

Bulletin

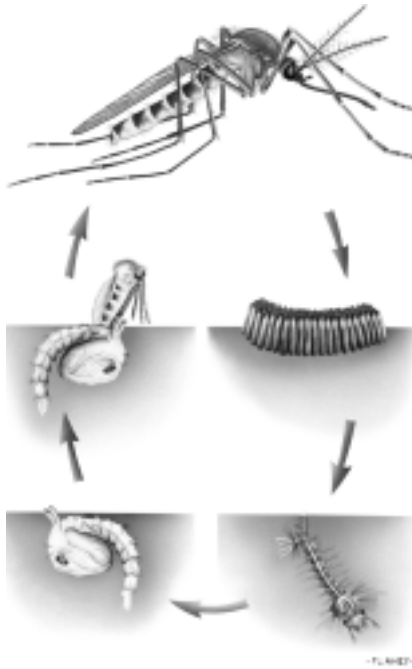
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Des courriels, des initiatives et de la participation des membres de la SEC

Il y a des jours où je me demande si on ne pourrait par tout simplement faire marche arrière, et l'on pourrait simplement travailler avec du papier et des gens, comme dans le bon vieux temps. Vous avez sans doute eu ce genre de réflexion lorsque, suite à une absence prolongée, des dizaines, voire des centaines de courriels vous attendent dans votre boîte de courrier électronique. Je vous fais grâce du contenu de ces messages, mais disons qu'il y en a certains dont je n'ai absolument pas besoin...

Mais, depuis que j'assume la Présidence de la Société d'entomologie du Canada, mon point de vue a quelque peu évolué. La SEC, comme toutes les Sociétés scientifiques, bénéficie du courrier électronique. À titre d'exemple, nous travaillons présentement à offrir deux nouvelles bourses pour les étudiants. Cette possibilité s'est présentée en décembre 2003.

La SEC est une organisation démocratique qui repose grandement sur le travail de volontaires qui habitent à des milliers de kilomètres de distance. Afin de mettre sur pied les règles qui régiront ces bourses de façon équitable et transparente, les membres du comité utilisent le courrier électronique et me copient la plupart de leurs échanges. Dans ce dossier apparemment simple (et positif), il y a eu environ une centaine de courriels échangés. Ma conclusion est double: le courriel peut être très utile pour les organismes à but non lucratif, et les membres de la SEC font de grands efforts pour travailler de façon collégiale pour le bien de leur Société. Au nom de la SEC, je les remercie pour leur excellent travail. Si vous avez des questions, n'hésitez à communiquer avec nous par courriel.



On e-mails, initiatives and participation of ESC members

There are days when I ask myself if we could not unwind the clock and work simply with paper and people, like in the good old days. You should have that thought when, coming back from a prolonged absence, tens and hundreds of e-mails are awaiting for you in your electronic mailbox. I won't make any comment about the content of these messages, but let us say, that not all of them are absolutely necessary...

However, since becoming President of the Entomological Society of Canada, my point of view has evolved. ESC, as all scientific Societies, benefits from electronic messaging. For example, we are presently working to offer two new scholarships. This possibility arose in December 2003.

ESC is a democratic organization that relies largely on the work of volunteers which live thousands of kilometers apart. In order to craft the rules that will manage these scholarships in a fair and transparent manner, committee members use e-mail, and they copy most of them to me. In this apparently simple (and positive) matter, approximately one hundred e-mails were exchanged. I have two conclusions: e-mails may be useful for non-profit organizations, and ESC members are making great efforts to work in a collegial manner for the good of the Society. On behalf of the ESC, I thank them for their excellent work. Should you have questions, do not hesitate to contact us by e-mail.

Heritage Lecture / Allocution du patrimoine

By Richard Ring

Insect Adaptations: A personal perspective

Good Morning Ladies and Gentlemen, Mesdames et Messieurs! It is my privilege as well as a great honour to have been invited by the Organizing Committee to present this lecture on the 20th anniversary of the Heritage Lecture Series. I remember well the introduction to the Heritage Lectures given by George Ball followed by the inaugural lecture delivered by Paul Riegert at the 1983 meetings hosted by the Entomological Society of Alberta. Indeed, Paul went on to deliver three more lectures in the series, including one in 1985 entitled Northern Insect Studies, which had an important influence on my work and thinking on Arctic insects. This has led me directly to the title of today's lecture, *Insect Adaptations: A personal perspective*. In thinking about the topic from a historical, but yet personal point of view, I decided to divide the topic into the following sub-headings: People, Places, Projects and Passion (I was in alliterative mood!).

People

I have long been interested in insect adaptations since my days as a student at Glasgow University, where I went on to complete a PhD degree in insect diapause. As a result of these studies (overwintering diapause in the sheep blowfly, *Lucilia caesar*), I became familiar with the re-

Richard Ring has spent the bulk of his scientific career at the University of Victoria studying insect seasonal adaptations such as cold hardiness and diapause. He recently retired from teaching and has taken on the role as Editor-in-Chief of The Canadian Entomologist. For contact information see the inside of the front cover. Presented at the Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of B.C. in Kelowna B.C., 5 November 2003.



Joe Shorthouse

markable work of R.W. Salt, Agriculture Canada, Lethbridge, who, in 1961, published the paper *The Principles of Insect Cold-Hardiness* in the *Annual Review of Entomology* (Salt 1961). This paper established the working principles in studies of insect cold tolerance for the next forty years, and became the paradigm within which we still operate today. I met Reg Salt only once in my career, and that was in Quebec City in 1972 when he was awarded the Gold Medal of the ESC and delivered the address *Cold Comfort* at the Joint Annual Meeting of the Entomological Societies of Quebec, America and Canada. However, I did get the opportunity to learn much more about him later, both personally and professionally, when Paul Riegert and myself co-authored a chapter entitled *A Tribute to R.W. Salt* in the book *Insects at Low Temperature* (Ring and Riegert 1991). This book has since become the modern standard text in the subject. On reflection, I realize that by the time I came to Canada as a raw PhD graduate in 1964, I was already well aware of the rich heritage of entomology in this great country.

As most teachers and researchers will agree, one's career is often a long tortuous path, along which doors open for you - often at the most unexpected times and places! Well, for me one of the first of these doors was opened by Geoff Scudder (ESC Gold Medalist, 1975), Zoology Department, UBC, who invited me to apply for the position as his sabbatical replacement for the academic year 1964-

65. This turned out to be one of the most influential events in my life. It was the same year that Salt's first PhD student, Lauritz Somme, Zoology Institute, University of Oslo, published his influential papers on insect cold tolerance (Somme 1964). He later became my mentor, and in 1972-73 I spent my first sabbatical leave at his laboratory in Oslo. Since then, we have shared many symposia, conferences and visits together, culminating in 1988 with our field trip to South Georgia with the British Antarctic Survey and our expedition leader, Bill Block (Fig. 1). In three months we produced five joint papers on the adaptations of insects on this small sub-antarctic island.

The second main door to be opened for me was by Antony Downes (Gold Medal 1977), head of the Entomology Research Institute, Agriculture Canada, which was later incorporated into the Biosystematics Research Institute, Ottawa. In 1965-66, he secured a Post-Doctoral Fellowship for me that introduced me to the Northern Insect Survey. The Northern Insect Survey in its 18-year history from 1948 until 1966 sent over 80 field parties all over the Canadian Arctic, ultimately yielding the baseline data for all future studies (see Danks,

1981). Although I was still working on the phenomenon of overwintering diapause in insects at the time, it quickly became apparent that diapause and cold-hardiness were concurrent events in northern insects, and that both were important ecophysiological adaptations to arctic habitats with long cold winters and short growing seasons. The ecophysiological relationships between diapause and cold-hardiness in insects are still unresolved today. The most important experience for me that year was to be introduced to the members of the Northern Insect Survey and learn of their tremendous accomplishments in Arctic Canada. Apart from Antony Downes himself, they included Phil Corbet (Gold Medal, 1974), Don Oliver, Frank McAlpine and several others. Contact with these people was going to stand me in good stead for the rest of my academic career in Arctic entomology.

The third and perhaps largest door to open for me in my academic life was in 1966 when I applied for and was offered a position as Assistant Professor in Biology at the brand new University of Victoria, B.C. This appointment was what allowed me to set up my own laboratory, my own



Figure 1. Lauritz Somme, Bill Block, Richard Ring, Roger Worland and Preben Ottesen (left to right) at South Georgia, Antarctica in 1988 to study the cold hardiness of arthropods.

research initiatives and, therefore, my long-term Arctic research programme.

Places

Arctic Canada. What a fantastic place in which to work, unlike any other major biome in the Nearctic zone. As one of my colleagues (John England, Northern Chair in Geology/Glaciology) said recently at the sixth Northern Students Conference held at the University of Alberta, one shouldn't think of the Canadian polar desert, but, rather, the Canadian polar dessert! Yes, indeed! The Arctic tundra is one of the largest biomes in Canada, and occupies almost 25% of our land surface area, yet is one of the least understood, at least from a biological perspective. Although I have traveled extensively in the Arctic, the two regions where I have done most of my research are: (1) the low Western Arctic in the region of Inuvik, Tuktoyaktuk and the adjacent Peninsula (69°N; 133°W), and (2) the high Eastern Arctic on Ellesmere Island at Alexandra Fiord (79°N; 76°W). Both are fantastic places in which to work and have unique biological, geological and historical attributes. The low Western Arctic is dominated by surface water, arctic shrubs like willows, alder and dwarf birch, a variety of grasses and sedges and a great diversity of flowering herbs. The climate is moderate compared to the North-Eastern Arctic. It is a fascinating area in which to

work as a biologist, since not only is it a transition zone between the northern limits of the boreal forest and the southern limits of the tundra biome, but also a West-East transition zone due to the dominating presence of the mighty MacKenzie River and its delta. On the west we have Beringia and the Cordilleran Region and on the east are the Interior Plains and Canadian Shield, each with its distinct faunal elements.

The high Eastern Arctic, on the other hand, has a much more extreme climate and is dominated by snow and ice. The vegetation is depauperate, as are the animal consumers, but nevertheless it remains of great interest to entomologists, especially at arctic oases such as Alexandra Fiord (Fig. 2), which represents a terrestrial arctic oasis that is generally characterized by elevated summer temperatures and higher moisture levels compared to the surrounding "arctic desert". The lowland's physiography is largely responsible for the amelioration of the weather patterns. Snow cover on the surrounding scree slopes and glaciers tends to reflect solar radiation into the lowland increasing its temperature, while the surrounding edges act as a wind foil. Water collected from glacial tongues, which spill out from the Ellesmere ice cap, drains through the gently sloping lowland and irrigates it through a network of small channels before flowing into the Fiord. The mean July temperature is 5.1°C compared to an average of 4.4°C for the

Figure 2. Sampling insects and plants at Alexandra Fiord, Ellesmere Island, Nunavut as part of the International Tundra Experiment (ITEX). The ITEX is a scientific network of experiments focusing on the impact of climate change on selected plant species in tundra and alpine vegetation.





Figure 3. Lee Humble with a pingo in the background near Tuktoyaktuk NWT sampling for insects, while the mosquitoes sample him.

surrounding regions. The plant and insect communities are consequently much richer in the Fiord lowland than in adjacent areas. This high relative abundance of organisms found in Alexandra Fiord lends itself to the study of insect life cycles, adaptations to extreme conditions and responses of arctic insects (and other organisms) to global climate change.

Projects

My research programme has been, in essence, a study of the ecophysiology of insect adaptations to northern climates and northern habitats dominated by long, cold winters and short growing seasons often combined with low levels of precipitation. So it is the combination of cold hardiness, diapause and desiccation resistance that has occupied my research interests for a long time now. Some of the major contributions from my laboratory have been (1) identification of a multi-component cryoprotective system in successful overwintering insects, including a combination of glycerol, trehalose and sorbitol; (2) the discovery of the lowest supercooling point (-61°C) ever recorded for an insect, *Pytho americanus*, in the Western Canadian Arctic (Ring 1982); (3) the close relationship between cold hardiness and desiccation resistance that exists in overwintering insects; the role of increased levels of trehalose in the haemolymph of these insects has also been implicated in increased resistance and/or tolerance

of dehydration (Ring and Danks 1994); and (4) identification of various anomalies that exist among arctic insects, such as being freezing tolerant, yet having very low supercooling points and, in some species, having double supercooling points. Several other anomalies await elucidation, such as the winter survival of arctic coccinellid beetles which lack any known cryoprotectants. My very first PhD student, Lee Humble (Fig. 3), made an important attempt to tease apart the co-evolutionary problems of cold versus desiccation tolerance. In arctic sawflies, he demonstrated that their abilities to survive low winter temperature and desiccation stress are co-adapted - that is, they are overlapping adaptations (Ring and Danks 1994). My second PhD student to work in the arctic, Dean Morewood, studied the life history strategies and temperature versus development relationships of the high arctic woolly bear caterpillars (*Gynaephora* spp.) and their parasitoids at Alexandra Fiord. Other contributions made by my laboratory regarding adaptations to extreme conditions are those by Neville Winchester on arctic trichopteran larvae of the Tuktoyaktuk Peninsula and by Adrian DeBruyn on the overwintering behaviour and habitats of two species of diving beetles (*Hydroporus* spp.) in ponds at Alexandra Fiord. As a result of these studies, the University of Victoria was chosen as the venue for two international symposia on insect cold hardiness (1985 and 2000), as hosts for the Society for Cryobiology meetings (1980),

and for organizing a session at the International Congress of Entomology in Vancouver (1988). Although most of my studies have been on arctic insects, several similar studies on adaptations have been carried out on insects from southern Vancouver Island.

