sudbury)

Graduate student positions are available for a systematic revision of the cynipid wasps of the genus *Diplolepis* inducing galls on the wild roses of North America. A collection of adults and galls made over the past 40 years has been assembled for this project. A second position is available for a student to study how gall wasps alter the developmental patterns of the plant organs attacked. Please contact:

Dr. Joe Shorthouse  
Department of Biology  
Laurentian University  
Sudbury, ON, P3E 2C6  
Ph: (705) 675-1151 Ext. 2285  
email: [jshorthouse@laurentian.ca](mailto:jshorthouse@laurentian.ca)

### **Agriculture and Agri-Food Canada, Lethbridge Research Centre & CABI- Europe, Switzerland**

Interested in graduate studies on insect-plant interactions, but with an international experience? Available is a fully funded MSc position to investigate the genetically-driven interactions between gall-forming weevils (*Rhinusa* spp.) and their host plants. As part of a larger, North American-supported weed biocontrol project, information is needed on how different host races of the weevils from Serbia (i.e., candidate biocontrol agents) interact with the toadflax species that are currently invasive aliens in the US and Canada. The MSc student will conduct studies on the biology and gall-formation abilities of the insects on various host plants (i.e., would involve microscopy). Starting in March 2008, they will spend an initial summer in Serbia learning from a *Rhinusa*-toadflax expert how to work with the insects. The student will then complete their laboratory studies in Lethbridge. Some flexibility exists in regard to which university within Western Canada the student chooses for completion of their degree. English-only is sufficient for the overseas work. If interested please contact:

Dr. Rose De Clerck-Floate  
Agriculture and Agri-Food Canada  
Lethbridge Research Centre  
P.O. Box 3000  
Lethbridge, AB  
T1J 4B1  
Ph: (403) 317-2270  
email: [floater@agr.gc.ca](mailto:floater@agr.gc.ca)

### **University of British Columbia-Okanagan and Agriculture and Agri-Food Canada, Lethbridge Research Centre**

We have available a wonderful system for studying insect-plant ecology, and an opportunity to address a current issue within classical weed biocontrol: the effect of introduced agents on non-target species. We are seeking

an eager PhD candidate who enjoys field work (rangeland sites in the British Columbia (BC) interior), is interested in community ecology with a plant and insect focus, and is comfortable with using population models. The study will focus on the interaction between a biocontrol agent (a weevil), its host weed (houndstongue), and native plant species in the same family (Boraginaceae). The successful candidate will have the use of good field sites (already picked out), an established colony of the weevil ready for experimentation, and excellent insect research facilities at Lethbridge if required at some point during the project. The student will be based at the UBC-Okanagan campus in Kelowna, BC, and will be expected to work with provincial collaborators who are already in place. The nature of the project requires some travel, especially during the summer months. Pending funding, a spring 2008 start of the position is planned. If interested please contact:

Dr. Robert Lalonde  
Unit of Biology and Physical Geography  
Univ. of British Columbia - Okanagan  
3333 University Way  
Kelowna, BC  
V1V 1V7  
Ph: (250) 807-8764  
email: [robert.lalonde@ubc.ca](mailto:robert.lalonde@ubc.ca)

or

Dr. Rose De Clerck-Floate  
Agriculture and Agri-Food Canada  
Lethbridge Research Centre  
P.O. Box 3000  
Lethbridge, AB  
T1J 4B1  
Ph: (403) 317-2270  
email: [floater@agr.gc.ca](mailto:floater@agr.gc.ca)

## Call for Submissions!

### Pest Management Research Report - Insect Pests and Plant Diseases

The Pest Management Research Report (PMRR) is published annually to facilitate the rapid exchange of information on Integrated Pest Management (IPM) among persons involved in research and advisory services on IPM of plant diseases and insect pests in the agri-food sector of Canada. These reports aid the development of recommendations for insect and disease management programs throughout Canada. They report on all aspects of pest management, including cultivar and management responses, and are available to support the registration of pest control products. Past issues of PMRR, since 1991, can be downloaded at: <http://www.cps-sep.ca/publications.htm>.

The deadline for submissions to the 2007 issue of PMRR is **25 January 2008**. For further information, please contact either of:

Olivia D'Souza  
Agriculture and Agri-Food Canada  
Ph: (613) 759-7544  
email: [dsouzao@agr.gc.ca](mailto:dsouzao@agr.gc.ca)

Andrea Labaj  
Agriculture and Agri-Food Canada  
Ph: (519) 780-8014  
email: [labaja@agr.gc.ca](mailto:labaja@agr.gc.ca)



Barry Lyons

Winners of the President's Prize for student presentations at the ESC-ESS Joint Annual Meeting, 30 September and 1 October 2007, Saskatoon, Saskatchewan, from left to right: Paul Kozak, University of Manitoba (Poster); Wade Jenner, Carleton University (Pests and their management); Zachary Sylvain, McGill University, Macdonald campus (Ecology); Terry Shore, ESC President; Eric Sijander, Simon Fraser University (Semiochemicals); Kevin Lam, Simon Fraser University (Arthropod biology).

## ESC Student Awards 2007

**C**ongratulations to the successful recipients of the 2007 Entomological Society of Canada student awards. Four of six students were present at the Joint Meeting of the ESC and the Entomological Society of Saskatchewan (29 September – 3 October 2007) to receive their certificates for these awards. The winners and their projects are as follows:

*Graduate Research-Travel Scholarship* – This year's award went to MSc student, **Yan Boulanger** (Université du Québec à Rimouski) for travel to Finland to work with Jari Kouki on large-scale field experiments in boreal forest research.

*Postgraduate Scholarships* – The PhD award went to **Jennifer Perry** (University of Toronto), who is studying sexual conflict and cooperation in post-copulatory interactions in ladybird beetles. The MSc award was presented to **Marla Schwarzfeld** (University of

Alberta), who is studying the diversity of wasp parasitoids in a boreal forest ecosystem.

*John Bordon Scholarship in IPM* – This year's scholarship was awarded to **Lisa Conroy** (MSc student, University of Guelph), who is studying IPM for insecticide-tolerant strains of the American serpentine leafminer.

*Keith Kevan Award* – This year's scholarship was awarded to **Tonya Mousseau** (PhD student, University of Calgary), who is studying historical patterns of diversity of carrion beetles along the Wallace's line, one of the most geologically complex areas of the world.

*Student Conference Travel Award* – This year's award goes to **Michelle Franklin** (PhD student, University of British Columbia), who is studying the population structure of migratory cabbage loopers in greenhouses and fields in British Columbia.

Students – don't miss the upcoming deadlines for the 2008 roster of awards (see page 187). Please also check the ESC website in the new year for updated application forms and conditions.



Barry Lyons

ESC 2007 Student Award winners, from left to right: Terry Shore, ESC President; Tonya Mousseau (Keith Kevan Award); Michelle Franklin (Student Conference Travel Award); Marla Schwarzfeld (MSc Postgraduate Scholarship); Judy Myers (Chair, Student Awards Committee)

## Student Awards

Students don't miss the upcoming deadlines for the 2008 roster of awards (below). Please also check the ESC website in the new year for updated application forms and conditions.

### Postgraduate Awards

Two postgraduate awards of \$2000 are available to assist students beginning study and research leading to a post-graduate degree in entomology (normally one to a MSc, and one to a PhD student). The postgraduate awards will be made on the basis of high scholastic achievement.

**Deadline: 16 February 2008**

### Graduate Research-Travel Scholarship

Up to two scholarships of a maximum of \$2000 each will be awarded to help students increase the scope of their graduate training. Applications will be judged on scientific merit. **Deadline:**

**16 February 2008**

### Biological Survey of Canada Scholarship

In recognition of the Biological Survey of Canada, the ESC offers one postgraduate award of \$1000 to assist a student in a postgraduate program who is studying insect or terrestrial arthropod biodiversity in Canada. The award will be made on the basis of high scholastic achievement and excellence in faunistics, and will be offered in alternate years to the Keith Kevan Scholarship.