Passion

Almost one third of you in the audience today are graduate or undergraduate students, so at some time in your lives you have been inspired by your supervisors, or mentors, or peers to enter the field of research in entomology and to attend meetings like this. I suspect you would not be here today if you did not already have the passion! After all, this is where you are most likely to meet like minds and be constantly reminded of the passion that has brought you to this point.

It would be remiss of me not to acknowledge the many people who have helped fuel this passion in me. I thank the many students (too numerous to mention by name) at all academic levels who have been a great inspiration in my life, and without whose questions, challenges and support I would not be here today. There are a few people in particular I wish to acknowledge, all of whom have been involved in the study of insect adaptations to Canadian Arctic habitats and envi-

ronments. Among my very first graduate students are Lee Humble and Neville Winchester, who have become eminent entomologists in their own right, yet still remain close friends and colleagues; Olga Kukal who introduced me to Alexandra Fiord and, with her partner Tom Allen, further introduced me to the fascinating world of *Gynaephora groenlandica*, one of the most cold-tolerant insects ever studied; other colleagues such as Peter Kevan and Joe Shorthouse who were studying insects in the high eastern arctic long before I was; and, finally, I acknowledge the close parallel career paths, the research collaboration and the friendship that has developed over the years with Hugh Danks (Gold Medal, 2003).

As I prepare for retirement from the daily teaching and research activities at a university, I do so with a sense of optimism and celebrate this combination of people, place, project and passion that I am certain is in each one of you here today. I hope that this will fuel you for the rest of your lives and that it will result in personal fulfillment as well as important contributions to this rich heritage we call Canadian Entomology.

I wish you well in your future careers.

References:

- Danks, HV 1981. *Arctic arthropods: A review of systematics and ecology with particular reference to the North American fauna*. Ottawa, Entomological Society of Canada.
- Ring RA, Riegert PW. 1991. A tribute to R. W. Salt. pp 3-16 in Lee, RE, Denlinger, DL (Eds), *Insects at low temperature*. New York, Chapman and Hall
- Ring RA. 1982. Freezing-tolerant insects with low supercooling points. *Comparative Biochemistry and Physiology* **73A**: 605-612.
- Ring RA, Danks HV. 1994. Desiccation and cryoprotection: Overlapping adaptations. *Cryo-Letters* **15**:181-190.
- Salt RW. 1961. Principles of insect cold-hardiness. *Annual Review of Entomology* **6**: 55-74.
- Somme L. 1964. Effects of glycerol on cold-hardiness in insects. *Canadian Journal of Zoology* **42**: 87-100.



Joe Shorthouse

Figure 4. This lecture is dedicated to the memory of Antony Downes (left) (1914-2003), one of Canada's greatest and most respected Arctic entomologists, photo taken at the Biological Survey of Canada meetings in Ottawa in 2001.

Moth Balls / Boules à Mites

By Andrew Bennett



Recently, I was asked by the Editor of the *Bulletin*, to contribute a column about taxonomy. "Wonderful", I said. "We need another forum for explaining the subtleties of microsculpture and discussing the minutiae of the Zoological Code"! "But wait", he said. "It should be humorous". "Humorous?", I thought. "What could possibly be humorous about taxonomic entomology?" Between dichotomous couplets, I pondered this. "Humour in Taxonomy? Never"! But, perhaps I was too close to the subject for complete objectivity? After all, I do spend most of my waking hours surrounded almost exclusively by other taxonomists (not to mention millions of dead insects and a moderate dosage of naphthalene). And so I decided to speak to some non-taxonomists. (Mental note: I should do more of this). It turned out that many people didn't have a clear idea of what taxonomic entomologists do, and more precisely, why on earth we need them. In an effort to help explain the value of taxonomy as well as some of the supposed idiosyncrasies of entomological taxonomists, *Moth Balls* presents a short list of potential answers to frequently asked questions about taxonomy and taxonomists.

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, telephone: (613) 759-1900.

Snappy Answers To Stupid Questions (about Entomological Taxonomists)

1. Why did you have to change the species name? (usually uttered in a low whine)

- It was a bet.
- To help my stock options in *Taxonomist's Weekly*.
- Just to annoy you (it seems to be working).

2. Why is your identification key so difficult to use?

- Clavus rugose b)
- Clavus rugoso-punctate c)
- If I made it easy to use, you wouldn't need me any more, now would you?

3. I don't care what it's called. How do we kill it?

- There was an old lady who swallowed a fly...
- B.t.* The entomologist's duct tape.
- How about importing cane toads?

4. What's the deal with the butterfly net?

- Actually, it's a sweep net (always followed by a derisive roll of the eyes).
- Actually, it's an antenna for my GPS (and you're blocking my signal).
- Step right this way, sir. I have a size 43 pin and an identification label with your name on it.

5. Why do you have a large net attached to your car?

- It wouldn't fit in the trunk.
- It's a cow catcher, for very small, flying cows.
- Dogs have learned to read, so we had to take the SPCA insignia off our new mobile canine collection unit.

Tune in next time as *Moth Balls* exposes more of the exciting world of taxonomy!

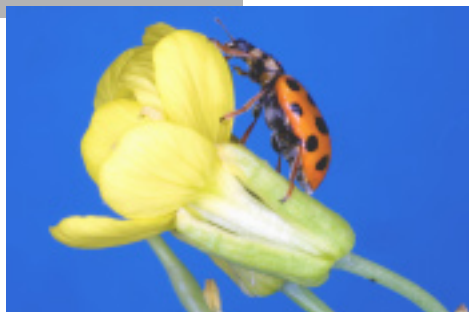
Who shot the insect? : Lessons learned about insect macro photography

By Roy Ellis

As entomologists, we all use photographs of insects to illustrate our presentations. I mean, how can you explain your research, teach an entomology course, assemble a web page, or do extension work without using lots of photos to show your audience the insect involved? We all know that plain text is just plain boring. But, obtaining the needed photos can be a dilemma for many entomologists.

Some entomologists just "borrow" photos from wherever they find them, usually web pages, risking legal action against themselves and their organization for copyright infringement. Often, such images have hidden codes that enable the copyright owner to trace people who have used them on web pages without permission. Some copyright owners also hire agencies to scan publications for their photographs, reporting illegal uses. You usually learn of this indirectly, from their lawyer.

So, what to do when you need a close-up of some insect? You might locate the photo you need on the internet and request permission from the photographer to use it. If it's for a non-commercial use, you may be granted permission to use it if you agree to credit the photo to the pho-



Lady beetle on canola flower.

tographer. If it's for commercial use, you will probably have to pay for the photo, the fee depending upon how and where it will be used over a set period of time. Sometimes, the photographer will sell all rights to the photo to you, allowing you to use it in as many times as you like, in any sort of publication.

There is an easier way. You simply take your own photos of what you want. The first step is to purchase a camera with close-up features. If you've been taking pictures throughout your entomological career, you may already have some of the needed equipment. If you're still doing 35 mm work, you may need to buy a macro lens and ring flash to get the shots you need. Coupled with a good slide scanner, hooked up to your computer, you may be able to produce the images that you require. They might not be high quality images but they may get the message you want to give across to your audience.

My entrance into digital imaging was eased by the fact that I already had a 35 mm Canon EOS and most of the lens and flashes that I needed for close-ups of larger insects. A few years ago, Canon came out with a digital SLR that accepted these lenses. Once I bought my first digital Canon SLR, I was an instant convert to digital macro photography. I purchased a dedicated 100 mm macro lens and ring flash and I was off taking pictures. You simply take your shots, view them on the camera's LCD to see if they're acceptable, and, if so, download them to your favorite image processing software on your computer. No more waiting a couple of weeks for processing to see if the images you took were acceptable.

Roy Ellis' entomological interests have centred on biting flies since his PhD at the University of Manitoba. He has worked on a wide range of jobs and projects, City Entomologist for Winnipeg, as a frequent lecturer at Simon Fraser University, University of Manitoba and government. In 1981 he formed Prairie Pest Management, a firm designed to carry out research and development of integrated pest management and disease vector control. Contact information: Prairie Pest Management - P.O. Box 757, Carman, MB Canada R0G 0J0, rellis@mts.net.

Since then, I've sold hundreds of digital insect images to government and industry, and, using the proceeds of those sales, upgraded my digital equipment. Now, I'm concentrating on getting images of smaller insects and the eggs and the immature stages of larger insects. I recently purchased a Canon 10D, equipped with MP-E (65 mm, 1-5X) lens and a Macro Twin Lite MT-24EX flash unit, see <http://www.canoneos.com/> or <http://www.canon.ca/> for details. The flash has movable, independent flash heads. With through-the-lens metering, extreme close-ups of small insects are a snap.

The second and the most challenging step in DIY insect microphotography is to get out in the field and find the insects that you want to photograph. If you're trying to document all the life stages of an insect and some of their more interesting behaviors, this step will involve a lot of time, prior study, travel and effort. Not to mention, luck. It may take you years to get the complete series of quality photos that you want of just one insect species. The fun part is that, along the way to that goal, you will have the opportunity to observe and photograph many other fascinating insects. Good shooting!

Meeting Announcements / Réunions futures

72^e Congrès de l'Association francophone pour le savoir - Acfas

Montréal, Québec, Canada, 10-14 mai 2004

www.acfas.ca/congres

15th International Plant Protection Congress,

Beijing, China, 11-16 May 2004

ippc2003@ipmchina.net, <http://www.ipmchina.net/ippc/ippcwelcome.html>

55th Annual Meeting of the Lepidopterists' Society

College Park, Maryland, USA, 14-18 July 2004

<http://alpha.furman.edu/~snyder/snyder/lep/meet.htm>

22nd International Congress of Entomology

Brisbane, Australia, 15-21 August 2004

<http://www.ccm.com.au/icoe/index.html>

CIF/IFC & SAF Joint 2004 AGM/ Convention

Edmonton, Alberta Canada, 2-6 October 2004

One Forest Under Two Flags / Une forêt sous deux drapeaux

Joint Meeting of the Entomological Society of Canada and the Acadian Entomological Society

Charlottetown, PEI, 15-18 October 2004

giberson@upei.ca, <http://www.acadianes.org/index.html>

51st Annual Meeting of the Entomological Society of America

Salt Lake City, Utah, USA, 14-17 November 2004

http://www.entsoc.org/annual_meeting/2004/index.html

Bioblitz in Manitoba

The Entomological Society of Manitoba is organizing a bioblitz on 5-6 June 2004 at the site of the Criddle homestead in Aweme Manitoba. All are welcome. For more information see www.brandonu.ca/zoology/aweme_bioblitz or contact Bill Galloway at the University of Brandon, (204) 727-9655, galloway@brandonu.ca.

The goal of a bioblitz is to collect as many species as possible in a 24-hour period. For more information on bioblitzes see <http://www.mp2-pwrc.usgs.gov/blitz.html>

Lab Profile / Profil de labo By Rob Johns

The Quiring Lab

Dan's lab is located in the New Forestry Building at the University of New Brunswick Fredericton. Approximately a third of the graduate students are enrolled in the graduate program of Biology and the others in the graduate program of the Faculty of Forestry and Environmental Management. Most of the research in the lab focuses on the population ecology and management of forest pests in young regenerating forests, with a strong emphasis on insect-plant interactions. There is a high level of involvement in most student projects by colleagues at the Canadian Forest Service and Agriculture and Agri-Foods Canada, as both institutions are located close to campus. Due to the collaboration with the latter federal lab, there are usually several graduate students working on various aspects of potato pest ecology and management. In addition to researchers at CFS and AAFC, other colleagues at UNB and elsewhere interact with the lab through their participation in the Population Ecology Group.

There is plenty of interaction among the graduate students. Much of the initial editing in proposals and papers are conducted internally by people in the lab. All graduate students are expected to

deliver talks whenever possible. Joint meetings with the lab of Steve Heard (Biology Department) are also carried out every week, to help us refine our ability to critically evaluate scientific papers and to discuss student projects. To maintain productivity, Dan invests heavily in Starbucks' coffee and it is consumed in enormous quantities.

A recreational streak runs through the lab and various activities such as tennis, squash, occasional computer games and/or soccer may serve as the outlet through which Dan and his students vent their research-induced rages in their spare time. Other useful outlets include relaxing at the new graduate student pub, located 200 m from the lab, and pot-luck suppers.

Dan Quiring: quiring@unb.ca, www.unbf.ca/forestry/Faculty/faculty/quiring.htm

Dan obtained a BSc in Biology from Simon Fraser University and a PhD from Laval University. Although he grew up enjoying the temperate climate of the West Coast, Dan has adjusted well to life in the Maritimes, where field sites are as close as the trees in his yard and the forest behind his house. He enjoys life in a small university town where living outside the city only requires a 15 minute drive by car or a 50 minute bike ride to



The people in the Quiring lab; Gaétan Moreau, Andrew Morrison, Rob Johns, Natalie Henneberry and Dan Quiring (from right to left) missing from the photo; Pawlina Dexter and Roger Graves.

reach his office, and where Vice-Presidents will come in during their holidays to sign documents for you. When not in his office, lab or field sites, Dan is often seen driving his numerous daughters to different events, tasting wine or playing tennis.

Pauwlina Dexter; MSc candidate, Pauwlina.Dexter@unb.ca

I graduated in 2003 with a BSc in Biochemistry from the University of New Brunswick, and I have continued on to pursue a Master's degree in Entomology. I am working with Yvan Pelletier, a research scientist at the Agriculture and Agri-Food Canada, Potato Research Centre and with the Quiring lab at the University of New Brunswick. I am investigating the mode of resistance in seven wild potato species to two aphid potato pests: *Myzus persicae* (Sulzer) and *Macrosiphum euphorbiae* (Thomas). The Green Peach and Potato aphids are well-known plant virus vectors and have been shown to behave differently with respect to host preference. My research uses behavioural observation to offer inferences as to what the mode of resistance is for each wild potato species. The objectives of my project are to determine: 1) if the aphid is responding to defense chemicals produced by the plant; 2) if the aphid is responding to poor quality or insufficient nutrients within the phloem sap; and 3) if the aphids' physiological state has an impact on their host acceptance threshold.

Roger Graves; MScF candidate

Roger completed a Bachelor's degree in biology from Dalhousie University in 1991, and, after a 2 year hiatus, moved on to complete a Bachelor's degree in forestry from UNB in 1997. After working as a consulting Forester for 5 years, and earning certification as a Registered Professional Forester (NB), Roger returned to UNB in 2002 to begin work on his Master's in Forest Entomology/Ecology. The focus of his thesis has been on the relationship between Balsam Fir Sawfly (*Neodiprion abietis*) and its nucleopolyhedrovirus (*NeabNPV*). Specifically, he has been studying the pattern of NPV spread in sawfly populations and some factors that may affect that pattern. Results to date indicate that *NeabNPV* spreads readily and rapidly between susceptible hosts; and that spread is not

affected by the quality of foliage - as influenced by previous defoliation or stand thinning, nor by changes to larval dispersal behavior, nor by changes to the egg-lay behavior of adult females. In fact, *NeabNPV* may spread over hundreds of metres through a host population from the point of introduction, with the most likely mechanism being aerial dispersal of minute quantities of viral inoculum. During the few, brief moments not devoted to his thesis, Roger may be found volunteering time with the local Ground Search and Rescue organization or soothing thesis frustrations on the squash court or in Tai Chi class. Recreation studies usually include field studies to elucidate the effects of the fermentation of barley and hops on graduate student preference and performance at the Graduate "Conference" facility located in Alden Nowlan House at UNB.

Natalie Henneberry; MScF candidate

On the heels of a summer of chasing gypsy moths, Natalie arrived in our lab in September 2003. After finishing her Bachelor of Arts, in biology and linguistics, at UNB Fredericton and dabbling briefly in the world of insect ecology, Natalie began her work with the balsam fir sawfly (*Neodiprion abietis*). As an addition to the ongoing research in western Newfoundland, Natalie will be working specifically with the species specific baculovirus, *NeabNPV*. In short, she will examine its effects primarily on fecundity, but also on size and egg viability. *NeabNPV*'s method of transmission and its origin in populations of high and low density are of further interest in her study.

Rob Johns; PhD candidate, r.c.j@unb.ca

I started my MSc at Dan's lab in 2000, transferred into the PhD program in 2002, and will graduate later this year.

I'm studying the yellowheaded spruce sawfly, *Pikonema alaskensis*, a common defoliator of young black spruce throughout Eastern Canada. Larvae feed as early instars on protected inner shoots of black spruce branches but disperse after fourth instar to complete development feeding on exposed apical shoots. I am examining the adaptive value of this foraging behavior and testing several hypotheses to explain why it has evolved.



Gaétan Moreau

Summer student Andrea Sharpe placing newly-emerged balsam fir sawfly larvae on trees in a spaced (left) stand in western Newfoundland. The manipulated field study evaluated the influence of spacing on host plant quality.

Most of my research takes place in central Newfoundland where I've spent the last four summers enjoying the kind hospitality of Grand Falls-Windsor inhabitants. When not tromping through the forest I may be found chasing a little white ball and/or the man carrying it out on the rugby pitch.

Gaétan Moreau; PhD just completed, gaetan.moreau@unb.ca

I just finished (January 2004) my PhD at Quiring's lab on the population dynamics of the balsam fir sawfly (*Neodiprion abietis*). One of the objectives of my study was to determine if intensive silviculture contributed to the increased severity of balsam fir sawfly outbreaks in Atlantic Canada.

Thus, a significant portion of my work involved plant-insect interactions in managed and natural forest stands of western Newfoundland and Cape Breton.

I just recently moved to the Atlantic Forest Center of the Canadian Forest Service where I have been granted a postdoc fellowship to work on the baculovirus of the balsam fir sawfly. Since then, the level of caffeine in my blood has radically plummeted. However, I have to admit I am going to miss Dan's lab, a very nice place to both work and have a good laugh.

Andrew Morrison; MScF candidate, Andrew.Morrison@unb.ca

Andrew has a bachelor's degree in Forestry and Environmental Management from the University of New Brunswick (1999) and is currently finishing his second year in Dan Quiring's lab. His primary interests are in the interactions of gall midges and their host plants. He is investigating the preference and performance of an aspen leaf-galler (*Harmandia tremulae*) on trembling aspen leaves, which induces galls on mid or lateral veins on the bottom of leaves. Preliminary results suggest that the female midge is not selecting optimal oviposition sites, possibly being constrained in her choice by short life-span and tree phenology. However, the larvae appear to choose gall induction sites on the leaf surface. Larval survivorship appears to be best in higher densities on smaller leaves, suggesting facilitation amongst the galls.

Andrew grew up all over the place (Canada, Europe, USA) but now calls Fredericton, New Brunswick home. When not working on his research he likes to wrestle bears and taunt biker gangs. Men admire him and women adore him. Married in August 2003, he now does what he's told and always puts his laundry in a basket (not the floor).

Editor's Note: If you would like to share what is happening in your laboratory, please contact me. This is good way for potential graduate students to learn about your lab.



M. Alperyn

Hello entomology students! It seems that most of the students enjoyed the ESC conference. Here are some of your comments:

"I don't really have any constructive comments about last year's ESC meeting, apart from saying that it was a very good venue with lots of students.", Maxence Salomon.

"...as for the ESC meeting, I'm not sure what I would want changed; it was the best meeting I've ever been to.", Jonathan Leggo.

"Concerning the ESC meeting, I really enjoyed it. I found that there were more occasions for students to get to know each other than at previous meetings, and this is great. The conferences and symposiums were very interesting, but the "one-on-one" talks are often the ones from which we benefit the most.", Mireille Marcotte.

I am excited to announce two new awards created for students: the ESC Student Conference Travel Award and the Biological Survey of Canada Scholarship. Please make note of the deadlines and be sure to apply.

I will be looking for your new ideas and comments for every issue of the *Bulletin*. If you know of someone that is a Canadian abroad or from a Canadian University that has successfully completed his or her thesis in the last six months, send the information to me to be published in the next *Bulletin*. Grad students are also encouraged to write in questions, which can then be answered by experts in the field. I wish you the best of luck in your studies.

Thesis roundup / Un foisonnement de thèses

Bryden, Rebecca; rebecca_bryden@sfu.ca, MPM 2003. *Influence of experience on the foraging behaviour of Aphelinus abdominalis*. Supervisor: Bernie Roitberg, Simon Fraser University.

Capar, Lisa; l.capar@uwinnipeg.ca, MSc December 2003. *Effect of disturbance type (fire and harvesting) on the ecological diversity of Carabid beetles (Coleoptera: Carabidae) in black spruce (Picea mariana (Mill.) BSP.) forests of eastern Manitoba*. Supervisor: Richard Westwood, University of Manitoba.

Dallaire, Renée; reneeda7@hotmail.com, Msc August 2003. *Effets sous-létaux du tebufenozide, un régulateur de croissance d'insectes, sur la communication chimique et le succès reproducteur chez Choristoneura fumiferana et C. rosaceana (Lepidoptera: Tortricidae)*. Supervisors: Johanne Delisle, Laurentian Forestry Centre and Eric Bauce, Université Laval. The thesis is available electronically at <http://ariane.ulaval.ca>.

Jenner, Wade H.; whjenner@sfu.ca, MSc November 2003. *European parasitoids of the cherry bark tortrix: Assessing the ichneumonid, Campoplex dubitator, as a potential classical biological control agent for North America*. Supervisor: Bernie Roitberg, Simon Fraser University.

Leggo, Jonathan J.; jj_leggo@yahoo.ca, MSc June 2003. *Developmental morphology of a rose stem gall induced by Diplolepis triforma (Hymenoptera: Cynipidae) and its modification by parasitoids*. Supervisor: J. D. Shorthouse, Laurentian University

Pureswaran, Deepa S.; dsp@sfu.ca, PhD November 2003. *The role of kairomones and pheromones in host selection by tree-killing bark beetles (Coleoptera: Scolytidae)*. Supervisor: John Borden, Simon Fraser University.

Savage, Jade; jsavag1@hotmail.com, PhD December 2003. *Systematics of Thricops rondani and*

phylogeny of the Azeliini (Diptera: Muscidae). Supervisor: Terry. A. Wheeler, McGill University Simpson, Colleen; simpsonc@ucalgary.ca, MSc January 2004. *Ecological consequences of forest thinning for bark beetles (Coleoptera: Scolytidae): direct and indirect effects*. Supervisor: Mary Reid, University of Calgary.

Questions and answers / Questions et réponses

Maybe because I see the end of my PhD coming (I should defend my thesis this fall), I was thinking that it would be great if there were a section for job search on the ESC web site. It could contain a list of potential employers, positions available (either at the MSc, PhD, PostDoc or employment level), advice on where to look to find job possibilities, etc. I don't know if I am the only one (I suppose not) but I find it hard to know where to look to find this kind of information. If researchers and/or potential employers (in Canada or abroad) were announcing job-related news, I am sure that many students would be interested. **Mireille Marcotte**, Université Laval and Laurentian Forestry Centre, Québec.

New Biological Survey of Canada Scholarship established

The Entomological Society of Canada (ESC) now offers a Biological Survey of Canada postgraduate award. The Biological Survey initiated this award to encourage interest in the study of faunistics in Canadian habitats by providing further support to students working on the biodiversity of insects or other terrestrial arthropods in Canada.

The Biological Survey award will be made every two years, alternating with the Keith Kevan Scholarship, and the Survey has already been able to arrange for start-up funding that assures the award of a long-term future. For more on the Survey and its roles in catalysing and coordinating work on the Canadian insect fauna, see <http://www.biology.ualberta.ca/bsc/bschome.htm>

Further details of the award and of the application process for this and other ESC awards appear elsewhere in this *Bulletin* as well as on the ESC website.

La nouvelle bourse de la Commission biologique du Canada est créée

La Société d'entomologie du Canada (SEC) offrira la Bourse de la Commission biologique du Canada aux étudiant(e)s gradué(e)s. La Commission biologique décerne cette nouvelle bourse, dans le but de stimuler l'intérêt en recherche faunistique dans les habitats canadiens. Cette bourse accorde une aide supplémentaire aux étudiant(e)s qui travaillent dans le domaine de la biodiversité des insectes ou des autres arthropodes terrestres au Canada.

La Bourse de la Commission biologique du Canada sera attribuée tous les deux ans en alternance avec la Bourse Keith Kevan. Dans le but d'assurer la viabilité de cette bourse, la Commission voit au financement initial. Pour de plus amples renseignements sur la Commission biologique et ses rôles de catalyser et de coordonner l'étude de la faune entomologique canadienne, visitez : <http://www.biology.ualberta.ca/bsc/cbchome.htm>

Veillez consulter ce *Bulletin* et le site internet de la SEC pour de plus amples informations sur tout ce qui a trait à cette bourse et aux prix offerts par la SEC.

Application for membership (new members only) Demande d'adhésion (nouveaux membres seulement)

Entomological Society of Canada / Société d'entomologie du Canada

393 Winston Ave., Ottawa, Ontario, Canada K2A 1Y8

Tel: (613) 725-2619, Fax: (613) 725-9349

Name & Address (please print): / Nom & Adresse (lettres moulées SVP) :

Telephone (bus.) / Téléphone (au travail) : () _____

E-mail/courriel : _____ Fax : () _____

Membership is a personal affiliation; publications are the personal property of the individual member. / Cette cotisation s'adresse aux individus; les publications payées ici sont la propriété personnelle du membre.