**Deadline: 16 February 2008**

### John H. Borden Scholarship

One scholarship of \$1000 will be awarded yearly to a postgraduate student at a Canadian institution for innovative research in Integrated Pest Management with an entomological emphasis. The scholarship will be made on the basis of high scholastic achievement. **Deadline:**

**16 February 2008**

### Student Conference Travel Awards

One or more awards of \$500 each to be awarded as financial assistance for travel by student ESC members to the 2008 annual meeting in Ottawa (18 - 22 October). To be eligible, students must present a paper or poster at the annual meeting. Applications will be judged on academic merit. **Deadline:** same as deadline for abstracts for the annual meeting (so keep watching for information on both the meeting and award deadline in the *Bulletin* or on the ESC website, <http://esc-sec.org>).

See <http://esc-sec.org/students.htm> for complete award details, or contact the incoming Chair of the ESC Student Awards Committee, Judith Myers (Dept. Zoology, University of British Columbia, 6270 University Blvd. Vancouver, B.C. V6T 1Z4, [myers@zoology.ubc.ca](mailto:myers@zoology.ubc.ca))



## Of the Complainer's Boogie Woogie, page charges, and the future of *The Canadian Entomologist*

Ahh, the Complainer's Boogie Woogie – I was warned I would receive complaints. And I have. Usually they are variations of either “You aren't publishing enough taxonomy/systematics papers” or “You are publishing too many taxonomy/systematics papers”. Another common complaint involves page charges – “in this e-age, why do we still require authors to pay to publish good entomological work?”

The Complainer's Boogie Woogie is easy to resolve. Stop singing the blues -- if you care about *The Canadian Entomologist* but don't like the nature of its current contents, step up and submit a manuscript! Authors, not the Editorial Board, dictate the content of *TCE*. The eight *TCE* editorial divisions offer publication homes for manuscripts on a very diverse array of entomological topics:

1. Reviews (CP Alexander & unsolicited)
2. Systematics & Morphology
3. Physiology, Biochemistry, Development, & Genetics

4. Behaviour & Ecology
5. Biodiversity & Evolution
6. Insect Management
7. Techniques
8. Forum

Something for everyone! Complaints about *TCE* content will no longer be considered unless accompanied by a manuscript submission.

Resolving the issue of page charges is a more difficult task. The bulk of publication costs result from the large amount of professional copy-editing and other work that goes into the post-acceptance/pre-publication preparation of each paper. These expenses remain regardless of the final product – print, electronic, or both. This is the price of producing a premium, peer-reviewed journal like *TCE*. Current page charges recover less than half of the cost of this work, i.e. the Entomological Society of Canada significantly subsidizes every article published in *TCE* (regardless of page charge waiver status). Ideally, the ESC would waive all charges to authors but the Society is not in a financial position to be able to do this ... yet. We're working on it, stay tuned!

This brings me to the issue of the future of *The Canadian Entomologist*. The article by Paul Fields et al. in the last *Bulletin* of the ESC (#39(3): 103-107) outlined the serious challenges facing *TCE* today and some administrative ways that these challenges might be met. A way to address the challenges that was not discussed in Fields et al. is to boost readership and enhance the scientific image of *TCE* through increased publication of Reviews (especially the CP Alexander series) and Forum articles. Insightful and/or provocative articles in those editorial divisions enrich the staple fare of *TCE* articles that are published in the other divisions.

The CP Alexander Review series was established about 20 years ago (details are published in 1986 in the *Bulletin* of the ESC 18(4): 139-140) but only a very few have ever been published. The CPA Reviews are page charge-free

articles solicited by the Editor-in-Chief and the Publications Committee from recognized experts and providing insightful reviews of timely and exciting entomological subjects. This fall, we began a push to publish one to three CPA Reviews annually – the results of this drive should become apparent late next year in *TCE*.

It is relatively easy to solicit articles from potential authors when you can offer them complete page charge waivers. Soliciting Forum articles is not as easy because page charges apply to those articles. However, regular publication of Forum articles has great potential to improve the image of *TCE*. The Forum division is a venue for “suggesting hypotheses, challenging current thinking on issues, [and] discussing new ideas or ways of interpreting existing information.” “Edgy” manuscripts (to borrow Felix Sperling’s concept – manuscripts which might ruffle a few feathers, or at least stimulate discussion) are particularly welcome.

So, if you think that *The Canadian Entomologist* needs content upgrades (or you haven’t published recently in *TCE*), please send to me a manuscript on an entomological topic of your choice. I also welcome any suggestions for CP Alexander Review or Forum articles. And we’re working on that page charge issue! Save “The Complainer’s Boogie Woogie” for background to your after-hours networking sessions: 12 bar shuffles and harmonica solos are just the thing for helping you frame that brilliant manuscript idea.

Robb Bennett  
Editor-in-Chief  
*The Canadian Entomologist*



Klaus Bolte

*Euvira micmac* Klimaszewski & Majka (Coleoptera, Staphylinidae, Aleocharinae)

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We are very little creatures,  
All of us have different features.  
One of us in glass is set,  
One of us you’ll find in debt.  
Another you may see in tin,  
And a fourth is boxed within.  
If the fifth you should pursue,  
It can never fly away from you.

What are we?

(answer on p. 177)

## Call for Titles of Talks, Posters & Symposia for the Ottawa 2008 Joint Annual Meeting

Please send your proposed titles for talks and posters as soon as possible to Jeff Skevington or Gary Umphrey (addresses below). Students, please indicate if your talk is for the President's prize competition. Professors, please encourage your students to submit a talk. The theme for the JAM is IDEAs: Integrating Diverse Entomological Approaches.

We would like to receive titles by **31 January 2008** to help with planning. You will be able to amend your title up to the deadline for abstract submission (31 August 2008). Abstract submission will begin 1 February 2008. Details will be sent to those who have submitted preliminary titles. Titles and abstracts will be published in the official language they are received in. Please do not send abstracts to Jeff and Gary. We would like to get up to 100 talks and 80 posters.

If you would like to coordinate a special symposium, please contact Jeff Skevington ([skevingtonj@agr.gc.ca](mailto:skevingtonj@agr.gc.ca)) or Gary Umphrey ([umphrey@uoguelph.ca](mailto:umphrey@uoguelph.ca)) before 31 January 2008.

We already have five symposia but would like to get up to four more. If you would like to speak in any of these, please contact the organizer:

1. **Graduate Student symposium** (Chris Borkent - [chris.borkent@mail.mcgill.ca](mailto:chris.borkent@mail.mcgill.ca))
2. **Invasive Species symposium** (Hume Douglas ([douglash@inspection.ca](mailto:douglash@inspection.ca)))
3. **60<sup>th</sup> Anniversary of CABI – Canada: Biocontrol symposium** (Peter Mason - [masonp@agr.gc.ca](mailto:masonp@agr.gc.ca))
4. **Digital Entomology symposium (biodiversity informatics)** (David Shorthouse - [dps1@ualberta.ca](mailto:dps1@ualberta.ca))
5. **Biological Survey of Canada symposium** (Andrew Smith - [asmith@mus-nature.ca](mailto:asmith@mus-nature.ca))

## Invitation à soumettre des titres de communications, affiches et symposiums à la Réunion annuelle conjointe 2008 à Ottawa.

Veillez s'il vous plaît envoyer vos titres pour les communications et les affiches le plus tôt possible à Jeff Skevington ou Gary Umphrey (voir adresses ci-dessous). Pour les étudiants, veuillez indiquer si vous désirez être éligible au prix du président. Pour les professeurs, veuillez encourager vos étudiants à soumettre une proposition de conférence. Le thème pour la RAC est IDÉEs : Intégration D'approches Entomologiques Éclectiques.

Nous aimerions recevoir les soumissions d'ici le **31 janvier 2008** afin de faciliter notre planification. Vous pourrez modifier votre titre jusqu'à la date limite de soumission des résumés (31 août 2008). La soumission de résumés débutera le 1 février 2008. Les détails seront envoyés à ceux qui soumettront des titres préliminaires. Les titres et les résumés seront publiés dans la langue officielle dans laquelle ils sont soumis. Veuillez ne pas envoyer de résumés à Jeff et Gary. Nous aimerions avoir jusqu'à 100 communications et 80 affiches.

Si vous désirez organiser un symposium spécial, veuillez contacter Jeff Skevington ([skevingtonj@agr.gc.ca](mailto:skevingtonj@agr.gc.ca)) ou Gary Umphrey ([umphrey@uoguelph.ca](mailto:umphrey@uoguelph.ca)) avant le 31 janvier 2008.