Membership Dues with / Cotisation avec

The Canadian Entomologist
and/et *Bulletin*

Print/Imprimé Web or/ou or/ou Both/Les deux
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|---|--------------|--|-------|
| <input type="checkbox"/> REGULAR / RÉGULIER | Canada: | \$85.60 Cdn (GST/TPS incl.) or/ou
\$92.00 Cdn (HST/TVH incl.) | |
| OR | USA & Int'l: | \$74.00 US or/ou \$100.00 Cdn | |
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\$46.00 Cdn (HST/TVH incl.) | |
| | USA & Int'l: | \$36.00 US or/ou \$45.00 Cdn | |
| <i>The Canadian Entomologist</i> : If print and web | | \$10.00 Cdn or/ou \$10 US | |
| Si imprimé et web | | | |

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Endorsement / Signature du professeur.....

TOTAL PAID / PAYÉ

Official receipt / reçu officiel Yes/Oui

Name and contact information on the ESC Web Membership Directory? Yes/Oui

Nom et vos coordonnées dans l'annuaire Web de la SEC des membres? No/Non

**Cheque or money order payable in Canadian or US Funds as detailed above, through
Canadian or US Institution to the Entomological Society of Canada.**

**Chèque ou mandat poste payable (\$ Canadiens ou US, ci-dessus) par établissement
canadien ou US à la Société d'entomologie du Canada.**

MASTERCARD AMEX or/ou VISA

#..... Exp. Date/..... Signature.....

Prix et bourses d'études de la Société d'entomologie du Canada

Annuel

Bourses pour étudiants post-gradués

La Société d'entomologie du Canada (SEC) offre deux bourses d'une valeur de 2000 \$ chacune pour aider des étudiants qui débudent des études post graduées et des recherches en vue de l'obtention d'un diplôme d'études supérieures en entomologie (habituellement une à un(e) étudiant(e) à la maîtrise et l'autre à un(e) étudiant(e) au doctorat). Les bourses seront accordées aux étudiants ou étudiantes en raison des seuls critères de réussite académique. **Date limite : 16 juin 2004**

Subventions de recherche-voyage au niveau des études supérieures

Deux subventions de recherche-voyage, pouvant atteindre 2000 \$, sont offertes pour aider les étudiants et étudiantes à élargir le champ de leur formation supérieure. Les bourses seront accordées aux étudiants ou étudiantes en raison des seuls critères de réussite académique. **Date limite : 13 février 2004**

Spécial et nouveau cette année!!

Bourse étudiante de voyage pour assister à la réunion annuelle de la SEC

Une ou plusieurs bourses de 500 \$ chacune seront offertes pour aider les étudiant(e)s, membres de la SEC, à assister à la réunion annuelle 2004. Pour être admissible, les étudiant(e)s doivent faire une présentation ou présenter une affiche lors de la réunion annuelle. Les bourses seront accordées aux étudiants ou étudiantes en raison des seuls critères de réussite académique. **Date limite : 23 juillet 2004** (le même date limite que celle pour soumettre un résumé). Note : Les récipiendaires seront avisés en août 2004, ce qui leur donnera amplement le temps de planifier leur voyage.

Bourse de la Commission biologique du Canada

En reconnaissance de la Commission biologique du Canada, la SEC offre une bourse d'étude supérieure de 1000 \$ pour aider un(e) étudiant(e) à

entreprendre des études supérieures sur le sujet de la biodiversité des insectes ou arthropodes terrestres au Canada. Cette bourse sera accordée aux étudiants ou étudiantes selon des critères de réussite académique et d'excellence en faunistiques, et sera offerte une année sur deux en alternance avec la Bourse Keith Kevan en systématique. **Date limite : 16 juin 2004**

Consulter <http://esc-sec.org/students.htm> pour les détails ou le *Bulletin de la SEC* 2003 35(4) 188-191 et ce numéro, ou contacter :

Rosemarie De Clerck-Floate

Présidente

Comité des prix aux étudiants de la SEC

Centre de recherche de Lethbridge

Agriculture et Agroalimentaire Canada

Case postale 3000, Lethbridge, Alberta T1J 4B1

Courriel : Floate@agr.gc.ca

Consulter aussi le site Internet de la SEC et la section du *Bulletin* dédiée au congrès annuel conjoint pour les informations au sujet de la Bourse CRSNG du Réseau de Biocontrôle (i.e., pour des présentations étudiantes sur le biocontrôle)

Special

Bourse Keith Kevan en systématique

En mémoire du D. Keith McE. Kevan, la Société d'entomologie du Canada offre une bourse d'étude de 1000 \$ pour aider les étudiant(e)s post-diplômé(e)s qui entreprennent des études en taxonomie des insectes. Cette bourse sera accordée, les années impaires, selon des critères d'excellence académique et de la prééminence en taxonomie des insectes. **Disponible en 2005**

Bourse John Borden

Créée en 2000, cette bourse a été instituée en l'honneur de John Borden, dont l'enseignement et la recherche en écologie chimique ont influencé internationalement la lutte contre les insectes ravageurs et l'entomologie. Cette bourse de 1000 \$, pour souligner une recherche innovatrice en lutte intégrée, sera offerte dès que le fonds atteindra un niveau suffisant pour soutenir une bourse annuelle.

Entomological Society of Canada Awards and Scholarships

Annual

Postgraduate Awards

Two postgraduate awards of \$2,000 will be offered 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 June 2004

Research-Travel Scholarship

Two research-travel scholarships of a maximum of \$2,000 each will be awarded to help students increase the scope of their graduate training. Applications will be judged on scientific merit.

Deadline: 13 February 2004

Special and New this year!!

Student Conference Travel Awards

One or more awards of \$500 each to be awarded as financial assistance for travel to the 2004 annual meeting by student members of ESC. To be eligible, students must present a paper or poster at the annual meeting. Applications will be judged on academic merit.

Deadline: 23 July 2004 (same as deadline for abstracts to annual meeting). Note: winners will be notified in August 2004, so travel plans can be made.

Biological Survey of Canada Scholarship

In recognition of the Biological Survey of Canada, the ESC is offering one postgraduate award of \$1,000 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 June 2004

See <http://esc-sec.org/students.htm> for complete details or *Bulletin ESC* 2003 35(4) 188-191 and this issue, or contact:

Rosemarie De Clerck-Floate
Chair ESC Student Awards Committee
Lethbridge Research Centre
Agriculture and Agri-Food Canada
P.O. Box 3000
Lethbridge, Alberta T1J 4B1
E-mail: Floate@agr.gc.ca

Also watch the ESC website and *Bulletin* closer to the Joint Annual Meeting for information on the NSERC Biocontrol Network Award (i.e., for student presentations on biocontrol)

Special

Keith Kevan Scholarship in Systematics

In memory of D. Keith McE. Kevan, the Entomological Society of Canada offers a scholarship of \$1,000 to aid students undertake postgraduate studies in insect taxonomy. This scholarship will be awarded in odd numbered years, with the selection criteria being academic excellence and taxonomical ability. **Available in 2005**

John Borden Scholarship

Created in 2000, this scholarship was established in honour of John Borden, who's teaching and research in chemical ecology is recognized around the world for its impact on pest control and entomology. This scholarship of \$1,000 will be offered to students to encourage innovative research in the field of IPM, once sufficient funds have accumulated to sustain an annual scholarship.

ESC Student Conference Travel Awards

This cash award, to be first presented in 2004, is established to provide some financial assistance for a student or students to travel to Joint Annual Meetings to present a paper or poster. One or more awards of \$500 each may be presented yearly. The annual occurrence of the award and number of awards presented yearly will depend on the financial standing of the Society. Announcement as to the status of the award(s) will be made yearly in the *Bulletin* and ESC website (<http://esc-sec.org>) in advance of the application/abstract submission deadline.

Eligibility

1. The competition for the ESC Student Conference Travel Award(s) is open to students with active membership in the ESC (i.e., paid for the current year), who are either in a graduate or undergraduate program at a Canadian university.
2. Students must present a paper or a poster at the Joint Annual Meetings of ESC on their own original research.
3. No student may receive more than one ESC Student Conference Travel Award while registered for the same degree.

Procedures

1. Students applying for the ESC Student Conference Travel Award must do so no later than the submission deadline for abstracts to the Annual Meeting (i.e. announced for July).
2. The application must contain the following documents:
 - a. An abstract of the paper or poster to be given at the Joint Annual Meeting. For the award application, this may exceed the meeting's stipulated abstract word limit, but must not exceed 250 words in length. (Note: an official abstract fulfilling the requirements of the paper or poster presentation still needs to be submitted separately to the Organizing Committee of the Joint Annual Meeting).
 - b. A supporting letter from the student's supervisor of research that also includes a statement that the student is engaged in a graduate or undergraduate program, and indication of extent to which the work the student reports is their own.
 - c. A second letter of recommendation from a faculty member who is familiar with the student's research.
 - d. The student's *curriculum vitae* (one page only, no smaller than 10 point font).
 - e. Official transcripts showing undergraduate and post graduate (if applicable) grades
3. The original and three copies of the application abstract and supporting documents is to be sent to the Chair of the Student Awards Committee (address below) at the same time the official abstract is submitted to the Organizing Committee of the Joint Annual Meeting. Applications will be reviewed by a committee of the Society. Selection of the student or students who will receive the Award(s) will be based on academic merit. The deadline for submission of meeting Abstracts and application documents for the Student Conference Travel Award (i.e., same date) will be announced in the *Bulletin* and posted on the ESC website (<http://esc-sec.org>).
4. Winners will be notified in August and award cheques issued prior to the Joint Annual Meeting, so travel plans can be made.
5. All communications regarding this award should be addressed to: Rose De Clerck-Floate, (see page 17).

Bourse étudiante de voyage pour assister à la réunion annuelle

Cette bourse monétaire, qui sera remise pour la première fois en 2004, a été créée pour fournir un soutien financier à un/une/des étudiant/e/s qui présentent une conférence ou une affiche à la Réunion annuelle. Une ou plusieurs bourses de 500 \$ chacune seront offertes annuellement. L'attribution de cette bourse et le nombre de bourse attribuée annuellement dépendra de la situation financière de la SEC. L'annonce concernant le statut de la bourse (ou des bourses) sera faite annuellement dans le *Bulletin* et sur le site Internet de la SEC (<http://esc-sec.org>) avant la date limite pour la demande/soumission des résumés.

Admissibilité

1. La compétition pour la Bourse étudiante de voyage pour assister à la Réunion annuelle de la SEC est ouverte à tous les étudiants membres de la SEC.
2. Les étudiants/es doivent présenter une conférence ou une affiche à la prochaine Réunion annuelle de la SEC portant sur leur projet de recherche.
3. Aucun/e étudiant/e ne pourra recevoir plus d'une Bourse étudiante de voyage pour assister à la Réunion annuelle de la SEC tant qu'il/elle sera inscrit/e à un même programme d'étude.

Procédures

1. Les étudiants/es faisant une demande pour une Bourse étudiante de voyage pour assister à la Réunion annuelle de la SEC doivent le faire avant la date limite pour soumettre un résumé à la Réunion annuelle (c'est-à-dire annoncé en juillet).
2. La demande doit contenir les documents suivants :
 - a. Une copie du résumé de la présentation ou de l'affiche qui sera présentée à la Réunion annuelle. Pour la soumission à la bourse, ce résumé peut être plus long que celui demandé pour la Réunion annuelle, mais il ne doit pas comporter plus de 250 mots (Note : un résumé officiel doit être également soumis séparément au Comité Organisateur de la Réunion annuelle).
 - b. Une lettre d'appui du superviseur de recherche de l'étudiant qui inclut une déclaration confirmant que l'étudiant est inscrit dans un programme de MSc ou PhD, et que les travaux présentés sont bel et bien réalisés par cet étudiant.
 - c. Une deuxième lettre d'appui d'un autre professeur de sa faculté qui est familier avec les travaux de recherche de l'étudiant.
 - d. Le *curriculum vitae* de l'étudiant (une page seulement et avec une grosseur de caractères qui ne soit pas inférieure à 10).
 - e. Une copie officielle des résultats scolaires (premier cycle et études supérieures si cela s'applique).
3. Envoyer la demande de bourse originale (lettre de soumission, résumé et autres documents requis) ainsi que 3 copies de cette série de documents au/à la Président/e du Comité des Prix Étudiants (adresse ci-dessous) en même temps que le résumé est soumis au Comité Organisateur de la Réunion annuelle. Les demandes seront évaluées par un comité de la Société. Le choix du/de la/des étudiant/e/s qui recevra/ont la/les bourse/s se fera seulement sur la base du mérite académique. La date limite pour la soumission des résumés et des documents de la demande pour les bourses de voyage pour conférence des étudiants/es de la SEC (c'est-à-dire la même date) sera annoncée dans le *Bulletin* et affichée sur le site internet de la SEC (<http://esc-sec.org>).
4. Les récipiendaires seront avisés en août 2004, ce qui leur donnera amplement le temps de planifier leur voyage.
5. Tous renseignements concernant cette bourse doivent être envoyés à: Rose De Clerck-Floate (voir page 16).

Letters to the Editor

Jobs for Entomologists

Since about the early 1980s the Society has focused its attention on matters such as finances, publication costs, fees, student membership, awards, scholarships, parallel publishing, websites, copyright agreements, resigning from and joining umbrella societies. These in-house activities are important, but an equally important bread and butter issue, namely, attempting to improve the employment climate for graduates in Entomology has been addressed only rarely during this period. In 1995, the President mentioned the importance of developing a national research and development policy and the need to protect research and development activities in federal laboratories. I would include university and institutional laboratories. In 1991, members were urged to write letters to politicians on the need and importance of adequate funding for research in the natural sciences. An editorial in the *ESC Bulletin*, December 1990 urged young entomologists to become politically involved in trying to correct the "criminally low level of funding for all kinds of research" and "the public perception of scientists as useless parasites on society." That perception may apply more fairly to people in other occupations. In that same issue the question was asked why research jobs in government laboratories and academic positions were frequently filled by non-Canadians.

From about 1971 to 1981, presidents of the Society expressed concern about the declining opportunities for graduates in Entomology to obtain lasting employment in universities, industry and government. At that time government was the largest employer of entomology graduates. Many expressed concern about the detrimental and demoralizing effects of re-organizing government research agencies. Some wrote letters to the prime minister or cabinet ministers expressing concern about the downgrading of scientific research in Canada, and warning that continued curtailment of research would have disastrous effects on our ability to cope with immediate problems or to conduct long-term comprehensive studies.

While it is true that politicians may not be im-

pressed by rational requests for expanded funding, it is equally true that they would be even less impressed if no requests for adequate support were forthcoming. At the very least, letters would let legislators know who we are, what we do, and of what importance our work is to the economy. In addition to making politicians aware of our discipline, entomologists must inform the public about the importance of their work, directly or indirectly, in improving the production and quality of food and forest products and protecting them from invasion by insects. They must inform people about insect-vectored diseases of humankind, domestic animals, and plants, and about the economic benefits of insects as pollinators. People must be informed and taught to appreciate that they are receiving excellent value for the money spent on research in Entomology, and that they cannot take their daily bread for granted. Food is nutritious; dollar bills BF (before loonies) is not. This kind of information must be made emphatically, effectively, and frequently. The Society should request that funding for research and development in Entomology at universities and government laboratories be restored to the level of percentage of budget that was in place during the 1950s.

In 1980, the Society launched a study to investigate the activities of graduates in Entomology from Canadian universities ten years after graduation. Although incomplete, the study showed some alarming trends. Only a small percentage was employed as teachers or researchers in Entomology or related branches of Biology. Most had returned to family farms or businesses; some became schoolteachers, entrepreneurs and salespeople. Their training was under-utilized! It is pertinent (some may say impertinent) to ask why, except for personal or academic interest, we train Entomologists for an extremely limited market in which to earn a living and practise a chosen profession? It is our duty as members of a society of biologists to ensure that research in the natural sciences is neither diluted nor compromised. In 1970, the Vice-President of Atomic Energy of Canada spoke to a joint meeting of the Entomological Societies of Canada and Manitoba. The title of his talk was "Whither Canadian Science or Wither Canadian

Science - a Choice". He recognized the impact of Entomology in renewable resource industries, health, and recreation but concluded that entomologists are not forceful enough in presenting their case for expansion. Exactly.

I would like to end with a note of caution. In this era of industry-supported research it is essential that government resume its role as the major funding agency for research and development in the natural sciences in Canada. This would ensure the conduct of sound in-house research in the public interest, and would minimize if not eliminate, poorly designed out-house research. It would ensure also that there is not even the perception of interference from vested interests.

Sam Loschiavo, C.M.
Former ESC President
Winnipeg, Manitoba

If you would be interested in replying to this letter, or to raise other topics, please feel free to contact me. Editor

NABA Butterfly Count

The 29th annual North American Butterfly Association (NABA) was held all over North America last July. There were over 400 counts in the USA, 56 in Canada and two counts in Mexico. If you would like to order a report of the 2003 counts sent \$10 US for members or \$15 US for non-members to NABA - Butterfly Count, 4 Delaware Rd., Morristown, NJ, 07960 USA. or for more information see their web site at www.naba.org.

The NABA Butterfly Count is looking for people to participate in their 30th annual Butterfly Count. Volunteers select a count area within a 15-mile diameter, and conduct a one day census of all butterflies sited within the circle. No matter how much or how little butterfly watching you've done, the results of butterfly counting can be surprising and interesting.

Books to be reviewed

If you are interested in reviewing one of the following books, please contact Allan Carroll, Chair of the Publications Committee.

Hallman GJ, Schwalbe CP (*Editors*). *Invasive arthropods in agriculture: Problems and solutions*. Enfield NH: Science Publisher Inc.

Basset Y, Novotny V, Miller CE, Kitching RL (*Editors*). *Arthropods of tropical forests: Spatio-temporal dynamics and resource use in the canopy*. New York NY: Cambridge University Press

Shuster SM, Wade MJ. *Mating systems and strategies*. Princeton NJ: Princeton University Press

Held LI Jr. *Imaginal discs: The genetic and cellular logic of pattern formation*. New York NY: Cambridge University Press

Walter GH. *Insect pest management and ecological research*. New York NY: Cambridge University Press

Peck SB. *Smaller orders of insects of the Galapagos Islands, Ecuador: Evolution, ecology and diversity*. Ottawa ON: NRC Research Press

Vandermeer JH, Goldberg DE. *Population ecology: First principles*. Princeton NJ: Princeton University Press

Please send correspondence concerning book reviews to the Chair of the Publications Committee:

Allan Carroll
506 West Burnside Rd, Pacific Forestry Centre
Victoria, BC, Canada V8Z 1M5
Tel: (250) 363-0639, Fax: (250) 363-0775
E-mail: acarroll@pfc.cfs.nrcan.gc.ca

Members in the News Membres faisant la manchette

New Editor-in-Chief for *The Canadian Entomologist*

It is an honour to be appointed Editor-in-Chief of *The Canadian Entomologist* (*TCE*). Thank-you for your confidence in entrusting me with the continuation of the excellent job carried out by our past Editor, Jean Turgeon, who streamlined the whole process of submitting, reviewing, accepting (and rejecting!) manuscripts for publication in *TCE*. I will strive to maintain the high standards he has set. I also take this opportunity to thank Jean personally for his dedication to the journal and for his tireless service to our Society. This is one of the most important, and thankless, jobs in the ESC. Thank-you Jean, for leaving the journal in such a sound state of affairs, not only from an editorial but also a scholarly point of view.

My previous editorial experience has been with the *Canadian Journal of Zoology* in the mid-1980's when I was Assistant Editor to the Editor-in-Chief, George Mackie, and then with the *Journal of the Entomological Society of B.C.* where I was Editor from 1990-1995. Not to forget, of course, the numerous Honours, MSc and PhD theses of my students as well as scores of undergraduate reports in Directed Research courses.

I do not anticipate any major changes in editorial policy for the time being, although eventually I hope to stamp my own identity on the editorial office. I take this opportunity, therefore, to invite you, the authors and readers, to submit your ideas and requests for changes that could lead to the on-going evolution of our journal - especially in light of competition in the field from other, similar entomological publications and, perhaps even more important, from the increasing onslaught of "open-access journals" via the internet. Let's think about the implications of these new developments, and put our collective heads together to determine the costs and benefits of *TCE* to the entomological community. Remember, when you think of publishing your work, think of *TCE* first. We don't want your rejects from *Nature* or *Science*!

Have a successful and productive year in 2004. I look forward to receiving your manuscripts.

Sincerely

Richard A. Ring

(See inside cover for contact details)



Hugh Danks

Nouvel éditeur en chef de la revue *The Canadian Entomologist*

C'est un honneur pour moi d'avoir été nommé éditeur en chef de la revue *The Canadian Entomologist* (*TCE*). Je tiens à vous remercier de la confiance que vous me portez à poursuivre dans la continuité l'excellent travail réalisé par mon prédécesseur, Jean Turgeon. Ce dernier a réorganisé et simplifié tout le processus de soumission, de revue et d'acceptation (et de rejet) des manuscrits soumis au *TCE*. Je ferai de mon mieux pour maintenir les standards élevés qu'il a établis. Je profite également de cette opportunité pour remercier personnellement Jean pour son implication à la revue ainsi que pour son dévouement sans relâche envers notre Société. C'est l'une des tâches les plus importantes et aussi les plus ingrates au sein de la SEC. Merci donc Jean de laisser la revue dans un moment où elle est bien portante non seulement du point de vue de l'édition mais également sur le plan scientifique.

Mes expériences antérieures d'édition ont été les suivantes : d'abord avec la revue *Canadian Journal of Zoology* au milieu des années 1980 alors que j'étais éditeur adjoint à l'éditeur en chef, George Mackie, et par la suite avec la revue *Journal of the Entomological Society of B.C.* dont j'ai été l'éditeur de 1990 à 1995. Je suis également fort d'une expérience de supervision de plusieurs mémoires et de thèses de maîtrise et de doctorat sans oublier de nombreuses évaluations de rapports de projets de recherches réalisés par les étudiants de premier cycle.

Je n'entrevois pas apporter de changements majeurs à la politique éditoriale bien

qu'éventuellement j'espère imprégner ma touche personnelle à titre d'éditeur. Je profite donc de cette opportunité pour vous inviter auteurs et lecteurs à soumettre vos idées et suggestions de changements qui pourraient contribuer à l'amélioration constante de notre revue, particulièrement dans le contexte actuel de la compétition de revues similaires à la nôtre et plus encore dans celui du nombre grandissant de publications libres d'accès qui nous envahissent par l'intermédiaire d'Internet. Prenons le temps de réfléchir aux implications de ces nouvelles

tendances et demandons-nous collectivement quels sont les coûts et les bénéfices de *TCE* sur la communauté entomologique. Rappelez-vous lorsque vous songez à publier vos travaux de les publier d'abord dans *TCE*. Nous ne voulons pas de vos manuscrits rejetés par *Nature* ou *Science*!

Je vous souhaite une année 2004 productive et avec plein de succès. J'attends avec impatience de recevoir vos manuscrits.

Sincèrement

Richard A. Ring

(Voir à l'intérieur du couvert pour coordonnées)

Awards at the ESO AGM

Congratulations to Ed Becker, Ron Harris who were elected Fellows of the ESO in 2002 and Chris Sanders and Bill Judd who elected in 2003.

Barry Lyons



The President of the Entomological Society of Ontario (ESO), Bruce Gill, congratulating Ed Becker (right) on becoming a Fellow of the ESO at the 140th Annual General Meeting of the ESO in Guelph on 29 November 2003.

Barry Lyons



The President of the Entomological Society of Ontario (ESO), Bruce Gill, congratulating Ron Harris (right) on becoming a Fellow of the ESO at the 140th Annual General Meeting of the ESO in Guelph on 29 November 2003.

Barry Lyons



The President of the Entomological Society of Ontario (ESO), Bruce Gill, congratulating Chris Sanders (right) on becoming a Fellow of the ESO at the 140th Annual General Meeting of the ESO in Guelph on 29 November 2003.

Chemist Sees the Light

I don't know how many professional societies have awards, such as the Criddle Award, that recognize amateurs, but I congratulate the Entomological Society of Canada on being one. I first came across Norman Criddle as the name of the collector on some of the older BC specimens in the collection of the Spencer Entomological Museum (SEM) at the University of British Columbia. I have since discovered that his contribution to Canadian entomology is much greater than that. I am most honoured to be the recipient of the 2003 Criddle Award.

My path to entomology has been a bit circuitous. It began in high school biology where each student had to make an insect collection, 100 specimens identified to order. I continued collecting for several years thereafter and my collection eventually filled four homemade drawers. One of the highlights of my collection was the *Calopteryx aquabilis* specimens that I collected from the stream that ran through my parent's backyard. A few years later, a developer destroyed the spring that fed that stream and these beautiful damselflies have not been seen in the area since. When I went off to university to pursue a career in chemistry, my parents donated my collection to the local high school where the collection and its documentation of the local biodiversity was eventually destroyed by dermestids.