Nous avons présentement cinq symposiums, mais désirons en avoir jusqu'à quatre supplémentaires. Si vous désirez présenter dans le cadre de l'un des symposiums ci-dessous, veuillez contacter l'organisateur:

1. **Symposium des étudiants gradués** (Chris Borkent - [chris.borkent@mail.mcgill.ca](mailto:chris.borkent@mail.mcgill.ca))

2. **Symposium sur les espèces envahissantes** (Hume Douglas - [douglash@inspection.ca](mailto:douglash@inspection.ca))
3. **60ième Anniversaire de CABI – Symposium Canada: Biocontrôle** (Peter Mason - [masonp@agr.gc.ca](mailto:masonp@agr.gc.ca))
4. **Symposium d'entomologie digitale (biodiversité informatique)** (David Shorthouse - [dps1@ualberta.ca](mailto:dps1@ualberta.ca))
5. **Symposium de la Commission biologique du Canada** (Andrew Smith - [asmith@mus-nature.ca](mailto:asmith@mus-nature.ca))

## Canada Post Issues New Insect Stamps!

October 12, 2007 was the issue date for a new set of insect stamps titled 'Low Value Definitives: Beneficial Insects'. After a great deal of research, the list of potential beneficial insects to feature was whittled down to a select five: the golden-eyed lacewing, cecropia moth, northern bumblebee, Canada darner, and convergent lady beetle, better known as the ladybug. The valuable services provided by insects include wildlife nutrition, pest control, pollination, and dung burial. Full details on the availability and cost of the new stamps are available on the internet at: <http://www.canadapost.ca/personal/collecting/default-e.asp?stamp=stpdtl&detail=2187>.



## Seeking Secretary

The Entomological Society of Canada is looking to fill the position of Secretary, beginning in January 2009. Please note that the Secretary is considered a Trustee of the Society and is expected to attend meetings of the Governing Board and the Executive Council. The Secretary prepares meeting agendas; records the minutes for, and identifies action items arising from, all meetings of the Board and of the Society; prepares all ballots; notifies Board Members and Members of the Society of forthcoming meetings; distributes reports and other material as required, using the *Bulletin* and Website when appropriate; and assists the President by helping to prepare committee lists, communicating concerns from members of the Board, Committee Chairs and the Society, and providing information on past activities of the Society from electronic and archived files. The ability to work in both French and English, experience as a past board member, and a general knowledge of the by-laws, standing rules and committee guidelines of the society would be an asset. Please express your interest in the position to the President, Terry Shore, by **31 January 2008** ([TShore@pfc.cfs.nrcan.gc.ca](mailto:TShore@pfc.cfs.nrcan.gc.ca)). The final selection will be made by an ad hoc committee convened by the President.

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## Canadian Journal of Arthropod Identification

The *Canadian Journal of Arthropod Identification* is a new, open access, electronically distributed journal. Last year, papers were published on the Mecoptera of Ontario and on the blood and tissue feeding mites associated with Albertan birds. This year, a paper has been published on the bee genera of eastern Canada. You can download all issues and read more about the journal at: <http://www.biology.ualberta.ca/bsc/ejournal/ejournal.html>

## À la recherche d'un(e) secrétaire

La Société d'Entomologie du Canada cherche à combler le poste de secrétaire à compter de janvier 2009. Veuillez noter que le/la secrétaire est considéré(e) comme un fiduciaire de la Société, et doit assister aux réunions du conseil d'administration et du conseil exécutif. Le/la secrétaire prépare l'ordre du jour des réunions; écrit le procès verbal et identifie les actions à prendre lors de toutes les réunions du conseil d'administration et de la Société; prépare les bulletins de vote; avise les membres du conseil d'administration et les membres de la Société des réunions à venir; distribue les rapports et autres documents lorsque nécessaire en utilisant le *Bulletin* et le site Internet lorsque approprié; et assiste le/la président(e) en aidant à la préparation des listes de comités, en communiquant les inquiétudes des membres du conseil d'administration, présidents des comités et membres de la Société, et en fournissant les informations concernant les activités passées de la Société à partir des archives papiers et électroniques. La capacité de travailler en français et en anglais, l'expérience en tant que membre du conseil d'administration et une connaissance générale des règlements intérieurs, des règles permanentes et des lignes directrices des comités de la Société sont des atouts. Veuillez manifester votre intérêt dans ce poste au Président, Terry Shore, au plus tard le **31 janvier 2008** ([TShore@pfc.cfs.nrcan.gc.ca](mailto:TShore@pfc.cfs.nrcan.gc.ca)). La sélection finale sera faite par un comité ad hoc convenu par le Président.

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Answer to riddle on p. 174

The vowels: A, E, I, O and U. A is "set in glass"; E is in "debt"; I is in "in"; O is "boxed"; and U can never fly away from you"

## Seeking Webmaster

The Entomological Society of Canada is looking to fill the position of Webmaster, beginning in January 2009. Please note that the Webmaster is considered a Trustee of the Society and is expected to attend the annual meeting of the Governing Board. The duties would cover, but not be limited to, continual updating and maintenance of content on the ESC website, the creation of new web pages as appropriate and ex officio membership on the ESC Publications Committee. Previous experience in web page maintenance and design and an ability to work with French and English content is desired as is a general knowledge of the affairs of the Society. Please express your interest in the position to the President, Terry Shore, by **31 January 2008** ([TShore@pfc.cfs.nrcan.gc.ca](mailto:TShore@pfc.cfs.nrcan.gc.ca)). The final selection will be made by an ad hoc committee convened by the President.

## À la recherche d'un(e) webmestre

La Société d'Entomologie du Canada cherche à combler le poste de webmestre à compter de janvier 2009. Veuillez noter que le/la webmestre est considéré comme un fiduciaire de la Société et doit assister à la réunion annuelle du conseil d'administration. Les tâches incluent, mais ne se limitent pas, à une mise à jour continue et à la maintenance du contenu du site Internet de la SEC, à la création de nouvelles pages lorsque approprié et à une participation ex officio au comité des publications de la SEC. De l'expérience dans la maintenance et la création de page web et la capacité de travailler avec un contenu en français et en anglais, ainsi qu'une connaissance générale des affaires de la Société sont requis. Veuillez manifester votre intérêt dans ce poste au Président, Terry Shore au plus tard **le 31 janvier 2008** ([TShore@pfc.cfs.nrcan.gc.ca](mailto:TShore@pfc.cfs.nrcan.gc.ca)). La sélection finale sera faite par un comité ad hoc convenu par le Président.



Terry Thormin

*Trichiosoma* sawfly (Hymenoptera: Cimbicidae)

## Standing committees / Comités permanents

### Nominations / Nominations

P. Dixon, Chair, St. John's  
R. Hallett, Guelph  
M. Mignault, Ottawa  
T. Shore, *ex officio*, Victoria

### Elections / Élections

T. Chapman, Chair, St. John's  
R. Auld, St. John's  
T. Shore, *ex officio*, Victoria

## Continuing committees / Comités en cours

### Achievement Awards / Prix d'excellence

P. Fields, Chair, Winnipeg  
B. Roitberg, Burnaby  
R. Footitt, Ottawa  
T. Shore, *ex officio*, Victoria

### Annual Meeting / Réunion Annuelle

T. Shore, Chair, Victoria  
T. Shore, *ex officio*, Victoria

### Bilingualism / Bilinguisme

V. Martel, Chair, St.-Jean-sur-Richelieu  
M. Wu, St.-Jean-sur-Richelieu  
M. Mignault, Montréal  
M. Marcotte, Québec  
T. Shore, *ex officio*, Victoria

### Bylaws, Rules and Regulations / Règlements

G. Gerber, Chair, Winnipeg  
T. Shore, *ex officio*, Victoria

### Finance / Finance

G. Gibson, Chair, Ottawa  
B. Broadbent, London  
P. Mason, Ottawa  
M. Erlandson, Saskatoon

P. Bouchard, *ex officio*, Ottawa  
T. Shore, *ex officio*, Victoria

### Headquarters / Siège social

V. Behan-Pelletier, Chair, Ottawa  
J. Cumming, Ottawa  
P. Bouchard, *ex officio*, Ottawa  
T. Shore, *ex officio*, Victoria

### Heritage / Patrimoine

C. Gillott, Chair, Saskatoon  
E. Becker, Ottawa  
J.-P. Bourassa, Trois-Rivières  
T. Shore, *ex officio*, Victoria

### Insect Common Names / Noms communs d'insectes

M. Roy, Chair, Ste.-Foy  
H. Goulet, Ottawa  
M. Mignault, Montreal  
J-F Landry, Ottawa  
T. Shore, *ex officio*, Victoria  
Bob Haack, *ex officio*, East Lansing, MI  
(Chair, Ent. Soc. of America Common Names  
Committee)

### Marketing / Comité du marketing

K. Hillier, Salt Lake City, Utah  
C. Olivier, Saskatoon  
T. Shore, *ex officio*, Victoria

### Membership / Adhésion

G. Moreau, Chair, Moncton  
W. Riel, ESBC, Victoria  
L. Dossdall, ESA, Edmonton  
C. Olivier, ESS, Saskatoon  
P. MacKay, ESM, Winnipeg  
D. Hunt, ESO, Harrow  
S. Rochefort, SEQ, Lac-Beauport  
K. Mackenzie, AES, Kentville  
G. Smith, student rep., Victoria  
C. Borkent, student rep., Ste.-Anne-de-Bel-  
levue  
T. Shore, *ex officio*, Victoria

**Publications / Publications**

K. MacKenzie, Chair, Kentville  
G. Boivin, St.-Jean-sur-Richelieu  
P. de Groot, Sault Ste. Marie  
P. Kevan, Guelph  
R. Ring, Victoria  
R. Bennett, *ex officio*, Victoria  
K. Floate, *ex officio*, Lethbridge  
B. Lyons, *ex officio*, Sault Ste. Marie  
T. Shore, *ex officio*, Victoria

**Science Policy and Education /  
Politique scientifique et éducation**

M. Evenden, Chair, Edmonton  
W. Riel, ESBC, Victoria  
L. Dossdall, ESA, Edmonton  
C. Olivier, ESS, Saskatoon  
P. MacKay, ESM, Winnipeg  
D. Hunt, ESO, Harrow  
S. Rochefort, SEQ, Québec  
K. MacKenzie, AES, Kentville  
T. Shore, *ex officio*, Victoria  
G. Zilahi-Balogh, Kelowna  
D. Huber, Prince George

**Student Affairs / Affaires étudiantes**

G. Smith, co-Chair, Victoria  
C. Borkent, co-Chair, Ste.-Anne-de-Bellevue  
M. Salomon, Burnaby  
V. Jones, Edmonton  
L. Pinault, Fredericton  
J. Perry, Toronto  
L. Andreassen, Winnipeg  
K. Rondeau, Lethbridge  
J. Myers, *ex officio*, Vancouver  
T. Shore, *ex officio*, Victoria

**Student Awards / Prix aux étudiants**

J. Myers, Chair, Vancouver  
N. Holliday, Winnipeg  
T. Wheeler, Ste.-Anne-de-Bellevue  
D. Currie, Toronto  
C. Cloutier, Laval  
F. Sperling, Edmonton  
D. Giberson, Charlottetown  
T. Shore, *ex officio*, Victoria

**Ad hoc Committees /  
Comités ad hoc**

**IT Committee /  
Comité de l'informatique**

M. Cusson, Chair, Ste. Foy  
P. Fields, Winnipeg  
B. Lyons, Sault Ste. Marie  
K. MacKenzie, Kentville  
C. Buddle, Montreal  
R. Bennett, Victoria  
D. Shorthouse, Edmonton  
T. Shore, *ex officio*, Victoria

**Strategic Review / Revue stratégique**

R. Lamb, Chair, Winnipeg  
P. Dixon, St. John's  
G. Gerber, Winnipeg  
R. West, St. John's  
T. Shore, *ex officio*, Victoria

**ESC Business Plan /  
Plan d'affaires de la SEC**

P. Fields, Chair, Winnipeg  
G. Ball, Edmonton  
C. Buddle, Montreal  
R. Lamb, Winnipeg  
G. Moreau, Moncton  
D. Shorthouse, Edmonton  
T. Shore, *ex officio*, Victoria

**Secretary Search Committee /  
Comité de recrutement d'un se-  
crétaire**

T. Shore, Chair, Victoria  
P. Dixon, St. John's  
R. West, St. John's

**Webmaster Search Committee /  
Comité de recrutement d'un  
webmestre**

T. Shore, Chair, Victoria  
B. Lyons, Sault Ste. Marie  
M. Cusson, Ste. Foy

## Annual Meetings of the Governing Board and Membership

By Rick West, Secretary

### Action Items: Governing Board Meeting, 29 September 2007

#### Secretary

R. West gave notice of his intention to resign at the end of 2008. The incoming President will appoint an ad hoc search committee to select a new Secretary.

#### Strategic Review – Committee Structure

R. Lamb and P. Dixon have initiated a review of the current ESC Committee structure and will do so in consultation with G. Gerber, a past President and current Chair of the Bylaws Committee, and R. West. The review will assess whether guidelines and mandates are current and to ensure that the Society has the optimal number of Committees given the constraints on volunteer time donated by members.

#### Strategic Review – Ad Hoc IT Committee

Before a beta-testing version of OJS for the ESC could be completed, R. Bennett recommended that it no longer be pursued since the current email system to review papers is working efficiently. The IT Committee was charged to find an appropriate means of electronic voting for Society members. A Standing Rule change is needed to enable electronic voting and will be examined by the Strategic Review Committee and Bylaws and Standing Rules Committee.

#### Treasurer

In 2006, revenue was \$202 892 and expenses were \$240 865. This resulted in an excess expenditure of \$37 973. The decrease in revenue was due primarily to decreases in the number of institutional subscriptions, a decrease in reprint orders, a decrease in the sale of back

issues and an unfavourable currency exchange rate. The increased expenditure was due primarily to a major increase in the publishing and mailing of *The Canadian Entomologist*, the overlap in salaries to Alexandra Devine and Derna Lisi, the cost of advertising in local newspapers for the office manager's position and the increased cost of postage and supplies.

#### Report from the Office Manager

The board endorsed the following suggestions from the office manager, D. Lisi:

- Invite journal authors and coauthors to join the Society to avoid paying extra non-members fees
- Contact libraries at universities offering entomological courses to advise them of the existence and status of *TCE* as an entomological journal of quality.

The Finance Committee was directed to review postal charges.

#### ESC Headquarters Committee

Several repairs and interior painting are underway or planned for the next year. The roof will also be inspected.

#### Finance Committee

Chair D. Gillespie is resigning and will be replaced by former Treasurer G. Gibson who is expected to find ways to minimize expenses and maximize revenues. The Finance Committee will also examine page charges for members, sales of the *DPVCC* book and institutional subscription rates.

#### Online purchasing of memberships

Online payment for memberships is being worked out between the Finance Committee, Webmaster and Office Manager.

#### Scientific Editor

The "Editorial Duties" document was revised and the current manuscript review process via email appears to be working well. Seventy-eight manuscripts were received from January to September 2007: Fifteen have been accepted, 26 are in review or being revised, 37 have been rejected. R. Bennett intends to

actively solicit articles eligible for publication and of topical importance. Topical reviews will help raise the public profile of the Society and would help marketing efforts and support arguments for public funding if this ever became available.

### **Scanning Back Issues of *TCE* and *The Memoirs***

The board approved in principle that back issues of the journal and *Memoirs* be scanned by JSTOR or NRC Press or a similar searchable data-based publisher following review by P. Fields, and the Finance, Marketing and Publications Committees.

### **Possible Fates for *The Canadian Entomologist***

A *Bulletin* article written by P. Fields outlined possible fates for *The Canadian Entomologist*. Going to a smaller publisher would cost less but be a lot more effort. G. Gibson, in an open letter to the Board, indicated that the *TCE* was a financial benefit to the Society. Fates for *TCE* will be reviewed further by the Finance Committee, Memberships and Publications Committees. Consultations with other societies which have undertaken similar were recommended.

### **Editor - *Bulletin***

An email was sent to all members to announce the availability of the June issue on the ESC website and this process will be used to announce future issues. Adobe InDesign is now used to produce the *Bulletin* and works very well. A call for a new Assistant Editor for 2008 was distributed to all members via email and also appeared in the September issue. A new Assistant Editor is expected to be announced shortly following approval by the Board.

### **Web Site**

B. Lyons gave notice of his intention to resign at the end of 2008. The incoming President will appoint an ad hoc search committee to select a new webmaster. Three quotes to redesign the website are needed for accounting reasons before a contract can be let.