It was my chemistry career that first brought me to Canada, as a postdoctoral fellow at UBC. That was followed by extended stays in Germany and Australia. After the job in Australia ended, my wife and I decided to return to Vancouver. I took time off from chemistry to pursue my other interests which mostly revolved around birds. I started volunteering in the Cowan Vertebrate Museum doing a variety of jobs. On an outing with the local natural history society, a chance comment reawakened my interest in Odonata. In an effort to learn more about these fascinating insects, I started volunteering in the Spencer Entomological Museum and have been there ever since. My subsequent interests and research have been inspired and directed in part by the needs of



Wayne Maddison

Rex Kenner working as Assistant Curator at University of British Columbia.

the SEM collection. I completely reorganized and databased the Odonata, writing several papers along the way. I then moved through several other parts of the collection including a year spent curating Diptera. Having a bias towards aquatic insects, I eventually gravitated to my current interest (my wife might use the term "obsession"), aquatic beetles. Three years ago, my volunteer work in the SEM was recognized by UBC with an honorary appointment as Assistant Curator.

I have been very fortunate. First, my wife made it possible for me to simply walk away from a successful career in chemistry to follow my other interests. Second, I have always been accepted and taken seriously by the entomological community in spite of my lack of formal training in biology. Third, I have had great support and encouragement from a number of people: Karen Needham, Curator of the SEM, who shares her office with me (going on nine years now) and gives me free run of the museum, Geoffrey Scudder who has supported me and answered my many

questions and my three mentors (mainly through e-mail contact) Rob Cannings, Rob Roughley and Richard Zack. There are many more. To all these people I say thank you.

Finally, I would like to say something about a subject that is dear to my heart, the protection and enhancement of Canada's various public natural history collections. Although these comments are particularly about the insect collections, as the current curator of the Cowan Vertebrate Museum at UBC, I realize that they apply equally to all natural history collections. These collections are found at various institutions right across the country including universities, provincial museums and government labs. Many of the smaller collections are underfunded and understaffed and may be facing an uncertain future. It is vitally important that all of us support these collections; they are a very important resource documenting Canada's biodiversity. Take some time to visit the collection nearest to you and check it out. If you have expertise in a particular group, check out that part of the collection. Is it complete and representative of your local fauna? Could you help out by donating a reference collection or could you name some of the undetermined specimens? If you use such collections in your work, how about writing a letter to let the authorities know just how important these collections are to your work? If we all contribute a little bit, the value of the collections will be enhanced, our knowledge of Canada's biodiversity will be increased and the future of these collections will be better than it was for my first insect collection.

Rex Kenner
Vancouver, BC



Origins of the ESC emblem

The original ESC emblem was devised by Keith Kevan. "He was active in many organizations and was honoured by many of them. He was a Director (1963-65) and President (1972-73) of the Entomological Society of Canada, was made Fellow of the Society in 1977, and received their Gold Medal for outstanding leadership in 1981. The shield bearing the insignia of the Society containing *Grylloblatta campodeiformis* (presented by the Entomological Society of Quebec) was devised by him. He also wrote a short poem, prefaced with the following: "A doodle done during duties and deliberations by the President" [of the Entomological Society of Canada]" Taken from http://www.insects.org/ced3/dkmce_kevan.html.

The first specimen of *Grylloblatta campodeiformis* (common name, rock crawler) was collected by E.M. Walker in 1913 from Banff National Park on Sulphur Mountain, the one where the hot-springs are found. It is cold-loving insect, preferring temperatures around 0°C and high relative humidity (Scudder and Vickery 2004, http://www.naturewatch.ca/eman/reports/publications/99_montane/orthoptera/orthop03.html). It is considered by many to be a living fossil, and there are less than 30 species in this order, Grylloblattodea.



R. Cannings

This specimen of *Grylloblatta campodeiformis* E.M. Walker, was collected in Kananaskis, Alberta.

Science Fairs: An Opportunity to Share our Science with the Community.

By Bob Lamb

The Canadian science fair program provides a very positive way of sharing our entomological and scientific expertise with the broader community. Some of you already have contributed to science fairs as judges or advisers to student participants, introducing entomological science to a large number of enthusiastic young Canadians. To encourage even broader participation in science fairs by members of our Society we provide contact information for Youth Science Foundation Canada / Fondation Sciences Jeunesse Canada, and two perspectives on our experiences in science fairs.

Youth Science Foundation Canada is the umbrella organization for Regional Science Fairs. As the organization's web site points out, "25,000 grade 7 to 12 students from every region of the country [participate] in regional science fairs each year". Regional Science Fairs also bid to host the Canada-Wide Science Fair. This national championship is a competition for the finalists selected by the 90 affiliated Regional Science Fairs. The Canada-Wide fair will be held in St. John's, Newfoundland & Labrador in 2004, with future fairs scheduled for Vancouver, Chicoutimi and Truro. For those of you who have never participated in a regional or national fair, science fairs provide junior and senior high-school students with an opportunity to present their research projects to each other and the wider community. The projects are judged and awarded prizes, including selection for the Canada-Wide Science Fair.

You can help encourage these budding scientists by offering to assist your Regional Science Fair. A broadly-based group of judges with a high level of scientific expertise stimulates the development of these young scientists. Also, in many regions students or their teachers approach scientists such as ourselves for help and advice in conducting research projects. Simple experiments

with insects often provide practical and fascinating projects for the students.

If you are interested in contributing your expertise to a Regional or Canada-Wide Science Fair, background and contact information is available from Youth Science Foundation Canada at: www.yssf.ca or info@yssf.ca.



Jordan Ottenson (left) and Darren Haber pass the time as they wait to be judged at the Canadian Science Fair, Calgary, May 2003. They went on to win a silver in Junior Life Sciences Section.

Memories of Science Fairs in the 1960's By Bob Lamb

I have very clear and fond memories of participating in the science fairs that took place in Toronto, when I was in grade 7 or 8 and through high school. Given my age, my first science fair must have been in 1958 or 1959, and I remember it being called the Toronto Science Fair. The Canadian program of science fairs got underway in 1962, and I remember being selected to participate in the first Canada-Wide Science Fair. At least I think it was the first Canada-Wide Fair. In any case, the

one I attended was in Montreal. The organization actually bought me an airline ticket so that I could attend. That was my first flight.

Year after teenage year I put together a project on some aspect of insect biology. My first effort was descriptive, something about the adaptations of insects for living in a pond. I had help and advice on that one from Jerry Short, my instructor at the Toronto Junior Field Naturalists Club. (I hope I am spelling her name correctly after all these years). Jerry was and probably still is an artist with an interest in insects. Later she married Dolf Harmsen, Queen's University, a long time member of the Entomological Society of Canada.

One year I worked on fruit fly genetics in my basement, trying to understand how a gene or group of genes could cause a gradient of effects in a trait, rather than a simple switch, for example from red to white eyes. I don't remember what I concluded, but I still don't understand quantitative genetics. That year I have a clear memory of this elderly, somewhat round, and kindly looking woman walking up to my display. She looked at my graphs, read my text, and then started asking questions, which got more and more difficult. I started by thinking I knew everything there was to know about fruit fly genetics, but soon learned how little I really knew. I later learned that this elderly woman, was Norma Ford-Walker, a retired population geneticist from the University of Toronto. She was also the widow of E.M. Walker, the entomologist who discovered grylloblattids, the insect pictured on the The Entomological Society of Canada crest. Dr. Ford-Walker was my first encounter with a prominent scientist, and also my first encounter with a female scientist.

In my last Science Fair project I studied how photoperiod controlled polymorphism in aphids. My parents still claim that I infested their house plants with aphids, which are there to this day. The next year I entered university, and four years later graduate school. My MSc research continued the work I began on aphid polymorphism and seasonality at the Science Fair, and I have been interested in aphids ever since.

I am sure I am not alone in having benefitted

enormously from the efforts of the volunteer judges and advisors that helped me in my Science Fair days. The Science Fair program got me my first airplane ride, and my first trip to Montreal where I encountered other amateur entomologists for the first time. Science Fairs introduced me to many enthusiastic and helpful scientists, who guided and encouraged my growing interest in entomology. Finally, the prizes I won at Science Fairs covered most of the cost of my undergraduate university fees, money my family didn't have. Having put these thoughts down on paper, I can't help but wonder why I haven't been more active in volunteering my assistance to the Science Fair programs that are still contributing so much today.

Adventures in Judging By Paul Fields

I have been a judge at local high schools and the Manitoba Provincial Science Fair for about 15 years. Over the years I have learned a many things from the students. Some of the more memorable projects were; a description of how the world was created in seven days, a method to measure pebble hardness by tumbling them in a washing machine for half a day, the effect of marijuana on test scores and sexual libido of teenagers, plus the run of the mill, vinegar and bicarbonate soda volcanos.

I always introduce myself, tell them that I am a scientist working with insects for the federal government. After listening to their presentation, I always find something positive to say about their project. I ask a few questions and give some examples of experiments that I have run in the laboratory. For some of these children this is the first time they have meet a working scientist. At the end of the day, I am tried, and I am always impressed by the imagination and enthusiasm that these children have. So when the call comes asking you to be a judge, say yes, I don't think you will be disappointed.

Joint Annual Meeting of The Entomological Society of Canada and The Acadian Entomological Society



Insects in the Landscape Rodd Charlottetown Hotel Charlottetown, P.E.I., 15-18 October 2004

On behalf of the Acadian Entomological Society and the Entomological Society of Canada, we are pleased to invite you to the 2004 Joint Annual Meeting which will be held in the Rodd Charlottetown Hotel, Charlottetown, PEI. The theme for the meeting is "Insects in the Landscape", and we are confident that the symposia, workshops, and submitted papers will lead to an interesting and informative meeting.

The 2004 meeting will depart from tradition a bit, and begin on Friday evening, running through the weekend. The meeting will wind up with submitted papers on Monday afternoon. This should allow members who have teaching or other commitments through the week to attend, and also allow members to take advantage of "Saturday stay-over" seat sales to attend the meeting. Please ensure that you take this into account when you make your travel plans.

The Rodd Charlottetown Hotel was built as a CN hotel in 1931 and has been extensively renovated and decorated with replicas of period furnishings. It is a modern hotel though, complete with pool and fitness centre. Parking is complementary for those that wish to drive, and downtown Charlottetown is located only minutes from the Charlottetown airport. For more information on the hotel, check out:

<http://www.rodd-hotels.ca/ourhotels/charlottetown.html>. The Rodd Hotel is offering us a special conference rate for the hotel of \$99.00 per night (for up to two people in a room, plus taxes), and suites are also available. Be sure to mention the Entomological Society of Canada Conference when booking to get the conference rate.

The Rodd Hotel is located in historic downtown Charlottetown (<http://www.visitcharlottetown.com>), only a few minutes walk from Province House (where Confederation was born), the Confederation Centre Art Gallery, and numerous fine shops and restaurants. The hotel is also located near several wonderful old Victorian homes that are now Bed and Breakfast establishments. For information about how to get to PEI, options for alternate accommodation, and information on what to do while here, go to the PEI Government Tourism guide, at <http://www.gov.pe.ca/visitorsguide/index.php3>. Air Canada and Jetsgo fly directly to Charlottetown; alternatively you can fly to Moncton (2 hours drive, over the Confederation Bridge) or Halifax (3.5 hours drive), and rent a car to see some wonderful Atlantic Canadian scenery on your way here.

In addition to the JAM, there are several additional meetings and workshops scheduled to enable entomologists to get the best bang for their travel dollar. Contact the programme committee if you have any other suggestions for activities at the meeting. We are also going to try to put together a "down home kitchen party" following the banquet entertainment, so bring your voices or your instruments and be prepared for some fun. Please visit our webpage for more information and all the news as it develops about the meeting: <http://www.acadianes.org/>

For more information contact:

Donna Giberson, giberson@upeji.ca

Chair of the Organizing Committee

or

Jon Sweeney, jsweeney@nrcan.gc.ca

Program Chair

REGISTRATION FORM

Name: _____

Title First Name Last Name

Preferred Name for name tag (if different from above)

Affiliation: _____

Address: _____

Phone: _____ Fax: _____ E-mail: _____

(Note: registrations will be acknowledged by e-mail if a current and legible e-mail address is provided)

Accompanying Person: _____

Fees:	Before August 1st	After August 1st	Total
Regular ESC or AES member	\$210	\$275	\$ _____
Regular Non-member	\$260	\$325	\$ _____
Student or retired member	\$120	\$150	\$ _____
Accompanying person	\$120	\$150	\$ _____

Banquet dinner preference: indicate meat/seafood entree or vegetarian

Registration includes: Program (with abstracts) and admittance to meetings, mixer and banquet. Accompanying person registration does not include the technical sessions. Extra banquet tickets may be purchased at the registration desk. No refunds on registration after 15 September 2004.

Payment Details:

Cheque for total (make payable to AES/ESC 2004) or Credit card:

Name on Credit Card (please print) _____

Credit card type: VISA or Mastercard Credit card Number: _____

Signature: _____ Expiry Date: _____

Accommodation: Everyone is encouraged to stay at the Rodd Charlottetown Hotel (rate: \$99.00 for up to two people and \$149.00 for a suite, if reserved before 13 September 2004). Please indicate when registering that you are with the Entomological Society of Canada conference to get the conference rate, and please reserve as early as you can to allow us to plan for the various events.