### **Publications Committee**

A review of remaining copies of the *Memoirs* found that the ESC office has no copies of 10 issues and 23 issues with ten or fewer copies. The issue of copyright of CD copies of the *Memoirs* and a document outlining the conditions of use for downloading documents and photos from the web site still needs to be investigated.

A recurring issue that has been coming up is the use of material, graphics and articles, from *TCE* for various purposes. The Board approved a policy statement developed by the Publications Committee, The use of materials from ESC journals. This statement will be placed on the web site in the publications section.

### **Book Reviews**

Copies of review articles will be sent to the publisher.

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

The Bylaws, Rules and Regulations Committee is currently working with the Student Awards Committee to administer the Student Conference Travel Award and will be working with the Strategic Review Committee during 2007-2008 to review committee structure and duration of appointments to committees of the ESC.

### **Heritage Committee**

The addendum to the Index to Biographies of Canadian Entomologists needs to be sent from the Heritage Committee to the webmaster for posting on the web site. The Board suggested that Paul Reigert's books on the Entomologists of Alberta, Saskatchewan and Manitoba be scanned, possibly at the ECS office, and posted on the web site.

### **Insect Common Names and Cultures Committee**

The Committee is very active and maintains communication with the Chair of the Entomological Society of America. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) was urged to register new common names with the ESC Common

Names Committee. Other organizations which deal with common names such as the CFIA (Canadian Food Inspection Agency) will be encouraged to do the same.

### **Membership Committee**

Renewal reminders were sent in early summer to people who had not yet renewed their membership. This will be done every year and timed to coincide 2-3 weeks ahead of the early registration deadline for the Annual meeting. The President will write a letter thanking outgoing Chair, Jon Sweeney, for his excellent service during his lengthy tenure as Chair.

### **Student Awards Committee**

The Board recommended that the student conference travel award be given annually.

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

The International Committee of Zoological Nomenclature asked the ESC to sign a Memorandum of Cooperation in support of the ICZN. Committee members polled on this subject 5 supported, 0 against, 3 abstained. President Dixon signed a Memorandum of Cooperation with ICZN. The Society is now listed as a supporter on the ICZN website ([www.iczn.org](http://www.iczn.org)).

The Board approved a motion to rejoin the American Institute of Biological Sciences (AIBS - [www.aibs.org/about-aibs](http://www.aibs.org/about-aibs)).

### **Student Affairs**

The Committee maintains a list of new graduates with postgraduate degrees in Entomology in Canada, which is then published in every issue of the *Bulletin*. A link to a Facebook Message Board for Student Members will be added to the ESC website. The Committee will work on the creation of formalized marking sheets for President's Prize posters and talks, with an accompanying process for returning judge's comments to students. Marking sheets will be posted on the website so students can be aware of what they are being marked on for each type of presentation. The finalized product for this will likely require Board approval and will therefore be sent to all Board members when

complete. The marking sheets and instructions will be included in the Annual Meeting Guidelines, when approved. The Board directed the Student Affairs Committee to send a letter of thanks to the University of Saskatchewan for donating registration fees for the five graduate student symposium speakers. The Directory of Entomological Education in Canada will be updated this year.

### **Marketing Committee**

Owen Olfert and Lorraine Braun are resigning after many years of hard work on this committee. Committee member Kirk Hiller has agreed to take over as Chair.

### **Annual Meeting Committee**

The 2008 meeting will be held October 19-22 at the Crowne Plaza Hotel in Ottawa. T. Shore will contact the ESBC and AES regarding meetings in 2010 and 2011, respectively. The Board agreed with T. Shore's recommendation that an additional committee member be appointed to assist the Chair and replace the Chair in a future year. Scanning old meeting programs for posting on the web site will be discussed with the Heritage Committee Chair and the Office Manager.

### **Biological Survey of Canada**

From June-August 2007, there was a transition as the position of Head of the Secretariat was transferred from Hugh Danks (who retired at the end of August) to Andrew Smith. The new Head of the BSC has a 1-year appointment that will end in June 2008. A letter will be written to the Canadian Museum of Nature expressing the ESC's gratitude for this appointment along with strong support for making the position, "Head of the Secretariat of the Biological Survey of Canada", permanent.

### **Affiliated Entomological Societies**

There were no requests for action by the Board from the Affiliated Societies.

## Governing Board Meeting, 1 October 2007

### Committee Appointments

The list of Committees and Representatives for 2007-2008 as prepared by the President and the President's appointees to remaining positions to be filled were approved by the Board. An email ballot will be prepared and distributed to the Board to appoint an Assistant **Bulletin** Editor, once one has been recommended by the Publications Committee

### 2008 Budget

The 2008 budget, once finalized following discussion between the incoming Finance Committee Chair and the Treasurer, will be sent to the Board for approval by email ballot

### Business Plan

The President will strike an ad hoc committee to develop a business plan for the future of the Society and its publications. P. Fields agreed to chair the committee and help appoint committee members.

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## Answer to question on page 152.

The insect shown on page 152 is a prepupa of the cynipid gall wasp *Diplolepis spinosa*. The eyespots are eyes of the adult that have started developing within the larval-like prepupa in September. All species of *Diplolepis* overwinter in this prepupal stage. *Diplolepis spinosa* induces a common multichambered gall (Fig. 1) on the stems of *Rosa blanda* in Ontario and on *Rosa woodsii* on the prairies. Galls opened in late summer reveal chambers inhabited by both the gall inducers and many species of koinobiont parasitoids that have consumed the inducer larvae (Fig. 2). The three parasitoids to the left of the inducer are chalcids of the genus *Eurytoma*. Note that the parasitoids are the same size as their hosts and yet each consumed only one host.

Photographs courtesy of Joe Shorthouse of Laurentian University in Sudbury, Ontario.



Figure 1

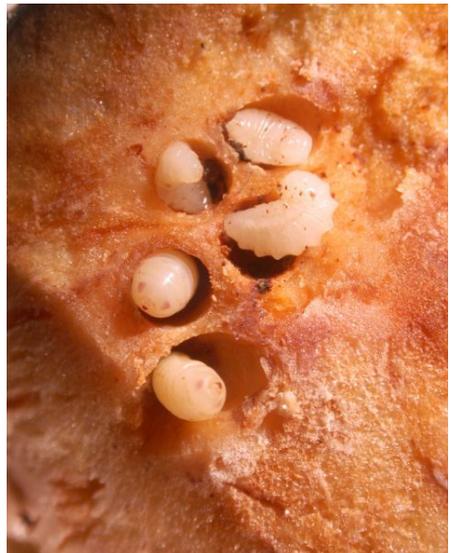


Figure 2

## MINUTES

### 57th Annual General Meeting

### Wanuskewin Heritage Park, Saskatchewan

1 October 2007

President P. Dixon called the meeting to order at 17:40 h. Forty-five members were present.

1. **Notice of Meeting.** Notices of the meeting were published in the March and June 2007 issues of the *Bulletin* (Vol. 39).
2. **Proxies.** T. Shore for A. Carroll (ESBC), B. Lyons for D. Hunt (ESO), C. Buddle for S. Rochefort (SEQ).
3. **Additions to the Agenda and Approval of the Agenda.** K. MacKenzie moved and S. Fitzpatrick seconded that the agenda be accepted. Carried.
4. **Deceased Members of the Entomological Community.** R. West thanked Ed Becker who kindly writes letters of condolence to the families of the deceased on behalf of the Society. Ed is the longest serving member and was in attendance for his 48th consecutive annual meeting of the Society. This distinction was noted by a round of applause. Ed also produces the *Senior Entomologists Newsletter*. He encouraged members to inform him of any entomologists who have recently resigned so that he can put them on the newsletter's mailing list.  
A moment of silence was observed in memory of the following member of the Entomological Community who passed away during the past year: Margaret Atwood, wife of the entomologist Carl Atwood and mother of the celebrated author and poet.
5. **Minutes of the 56th Annual General Meeting.** Minutes of the 56th Annual General Meeting were posted on the web site and published in the December 2006 issue of the *Bulletin* (Vol. 38). K. Floate moved and B. Lyons seconded that the minutes be accepted. **Carried.**
6. **Business Arising from the Minutes.** There was no business arising from the minutes.
7. **Report from the Governing Board.** President P. Dixon presented a report on behalf of the Governing Board and gave an update on progress during the past year, changes to committee chairs for the coming year, and plans for the coming year including a strategic review of ESC committees and continued review of the ways to best ensure publication of the journal. Notices inviting members to replace the Secretary and Webmaster, who are retiring at the end of 2008, will be placed in the *Bulletin* and on the website. The report from the Governing Board and regular updates are published in the *Bulletin*. This particular report will be published in the December 2007 *Bulletin* (Vol. 39).