Please return this form with fees to:

ESC/AES registration
 c/o Dr. Donna Giberson
 Dept. of Biology, University of P.E.I.
 550 University Ave., Charlottetown PE C1A 4P3
 Phone: (902) 566-0797, Fax: (902) 566-0740
 e-mail: giberson@upej.ca
 AES Website: <http://www.acadianes.org/>

Hotel Reservations are available from:

Rodd Charlottetown Hotel, 75 Kent Street
 PO Box 159, Charlottetown, PE, Canada C1A 7K4
 Phone: (902) 894-7371, Fax: (902) 368-2178
 Toll Free: 1-800-565-RODD
 e-mail: rodds@rodd-hotels.ca
 Website: <http://www.rodd-hotels.ca/ourhotels/charlottetown.html>

CALL FOR SUBMITTED PAPERS AND POSTERS

This and additional information is available on : <http://www.acadianes.org/index.html>

DEADLINE: Postmarked 23 July 2004

Categories of presentation:

Oral presentation - Regular, President's Prize*

Poster presentation - Regular, President's Prize*

*Students are eligible for the President's Prize (1 per session) if:

- Currently enrolled in a degree program or have graduated from a degree program since the last annual meeting (November, 2003)
- Registered at the meeting and have indicated the wish to participate in this category at the time the title and abstract were submitted
- The principal investigator and presenter of the paper or poster

Language: Presentations may be in French or English

Oral presentation: 12 min + 3 min questions and discussion

Presentations in PowerPoint are encouraged. To minimize potential incompatibilities between the software versions you use to develop and we use to display these presentations, we recommend limited use of animation, use of common Windows fonts for text and symbol fonts for equations. **Do not mail your presentation**, but bring to meeting on diskette or CD after testing this copy on a different machine. If using 35 mm slides, please provide your own carousel. Please note method of presentation when submitting your abstract.

Poster presentation:

Posters can be set up on Saturday morning (October 16) and left in place for the duration of the meeting. Presenters are requested to attend their posters in particular during the designated poster session on Sunday, October 17, from 14:45 - 16:00.

Information required:

1) Author(s) name(s), 2) name of presenter, 3) address, 4) title, 5) abstract, 6) category, 7) language of presentation, and 8) method of presentation (PowerPoint or 35 mm slide). Submit this information by e-mail, on diskette or CD (Word or WP format). Abstracts should be 70 words or less. If longer than 70 words, the editors reserve the right to reduce accordingly. **If possible, please provide your information in both French and English. All abstracts will be placed on the website.**

Please submit to:

Jon Sweeney
Chair of Scientific Program
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**Meeting Theme:
Insects in our Landscape**

Tentative Symposia

Insects in the Landscape

Organizer: Gilles Boiteau

Insect Vectors and Human Health

Organizer: Chris Lucarotti

Insect Population Dynamics

Organizer: Dan Quiring

**Insects of the Canadian Arctic Central
Barrens**

Organizers: Doug Currie and
Donna Giberson

Graduate Student Symposium

Organizer: Heather Proctor

**Thème de la réunion:
Les insectes et le paysage**

Liste préliminaire des Symposia

Les insectes et le paysage

Organisateur: Gilles Boiteau

Les insectes vecteurs et la santé humaine

Organisateur: Chris Lucarotti

La dynamique des populations d'insectes

Organisateur: Dan Quiring

**Les insectes des zones arides de l'arctique
centrale canadien**

Organisateurs: Doug Currie et
Donna Giberson

Le symposium des étudiants gradués

Organisatrice: Heather Proctor

Graduate Student Symposium

The main goal of this symposium is to give a profile to graduating students as they move to the next stage in their careers and allow them a longer time slot to talk about their research. To be eligible, students must have either defended their thesis in the past 3 years or be planning to defend within 1 year of the meeting. Ideally, the topic of the presentation should be related to the theme of the meeting: *Insects in our Landscape*.

Help is needed to identify the most promising speakers for the symposium. If you are a student who is interested in participating in this symposium or know of someone that would be suitable, please contact Heather Proctor hproctor@ualberta.ca, telephone: (780) 492-5704. The organizers of the Charlottetown JAM would appreciate replies by **15 April** so that the information may be included in the June ESC Bulletin; however, submissions will be accepted until **23 June 2004**. Full details will be available at the ESC web site in the student section. <http://esc-sec.org/students.htm>

Le symposium des étudiants gradués

Le but principal de ce symposium est de mettre en valeur les étudiants au moment où ils entament la prochaine étape de leur carrière, en leur donnant plus de temps pour présenter les résultats de leur recherche. Les étudiants admissibles auront défendu leur thèse dans les trois dernières années ou ont l'intention de défendre leur thèse avant octobre 2005. On souhaite que la présentation soit reliée avec le thème du congrès : *Les insectes et le paysage*.

Nous cherchons des présentateurs prometteurs pour le symposium. Si vous êtes un étudiant qui aimerait présenter ou vous connaissez quelqu'un qui serait un présentateur convenable, SVP contacter Heather Proctor, hproctor@ualberta.ca, téléphone : (780) 492-5704. Les organisateurs du congrès conjoint de Charlottetown aimeraient recevoir les réponses avant le **15 avril**, pour que les renseignements puissent être publiés dans le Bulletin de la SEC en juin. Cependant nous acceptons les soumissions jusqu'au **23 juin 2004**. Pour de plus amples renseignements, voir les pages Web de la SEC, section affaires étudiantes <http://esc-sec.org/studentf.htm>

Congrès Conjoint des Sociétés d'entomologie du Canada et Société acadienne d'entomologie



Les insectes et le paysage L'hôtel Rodd Charlottetown Charlottetown (Î.-P.-É.) 15 au 18 octobre 2004

Au nom de la Société acadienne d'entomologie et de la Société d'entomologie du Canada, nous sommes heureux de vous inviter à la réunion conjointe annuelle de 2004, qui se tiendra à l'hôtel Rodd Charlottetown, à Charlottetown, à l'Î.-P.-É. La réunion aura pour thème « Les insectes et le paysage ». Nous sommes convaincus que le colloque, les ateliers et les communications donneront lieu à une réunion intéressante et informative.

La réunion de 2004 se distinguera quelque peu des réunions précédentes en ce sens qu'elle débutera vendredi soir et qu'elle se poursuivra toute la fin de semaine. La réunion se terminera lundi après-midi par les communications. Cette formule permettra aux membres qui doivent enseigner ou qui ont d'autres engagements dans la semaine d'assister à la réunion. Certaines personnes pourront également ainsi profiter des billets d'avion à prix réduit vendus moyennant un séjour d'un samedi soir obligatoire. N'oubliez pas de tenir compte de cela lorsque vous planifierez votre voyage.

L'hôtel Rodd Charlottetown a été bâti en 1931 pour la Compagnie des chemins de fer nationaux du Canada (CN). Il a depuis été entièrement rénové et orné de répliques de mobiliers d'époque. Il s'agit tout de même d'un hôtel moderne et l'on y trouve notamment une piscine et un centre d'entraînement. Le stationnement est gratuit, et le centre-ville de Charlottetown n'est situé qu'à quelques minutes de l'aéroport de Charlottetown. Pour obtenir de plus amples renseignements sur l'hôtel, consultez son site Web, à l'adresse : <http://www.rodd-hotels.ca/ourhotels/charlottetown.html>. L'hôtel Rodd nous offre un tarif spécial pour la conférence à 99 \$ par nuit (pour deux personnes au plus par chambre, taxes en sus). Vous pouvez également choisir de louer une suite. Pour bénéficier du tarif spécial, n'oubliez pas de mentionner que vous participez à la Conférence de la Société d'entomologie du Canada au moment de réserver.

L'hôtel Rodd est situé dans le centre-ville historique de Charlottetown (<http://www.visitcharlottetown.com>), à quelques minutes de marche de la Province House (lieu de naissance de la Confédération), du Confederation Centre Art Gallery et de nombreuses boutiques et restaurants haut de gamme. L'hôtel est également situé près de plusieurs magnifiques maisons victoriennees qui ont été transformées en gîtes du passant. Pour savoir comment vous rendre à l'Î.-P.-É., pour connaître d'autres possibilités d'hébergement et pour obtenir des renseignements sur les activités à faire pendant votre séjour, consultez le Guide touristique de l'Î.-P.-É., à l'adresse http://www.gov.pe.ca/visitorsguide/f_index.php3?. Air Canada et Jetsgo offrent des vols directs vers Charlottetown. Vous pouvez également prendre l'avion jusqu'à Moncton (deux heures de route) ou jusqu'à Halifax (3,5 heures de route), louer une auto, traverser le pont de la Confédération et admirer le magnifique paysage de la région de l'Atlantique.

Plusieurs autres réunions et ateliers sont prévus en marge de la réunion annuelle conjointe pour offrir aux entomologistes le meilleur rapport qualité-prix. Si vous avez d'autres suggestions d'activités pour la réunion, transmettez-les au comité du programme. Nous aimerions également organiser une « soirée musicale » après le banquet. Alors, apportez vos instruments de musique et soyez prêts à chanter et à vous amuser! Consultez notre page Web pour obtenir tous les renseignements de dernière heure sur la réunion : <http://www.acadianes.org/>

Pour obtenir des détails, veuillez communiquer avec la présidente du comité organisateur, Donna Giberson (giberson@upej.ca), ou avec le président du programme, Jon Sweeney (jsweeney@nrcan.gc.ca).

FORMULAIRE D'INSCRIPTION

Nom : _____

Titre Prénom Nom

Nom à inscrire sur le porte nom (si différent du nom susmentionné)

Affiliation : _____

Adresse : _____

Téléphone : _____ Fax : _____ Courriel : _____

(Nota : L'inscription sera confirmée par courriel si une adresse électronique valide et lisible est fournie.)

Personne accompagnatrice : _____

Coût :	Avant le 1 ^{er} août	Après le 1 ^{er} août	Total
Membre régulier de la SEC ou de la AES	210 \$	275 \$	_____ \$
Non-membre	260 \$	325 \$	_____ \$
Étudiant ou membre retraité	120 \$	150 \$	_____ \$
Personne accompagnatrice	120 \$	150 \$	_____ \$

Préférence pour le banquet : viande/fruits de mer ou plat végétarien

Compris dans les frais d'inscription : Programme (avec les résumés) et participation aux réunions, à la réception et au banquet. La personne accompagnatrice ne peut pas assister aux séances techniques. Des billets supplémentaires pour le banquet seront en vente au bureau d'inscription. Aucun remboursement après le 15 septembre 2004.

Mode de paiement

Chèque : (payable à l'ordre de la RAC SEC/SEA 2004) Carte de crédit :

Nom inscrit sur la carte de crédit (lettres moulées) : _____

Carte de crédit : VISA ou Mastercard, Numéro de la carte de crédit : _____

Signature : _____ Date d'expiration : _____

Hébergement : Vous êtes encouragés à loger à l'hôtel Rodd Charlottetown (tarif : 99 \$ pour deux personnes au plus, et 149 \$ pour une suite, si les réservations sont faites avant le 13 septembre 2004). Pour bénéficier du tarif spécial, au moment de faire votre réservation, veuillez mentionner que vous participez à la Conférence de la Société d'entomologie du Canada. Réservez le plus tôt possible pour nous permettre de planifier les diverses activités.

Retournez le formulaire et votre paiement à :

Inscription SEC/SEA

À l'attention de Donna Giberson

Département de biologie, Université de l'Île du Prince Édouard

550, av. Université, Charlottetown (Î. P. É.) C1A 4P3

Téléphone : (902) 566 0797, Fax : (902) 566-0740

Courriel : giberson@upe.ca

Site Web de la SEA : <http://www.acadianes.org/>

INVITATION À SOUMETTRE DES COMMUNICATIONS ET DES AFFICHES

Cette information est aussi disponible à : <http://www.acadianes.org/index.html>

DATE LIMITE : Le 23 juillet 2004 (le cachet de la poste faisant foi)

Catégories de présentation :

Présentation orale – Ordinaire, Prix du président*

Présentation par affiches - Ordinaire, Prix du président*

*Pour être admissible au Prix du président (1 par séance), vous devez satisfaire aux conditions suivantes:

- Être inscrit à un programme de deuxième ou troisième cycle ou avoir terminé un tel programme après de dernier congrès (novembre 2003)
- Être inscrit à la conférence et indiquer le désir de participer dans cette catégorie lors de la soumission de votre communication
- Être le chercheur principal et le présentateur de l'exposé ou de l'affiche

Langue : Les présentations doivent être en français ou en anglais.

Présentation orale : 12 min + 3 min de questions et discussion

Nous vous encourageons à créer des présentations PowerPoint. Afin de minimiser les chances d'incompatibilités entre la version de programme que vous utiliserez pour créer votre présentation et celle qui sera utilisée pour la présenter, nous vous conseillons de restreindre l'utilisation des animations, d'utiliser des caractères communs d'édition de Windows pour les textes et les caractères symboles pour les équations. **Ne postez pas votre présentation**, apportez-la au congrès sur une disquette ou un CD après avoir testé votre document à l'aide d'un autre ordinateur. Si vous utilisez des diapositives 35 mm, veuillez les placer dans un magasin circulaire. Veuillez indiquer la méthode de présentation lors de la soumission de la communication.