#### 7.1 Change to Standing Rule II (Dues)

D. Gillespie moved and T. Mousseau seconded that Standing Rule II (Dues) be amended

From:

**II. Dues (By-Laws V)**

1. "Annual dues for Regular Membership shall be eighty dollars (\$80.00) in Canada and one hundred dollars (\$100.00 Cdn) or seventy-four dollars US (\$US74) for members outside of Canada."

To:

**II. Dues (By-Laws V)**

1. "Annual dues for Regular Membership shall be eighty dollars (\$80.00) in Canada and one hundred dollars (\$100.00 Cdn) or equivalent in US dollars for members outside of Canada."

**Carried. Action: P. Bouchard, R. West, V. Martel (translation).**

**7.2 Options for *The Canadian Entomologist***

P. Fields outlined possible fates for *The Canadian Entomologist*, as described in his recent *Bulletin* article. He also discussed the need and value of digitizing and selling back issues of the journal and Memoirs through an upfront cost to NRC Press or distribution through J-Stor. Members may discuss this further through [tce-future.wikispaces.com](http://tce-future.wikispaces.com). G. Gibson, in an open letter to the Board, indicated that the *TCE* was a financial benefit to the Society because 50% of the office's manager deals with Societal matters with the other half devoted to *TCE*-related duties (billing, etc). He indicated that day-to-day duties could not be covered by a part-time employee and that *TCE* cannot be disassociated with the society itself. G. Gibson urged that a business plan be developed for review by the Finance Committee. The incoming President will appoint an ad hoc committee to develop a business plan. **Action: T. Shore.**

Options for *TCE* will be reviewed further by the Finance Committee, Marketing, Memberships and Publications Committees. Consultations with other societies such as the Entomological Society of America and the Arachnologist's Society will also be made. **Action:** Finance Committee, Marketing, Memberships and Publications Committees.

**8. Auditor's Report.** D. Gillespie (Finance Committee) presented the Auditor's Report for 2006. The report was posted on the web site and summarized in the June 2007 issue of the *Bulletin*. D. Gillespie moved and J. Soroka seconded that the Auditor's report be accepted.

**Carried. No action required.**

**9. Elections Committee Report.** R. West read the Elections Committee report. Those elected were: Dr. Maya Evenden, Second Vice-President; and Dr. Gaétan Moreau, Director-at-Large.

**10. Installation of Officers.** President Dixon called on D. Quiring to escort M. Evenden, Second Vice-President, to the dais then congratulated T. Shore as incoming President of the Entomological Society of Canada. The new President assumed office and thanked the Members for the honour of being elected President.

**11. Presentation of Service Awards.** President Shore thanked P. Dixon (outgoing President) for her service to the Society and presented her with a service award to a loud round of applause.

**12. Appointment of Auditor.** D. Gillespie moved and K. MacKenzie seconded that McCay, Duff, and Company be appointed as Auditor for 2007. **Carried. Action: P. Bouchard.**

**13. A Motion and Resolution on behalf of the Entomological Society of Canada.****13.1 Resolution**

The following resolution was accepted with a round of applause:

*Thanks to Organizing Committee:*

Whereas the Entomological Society of Canada has met jointly with the Entomological Society of Saskatchewan at the Delta Bessborough Hotel, Saskatoon, SK; and

Whereas there has been a full and interesting meeting of lectures, symposia, and papers; and

Whereas the meeting has been planned with care and concern for those attending; and

Whereas there has been ample opportunity for social interaction and visits to Saskatoon and surrounding areas;

Be it resolved that the Entomological Society of Canada express its sincere thanks to the Organizing Committee for their hard work and skill in arranging a worthwhile and entertaining program; and

Be it further resolved that the Society thank the Organizing Committee and meeting contributors for their generous assistance; and

Be it further resolved that the Society express its thanks to the Management and Staff of the Delta Bessborough Hotel Midtown for their courteous assistance during the Meeting.”

**Action: R. West**

**14. New Business.** P. Dixon displayed a large poster of a series of five stamps depicting beneficial insects, provided by Canada Post. The date of release of this series of stamps was October 1, 2007, the same date as the AGM.

**15. Notice of 58th Annual General Meeting.** The 58th Annual General Meeting will be held October 19-22, 2008 with the Entomological Society of Ontario at the Crowne Plaza Hotel in Ottawa, ON. Further notices for the meeting will be published in the March and June 2008 issues of the *Bulletin* (Vol. 40) and on the ESC web site.

**16. Adjournment.** President Shore adjourned the 57th Annual General Meeting at 18:15 h following a motion by K. MacKenzie seconded by S. Fitzpatrick.



Silphid beetle (courtesy of Henri Goulet and Caroline Boudreault).



### Al Downe Memorial Fund

To honour the memory of Dr. Aylward E. R. Downe, Queen's Biology is seeking donations to The Al Downe Memorial Fund sufficient to host an annual lectureship in Dr. Downe's name. Al Downe exemplified a career of excellence in research, teaching and administration. He received his PhD in Biology (Entomology) from Queen's under the supervision of Dr. A. S. West. Professionally, Al was a keen entomologist, first serving as a Research officer and Entomologist in the Veterinary and Medical Entomology Unit of Canada Agriculture from 1954-1961. During his tenure at Kansas State University (1961-1964) as a researcher and teacher in Medical Entomology, he published a single authored manuscript in the prestigious journal *Science* on the serology of mosquito species. Al continued his research on blood-feeding insects at the University of Saskatchewan, Regina campus (1964-1967) and then finally back at Queen's University in 1967. Al served as Act-

ing Head (1975-1977) then Head of Biology (1977-1980).

Al was known as a great storyteller and that, in turn, made him a truly engaging lecturer. He was nominated for the prestigious Queen's Alumni teaching award, and in 1991 and 1993 he was selected by the Biology Student Council to win awards for "Excellence in Teaching in the Department of Biology". He taught undergraduate courses in 'Entomology', 'Environmental Physiology', 'Physiology and Behavior of Blood-Feeding Insects', and 'Biology of Invertebrates'. Al mentored 42 graduate students and served as committee member for an additional 52. Al's excellence in research was demonstrated through the publication of 89 research papers, with a primary focus on reproduction in blood-feeding insects and insect neurobiology. Al was selected as a Fellow of the Entomological Society of Canada in 1983. He co-authored a successfully funded "Networks of Centres of Excellence" grant, creating the Queen's Biology-based "Insect Biotech Canada" (1990-1995). Although this organization no longer exists, an annual "Insect Biotech Conference" based on the Network continues to this day.

Please give generously to establish this worthwhile annual entomology lectureship in Dr. Downe's memory. To donate please contact:

Corrine Rawana

Ph: 1-800-267-7837 ext. 75501

email: [corrine.rawana@queensu.ca](mailto:corrine.rawana@queensu.ca)

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### Edgar J. Leroux (1922-2007)

A prominent figure of Canadian entomology passed away on 13 October 2007. Edgar J. Leroux died at home, seven months after his wife Ardis. They are survived by their three children Estelle, Pierre and Elizabeth.

Ed was born in Ottawa on 13 January 1922. After spending the Second World War in the Navy (Writer, RCN 1941-1946) he entered Carleton University where he graduated with a BA in 1950, and went on to obtain his MSc and PhD from McGill University, specializing in insect ecology. His research at Agriculture Canada and at MacDonald College of McGill University, where he was a professor in the early 1960s, focused on the population dynamics of orchard insects and the European corn borer. During that period, he published over 75 papers on various aspects of insect ecology and physiology. He was well liked by students for his pedagogical skills, his keen interest in their career development, and his simplicity. He kept in touch with many of them and their families throughout his career. As was so well stated at his funeral, Ed was a gentle man and a gentleman.

In 1965, he returned to Agriculture Canada as Research Coordinator (entomology). In the 22 years that followed he had a major impact on the development of agricultural research and policy, in a perpetually changing context of political decisions that did not give Canadian renewable natural resources the place they deserve. Dr Leroux was particularly involved in promoting the success of Canola, his involvement being recognized by a recognition for service award by the Canola Council of Canada in 1987.

An active member of the Entomological Society of Canada, Ed became a Fellow in 1977 and was awarded the Gold Medal in 1986. In addition to the Honorary doctorates he received from McGill University and the University of Ottawa, and numerous other awards, Ed was made an Officer of the Order of Canada in 1988.

submitted by  
Bernard J.R. Philogène  
Professor Emeritus  
University of Ottawa

## Books available for review:

Löbl, I and Smetana, A., Editors. 2007. Catalogue of Palaearctic Coleoptera. Volume 4. Elateroidea - Derodontoidea - Bostrichoidea - Lymexyloidea - Cleroidea - Cucujoidea. Apollo Books. 935 pp.

Takahashi, H. and Ôhara, M. 2006. Biodiversity and Biogeography of the Kuril Islands and Sakhalin, Volume 2. Bulletin of the Hokkaido University Museum, Japan. 174 pp. [Reviews millipedes, hydrophilid beetles, staphylinid beetles, and vascular plants of the region].

Please send correspondence regarding book reviews to the Chair of the Publications Committee.

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32 Main St.  
Kentville, NS B4N 1J5 Canada  
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Stephen Marshall

# Biological Survey of Canada: Terrestrial Arthropods

The Scientific Committee met in Saskatoon on October 3-4, 2007 in conjunction with the Entomological Society of Canada / Entomological Society of Saskatchewan Joint Annual Meeting. A more detailed account of the meeting will appear in the Newsletter of the Biological Survey of Canada (Terrestrial Arthropods) 27(1), 2008. This report touches mainly on developments not previously reported. For more background on these and other projects please refer to previous newsletters on the Biological Survey of Canada (BSC) web site: <http://www.biology.ualberta.ca/bsc/bschome.htm>

## 1. Canadian Journal of Arthropod Identification

The Bee Genera of Eastern Canada was published in the Canadian Journal of Arthropod Identification (CJAI) in September. The Bee Flies of Eastern Canada and the Vespids of North America are well along in the review process and should be the next issues published. There are at least 8 other manuscripts in process. Discussions will soon begin as to the feasibility of eventually transferring the production of the CJAI from the University of Guelph to the Biological Survey Secretariat.

(Contact S.A. Marshall, [samarsha@uoguelph.ca](mailto:samarsha@uoguelph.ca))

## 2. Grasslands

All chapters for the first volume have been received and will be going out for review this fall. The editorial board is aiming to have all material ready for the publisher by March 31, 2008. The second volume will proceed as planned.

(Contact J.D. Shorthouse; [jshortho@nickel.laurentian.ca](mailto:jshortho@nickel.laurentian.ca))

## 3. Insects of the arctic

A proposal for a large collaborative northern project is under consideration. The BSC is seeking collaborators and partnerships to help

build this project into a large-scale survey of Canada's northern biodiversity.

(Contact C.M. Buddle; [chris.buddle@mcgill.ca](mailto:chris.buddle@mcgill.ca))

## 4. Terrestrial arthropods of Newfoundland and Labrador

The key to the Curculionoidea of Newfoundland and Labrador should be submitted to the Canadian Journal of Arthropod Identification in early 2008. Financial support from the Newfoundland and Labrador Department of Environment and Conservation supported work this year on lists of species, illustrated keys and databases mainly for Curculionoidea, carabids and staphylinids. The focus next year will be Lepidoptera. A proposal has been submitted to facilitate a modest collecting expedition to Labrador.

(Contact D.W. Langor; [dlangor@nrncan.gc.ca](mailto:dlangor@nrncan.gc.ca))

## 5. Forest arthropods

Volume 3 of the Arthropods of Canadian Forests newsletter was published in May and distributed electronically to about 200 recipients in 9 countries in both English and French. The papers from a BSC-sponsored symposium entitled "Maintaining Arthropods in Northern Forest Ecosystems" should be published in *The Canadian Entomologist* early in 2008. All the major collections have been databased and the majority of keys have been produced for the Cerambycidae of Canada and Alaska project. Mr. Klaus Bolte has been contracted to do the photographs for the publication.

(Contact D.W. Langor; [dlangor@nrncan.gc.ca](mailto:dlangor@nrncan.gc.ca))

## 6. Invasions and reductions

The tree-feeding species part of the list of non-native terrestrial arthropods is largely complete but it is hoped that some funding will be received next fiscal year to extract information from other collections. These

data will be available through the Canadian Forest Service's alien invasive species web site. Work on the larger database of 1900 species continues.

(Contact D.W. Langor; [dlangor@nrca.gc.ca](mailto:dlangor@nrca.gc.ca))

## 7. Arthropods and Fire

Due to a lack of commitment from some authors, the proposed series of papers on the topic of arthropod conservation and fire planned for the Journal of Insect Conservation has been cancelled. These papers originated from the BSC-sponsored symposium on Arthropods and Fire held in 2005.

## 8. BioBlitzes

The 2007 BioBlitz was held in Riding Mountain National Park, July 16-20, 2007. A report was published in the Fall issue of the Newsletter of the Biological Survey of Canada (Terrestrial Arthropods) 26(2), 2007. This report is also on the BSC web site both in the Newsletter section and on the BioBlitz page (<http://www.biology.ualberta.ca/bsc/english/bioblitz.htm>). The collecting permit is valid until 2012.

(Contact Rob Roughley; [Rob\\_Roughley@umanitoba.ca](mailto:Rob_Roughley@umanitoba.ca))

The 2008 BioBlitz is tentatively planned for Bruce Peninsula National Park if there are enough participants.

(Contact S.A. Marshall; [samarsha@uoguelph.ca](mailto:samarsha@uoguelph.ca))

The first Curation Blitz was held at the University of Saskatchewan on October 1, 2007. Eight visiting entomologists provide some curatorial assistance to the Saskatoon collections, gained some understanding of what is contained in those collections, and learned from each other about insect identification. Discussions have begun on options to hold a similar event at the 2008 JAM in Ottawa.

(Contact D.B. McCorquodale; [david\\_mc-corquodale@cbu.ca](mailto:david_mc-corquodale@cbu.ca))

## 9. Arthropods of the Gulf of St. Lawrence Islands

Dr. McCorquodale and Dr. Giberson had students this past summer working aquatic hemiptera, bumblebees, and coccinellids. They are currently advertising for a masters student.

(contact D.B. McCorquodale; [david\\_mc-corquodale@cbu.ca](mailto:david_mc-corquodale@cbu.ca))

## 10. Databasing

Dr. Sperling spoke about database initiatives at the Canadian University Biodiversity Consortium and potential opportunities for the Biological Survey to work in parallel with the Consortium.

## 11. Endangered species

Dr. Sperling, Dr. Scudder, and Dr. Marshall have agreed to participate in the Monarch Butterfly Advisory Group, which was established to meet requirements of the Species at Risk Act.

## 12. BSC Award

The BSC Scholarship Award, which is administered by the Entomological Society of Canada, will next be awarded in 2008. The deadline for application will be in February 2008. (See 'Student Awards' on p. 172.)

(Contact J. Sweeney; [jsweeney@nrca.gc.ca](mailto:jsweeney@nrca.gc.ca))

## 13. Regional development / liaison and exchange of information

Because many members were either not able to attend or not able to stay for the entire meeting, reports on regional developments and liaison and exchange of information were curtailed. Of note:

- There is an initiative at the Canadian Forest Service to have the curators formulate a department-wide collections policy.
- Mr. Chris Majka continues with much Coleoptera research in the Maritimes.
- Mr. Reggie Webster is also very active in

the Maritimes, especially in collecting many new species of staphylinid beetles.

- The Journal of the Entomological Society of Ontario has published a special D.H. Pengelly tribute volume.
- The Acadian Entomological Society's annual meeting was held in June and included a faunistics symposium with interesting presentations on aquatic insect biodiversity studies in the Maritimes, insects of forensic importance, maritime beetles, and arachnids.

**14. BSC Transition / Planning for the future**

Given funding pressures, considerable discussion revolved around the future direction of the BSC. Over the next few months, the Committee will be focussing on reviewing the BSC's vision and goals, a promotion and fundraising strategy and a proposal for a large collaborative research project.

Dr. Andrew Smith has assumed the role of the Head of the Biological Survey following Hugh Danks' retirement in August.

**15. Other matters**

The Canadian Arthropods electronic mailing list is an electronic discussion group was initiated by the BSC in June to facilitate communication and discussion among Canadian arthropod researchers and to disseminate information for and about the Biological Survey of Canada. See the BSC web site for instructions on how to subscribe.

Dr. Smith suggested that the BSC organize an annual symposium at the ESC annual meeting to present BSC-related research and projects.

Price reductions of some Biological Survey Foundation publications such as the *Insects of the Yukon* were suggested to clear the overstocks.

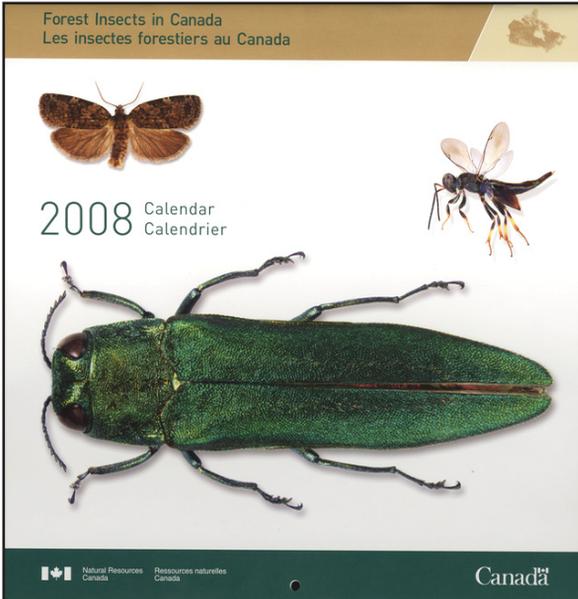


Shelley Fisher

The participants in the first Biological Survey of Canada Curation Blitz at the University of Saskatchewan in October 2007, from left to right: David McCorquodale, Clayton D'Orsay, Andrew Smith, John Huber, Henri Goulet, Rob Roughley, Jason Dombrowskie, Bob Randell, and Greg Pohl.

# 2008 'Forest Insects in Canada' Calendar

Natural Resources Canada's Forest Service (CFS) proudly presents the 2008 'Forest Insects in Canada' calendar. Copies can be ordered free of charge on-line from the CFS bookstore: <http://bookstore.cfs.gc.ca/> or by phone at (613) 947-7341. Kudos to John Huber (Project Coordinator) and Klaus Bolte (Photographer) for their efforts in producing this impressive work!



## Au sujet du calendrier

Les insectes forestiers présentés dans ce calendrier comprennent des espèces nuisibles indigènes et introduites, de même que des insectes utiles qui s'attaquent aux insectes nuisibles. Certaines espèces se ressemblent, mais elles se distinguent par une origine géographique et une biologie différentes.



**ABOUT THE PHOTOGRAPHER**  
 During his 20-year career as a technician with Natural Resources Canada's Canadian Forest Service, Klaus Bolte pioneered the photographic technique used to capture these insect images. Using a digital camera mounted on a microscope, he photographed individual insects from a side-on perspective and re-assembled them electronically to produce a detailed, in-focus image of the entire insect.

**AU SUJET DU PHOTOGRAPHE**  
 Technicien depuis 20 ans au Service canadien des forêts de Ressources naturelles Canada, Klaus Bolte a été un pionnier des techniques utilisées pour photographier les insectes. À l'aide d'une caméra numérique montée sur un microscope, il a photographié séparément les diverses parties des insectes, puis les a assemblés électroniquement pour donner une image complète détaillée et nette de l'insecte.

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

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Editor: Kevin Floate  
Assistant Editor: Marj Smith

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

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

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

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

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

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le prochain numéro :  
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## The Buzz / Bourdonnements

By Marj Smith, Assistant editor / Rédacteur adjointe



Paul Fields

This is my last issue of the *ESC Bulletin* as Assistant Editor. The new Assistant Editor, starting in 2008, will be Frédéric Beaulieu, who is a research scientist working for Agriculture and Agri-Food Canada at the Eastern Cereal and Oilseed Research Centre in Ottawa.

The past three years as Assistant Editor have been a great learning experience and have also been very rewarding. Working on the *Bulletin* has been an excellent way to learn how the Entomological Society of Canada works, about the many people who are involved and who together help make it a successful and respected Society.

I've also learned that desktop publishing really isn't all that mysterious – just what are tracking, drop caps and em dashes anyway? And how do you get all that text and graphics to fit just right on every page? Computer applications make it a snap nowadays, and I have a new respect for pre-computer editors who did everything by hand.

Proofreading the *Bulletin* for the last three years, I've read every word two or three times, and perhaps more of it than I would have without this incentive. But it's so varied and always interesting that proofreading hasn't always seemed like such a chore. Each issue has a new face or two that I can connect with

names of entomologists and what they are up to in research.

My thanks to the Editors, Paul Fields and Kevin Floate, who I have enjoyed working with, for the opportunity to serve the Society and to widen my horizons.

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Ceci est mon dernier numéro du *Bulletin* de la SEC en tant que rédactrice adjointe. Frédéric Beaulieu, chercheur à Agriculture et Agroalimentaire Canada, au Centre de recherches de l'est sur les céréales et les oléagineux, prendra la relève à partir de 2008.

Ces trois dernières années en tant que rédactrice adjointe furent très enrichissantes. Travailler sur le *Bulletin* fut un excellent moyen de connaître le fonctionnement de la Société d'Entomologie du Canada, et le grand nombre de personnes impliquées. Ensemble, elles font de la SEC une société respectée et pleine de succès.

J'ai aussi appris que la mise en page n'est pas si mystérieuse: centrage, habillage, tirets? Comment rentrer tout ce texte et les graphiques parfaitement dans chaque page? Les logiciels informatiques rendent la tâche facile de nos jours, mais j'ai acquis du respect pour les éditeurs qui faisaient tout à la main.

Pour les trois dernières années de révision au *Bulletin*, j'ai dû lire deux ou trois fois chaque mot; sans doute plus que je ne l'aurais fait sans cette motivation. Par contre, le contenu fut tellement diversifié et intéressant que le travail ne fut pas une corvée. Chaque numéro apporte un ou deux nouveaux visages auxquels je peux associer des noms d'entomologistes et des nouvelles sur leurs travaux de recherches.

Je remercie les éditeurs Paul Fields et Kevin Floate, avec qui j'ai pris plaisir à travailler, pour l'occasion de servir la société et d'élargir mes horizons.

# Entomological Society of Canada, 2007-2008

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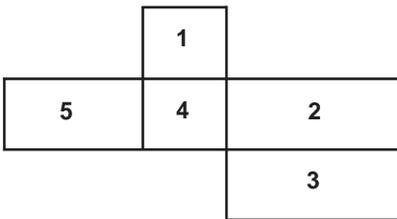
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## Images

**On the spine:** The mountain pine beetle, *Dendroctonus ponderosae* Hopk. (Curculionidae), an eruptive bark beetle that periodically kills large areas of pine forests in western North America. Photo: D. Linton.

**Beneath the title:** The white underwing, *Catocala relictata* Wlk. (Noctuidae), feeds on poplars, aspens, and willows. Photo: A. Carroll.

**Photos on front cover:**

1. Collecting bark beetles (Curculionidae) from a Lindgren funnel trap at Angstad Creek near Merritt, British Columbia. Photo: J. Smith.

2. *Leptomantispa pulchella* (Banks), photographed at Ojibway Prairie in Windsor, Ontario. This species is otherwise known in Canada only from the Okanagan Valley. Photo: S. Marshall.

3. A Cooley spruce gall adelgid, *Adelges cooleyi* (Gill.) (Adelgidae), parthenogenetic exulis with its eggs on Douglas-fir. Photo: B. Bains.

4. *Formica aserva* Forel (Formicidae), an aggressive ant that nests in large pieces of woody debris throughout Canada, carrying a pupa. Photo: R. Higgins.

5. Female wheat midge, *Sitodiplosis mosellana* (Géhin) (Cecidomyiidae). Photo: R. Lamb.

**Back cover:** *Tetragnatha viridis* Walck. (Tetragnathidae), the only bright green longjawed orb-weaving spider found in Canada, ranges from eastern Ontario and Nova Scotia south to the northern coast of the Gulf of Mexico. Photo: M. Larrivée.

Français à l'intérieur de la couverture avant