Présentation d'affiches :

Les affiches peuvent être placées le samedi le 16 octobre, et exposées pour toute la durée du congrès. Nous demandons aux présentateurs d'être présents pour répondre aux questions particulièrement pendant la séance prévue à cet effet le dimanche 17 octobre de 14:45 – 16:00.

Informations requises :

1) Nom(s) de(s) auteur(s), 2) nom du présentateur, 3) adresse, 4) titre, 5) résumé, 6) catégorie, 7) langue de la présentation, et 8) méthode de présentation (PowerPoint ou diapositives 35 mm). Soumettez ces informations par courriel, sur disquette ou CD en format Word ou WP. Les résumés ne doivent pas dépasser 70 mots. Si votre résumé dépasse la limite de mots acceptée, les éditeurs se réservent le droit de le couper. Si possible, envoyez ces informations en français et en anglais. Tous les résumés seront publiés sur le site Internet.

Veuillez soumettre au :

Jon Sweeney

Président du programme scientifique

Service canadien des forêts

Case postale 4000, Fredericton, NB E3B 5P7

Téléphone: (506) 452-3499, Fac: (506) 452-3525

Courriel: jsweeney@nrcan.gc.ca

Encyclopedia of Insects. Resh VH, Cardé RT. (eds.) 2003. Academic Press, Boston, MA, USA. xxvii + 1266 pp. ISBN 0-12-586990-8, US\$ 99.95 (hardcover).

In this day and age of ever increasing internet resources, one has to question why anybody would want to tackle such a seemingly impossible task as to provide an encyclopedia on insects. In her foreword, May Berenbaum provides many of the justifications, so there is little need to do so here. By soliciting contributions from an impressive team of international experts, including many Canadians, Vincent Resh and Ring Cardé have managed to pull this off in an attractive and well laid out package. Even the reviews on the jacket back cover, written by the likes of Edward O. Wilson, Sir Richard Southwood, and Charles Michener, provides evidence for the significance of this volume.

Entries in the encyclopedia are easy to find through the various indices. At the front are the alphabetically arranged "Contents", followed by "Contents by Subject Area". There are twelve general subject areas, ranging from 'Anatomy' to 'History and Methodology'. The contents sections are followed by the impressive list of contributors, each listed along with their respective article topic(s). At the end of the book is a "Subject Index", with more than 7,000 entries. In addition, there is a "Guide to the Encyclopedia" to explain how the work is organized, and a fairly extensive "Glossary".

Articles range in size from a few paragraphs to 10 or more pages. For example, the fairly narrow topic "June Beetles" written by D.A. Potter and D.W. Held occupies about a page, while a broad topic like "Eyes and Vision" by M.F. Land, provides a thorough review over 12 pages. Articles are illustrated with colour photos, line drawings or graphs. The range of topics covered by the articles is impressive, but obviously not exhaustive given the huge scope of the topic. I found that topics of particular interest to me were often not covered at all, or they were covered as part of a broader topic. For example, 'forest entomology' was mainly covered in the article "Forest habi-

tats" by D.L. Wood and A.J. Storer. 'Ambrosia beetles' were not covered at all. On the other hand, I found a wealth of information on various topics by looking through the contents or simply leafing through the volume. For example, there is an article on the newly described Order Mantophasmatodea by K.-D. Klass, and you can learn about "Photography of Insects" in an article by M.W. Moffett.

In a book of this magnitude, it would be truly remarkable if errors were totally absent. However, in reading various articles, I detected no typographical errors. I found a small error of fact in one article in my own discipline, but even then, this was more due to the organization than an actual error.

I believe this encyclopedia would be a valuable reference resource for both laypersons and professionals. Anyone teaching introductory entomology should value this volume - I know I will.

B. Staffan Lindgren

University of Northern British Columbia
Prince George, BC

Pheromones and Animal Behaviour: Communication by Smell and Taste. Wyatt TD. 2003. Cambridge University Press, Cambridge UK. 408 pp. ISBN 0-521-48526-6, US\$ 45.00 (paper).

This book is a very easy read without too much of the details of semiochemicals or evolutionary theory. Its principal accomplishment is to combine descriptive information on pheromones with the jargon and principles of evolutionary ecology over many, many taxa, not just the social insects or primates. This book will serve as a valuable introduction to the world of pheromones, to students and professors alike. It can provide established researchers with the opportunity to gain significant insights into their respective systems by re-evaluating their knowledge in the light of behavioral ecology theory, moving from detailed and valuable descriptions of semiochemicals to an understanding of the underlying evolutionary processes.

The book contains 13 chapters with three ap-

pendices. Two of the appendices are valuable whereas the third is misleading, containing only a citation to a review work. Each chapter ends with a conclusion section that I found weak in most chapters. The section on further readings with each chapter might have been better included in the third appendix. Surprisingly, the author fails to recommend a number of periodicals such as *Chemoecology* and the *Journal of Chemical Ecology* with respect to further readings, even though the primary literature may be the next logical step.

In Chapters 1 and 2, Wyatt reviews some basic issues in the identification and role of pheromones, noting the importance of defining "communication", and highlighting variation in definitions and context of research in Chapter 1. In Chapter 2, the author reviews the methodologies used in the identification of pheromones. Issues of confusion related to such things as definitions of semiochemicals, interpretations of bioassays and the role of chemicals in different environments are brought to the forefront in both chapters. Like many other texts, Chapters 3-8 cover the major groups of pheromones: sex pheromones, aggregation and host-marking pheromones, scent marking and territorial behaviour, social organization, recruitment communication and alarm pheromones. Unlike other texts, the author motivates the reader to consider the ultimate "Why" by incorporating the concepts of evolutionary behavioral ecology into all the discussions. The author does a great job in comparing and contrasting pheromone systems across numerous and diverse taxa, without causing the brain to react in frustration. The contrasts highlight variations in groups with respect to key pheromone groups or research directions whereas the comparisons detail the important similarities.

I found Chapters 9-10 on the mechanisms involved in perception and reaction to pheromones to be quite clear and effective. The author took a fairly dry subject and made it interesting and informative with a minimum of details. I found Chapter 11 to be pretty cool, dealing with cheaters ... "illicit signalers and receivers of semiochemical signals". The author discusses pheromones in their potential roles as kairomones,

allomones and synomones, with a good little treatment on the tritrophic relationship between pine trees, bark beetles and beetle predators! A complete and accurate understanding of pheromone communication must consider the roles of predation/parasitism and interspecific competition. Chapter 12 provides a modest, but fairly complete treatment of the application of pheromones, particularly with respect to pest management. The author notes, as others have before him, that the major barriers to the commercialization and use of pheromones are economic and political. And lastly, in Chapter 13 we are treated to a review of the pheromones in the human context. It's an interesting and thorough review of our fascination with body odors.

The book does have a few errors such as referring to *Dendroctonus ponderosae* as *Dendroctonus montanus* in work by Raffa and Berryman (1983) on page 81. However, these errors are trivial and do not detract from the books. Some entomologists may complain that the author fails to elaborate on all the pheromones used by a single species. Evolutionary biologists may complain that the theories are too generalized and not presented in their complexity. However, the author has attempted to focus on specific evolutionary processes without too much noise. I think he's done a good job in achieving his goal and I would recommend the text to students and established researchers alike.

Dan Miller
Southern Research Station
USDA Forest Service
Athens GA, USA

Survey Report

The Scientific Committee met in Kelowna on November 5-6. A more detailed account of the meeting is included in the *Newsletter of the Biological Survey (Terrestrial Arthropods)* 23(1), 2004.

Scientific Projects

1. Grasslands

The 16 chapters of the first grasslands volume, on ecology and interactions in grasslands habitats, are in preparation. The second and third volumes will deal with arthropods and altered grassland ecosystems, and with biodiversity of arthropods in grasslands. The grasslands field trip held in Dunvegan last summer was well attended. Next year's site will be Aweme, Manitoba.

2. Insects of Newfoundland and Labrador

Work continues on this project especially by David Larson. The Survey is investigating potential publication outlets and how to encourage wider participation.

3. Forest arthropods

The BSC plans to fulfill its role as a coordinator by fostering better communication, including an update of the 1997 BSC list of what is going on in forest biodiversity studies and possibly starting a forest arthropod newsletter in partnership with the Canadian Forest Service. A symposium on carabids will also be moved forward, provisionally for 2005.

4. Insects of the Arctic

A fourth year of field activity included visits to Rankin Inlet, Arviat and Baker Lake. Given the expense of arctic field work, next year will be devoted to writing up the findings so far. However, future visits will be made further afield. A symposium is planned at the 2004 ESC meeting to summarize what the project has achieved.

5. Seasonal adaptations

Hugh Danks reported upon several papers and conference presentations on relevant themes. For example, a paper given at the recent ESC/ESBC meeting has been submitted for publication as part of the symposium package.

Other scientific priorities

1. Invasions and reductions

Regional and synthetic articles are planned for a product of the specific project on coccinellids. A broader symposium and publication about invasions and reductions will examine basic principles and is being planned for the future.

2. Endangered species

The Committee agreed to activate a Biological Survey project to develop a list of rare or potentially rare species of insects of Canada. The Committee discussed other matters related to endangered species, especially the implications of a decision by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) to deal with other insect orders, not just Lepidoptera as at present.

3. Survey poster

A poster about the BSC is being made available to members of the Scientific Committee for various uses.

4. Databasing

Information was received about topics of interest, including international networks, the virtual museum at the University of Alberta, and georeferencing programs.

5. Monitoring of continuing priorities

Information on various ongoing interests in the Canadian fauna was reported. Particular comment was made about the introduction of biocontrol agents into agroecosystems and the use of inadequate taxonomy in "rapid biodiversity assessments" in aquatic habitats. It was also decided to launch a project on the arthropods of islands in the Gulf of St. Lawrence.

6. Other priorities

The Committee also discussed a recently published brief on voucher specimens, a planned symposium on arthropods and fire, and other topics.

Liaison and exchange of information

1. Canadian Museum of Nature

Roger Baird, Director, Collection Services, noted that the Biological Survey's coordination and collaboration work is characteristic of the way in



J.D. Shorthouse

Members of the Scientific Committee at the November 2003 meeting in Kelowna. Standing (left to right): Roger Baird, Dave Langor, Sandy Smith, Felix Sperling, Dave McCorquodale, Kevin Floate, Rob Roughley, Steve Marshall, Donna Giberson, Michèle Roy, Neville Winchester, Doug Currie, Terry Wheeler, Jeff Cumming. Sitting (left to right): Joe Shorthouse, Hugh Danks, George Ball, Geoff Scudder.

which the Museum wants to expand its national service role. He reported that a steering group for the management and coordination of biodiversity information in federal organizations has been set up through the Federal Biodiversity Information Partnership (FBIP), and some model projects identified. The CMN helped to organize and host the North American training session for the Species Analyst - DiGIR (Distributed Generic Information Retrieval) protocol for sharing species data. The CMN has now been authorized to proceed with rehabilitation of the Victoria Memorial Museum Building, the Museum's main exhibit facility in Ottawa, although the CMN is responsible for new gallery costs.

2. Agriculture and Agri-Food Canada

Jeff Cumming reported that reorganization at Agriculture and Agri-Food Canada continues to evolve with the development of national themes

and programs. With the reorganization has come recognition of the importance of the national collections housed on the Central Experimental Farm, and a proposal has been made to upgrade these facilities or even construct a new building. Bio-control and biodiversity are major departmental priorities.

3. Entomological Society of Canada

Sandy Smith, Past President, reported that the annual ESC meeting was successful and the Society continues to generate revenue. The new Editor-in-Chief for *The Canadian Entomologist* in 2004 will be Richard Ring. The Publications and Finance committees are looking at more cost-effective ways to publish. The ESC Governing Board had welcomed the Survey's report and also was pleased to have the BSC meeting held in conjunction with the ESC annual meeting.

Secretariat activities

Ongoing operations of the Biological Survey secretariat were reviewed including clearing house and coordination roles, research and other items, and Hugh Danks' travels to entomological centres on behalf of the Survey to present seminars and exchange information about relevant work.

Other items

1. Summary of actions from Survey review

Several revised or new documents had resulted from a major review of the BSC at the April 2003 meeting. Broader uses for some of these documents are envisaged.

2. Survey succession

A succession document making recommendations for needed actions when the head of the Secretariat eventually retires was approved for submission to the Canadian Museum of Nature.

3. ESC liaison and BSC award

A regular BSC report to the ESC Governing Board has been instituted, providing the opportunity to highlight selected items. Recent developments with the ESC Scholarship fund and Canada Customs and Revenue Agency (CCRA) rules have created some difficulties with a proposed BSC travel award, so a modified proposal for a BSC research award will now be made.

4. Regional developments of potential interest

Items of potential interest were reported from different regions of Canada. These included changes in staff, graduate student work, entomological society and other meetings, rejuvenation of the Masters of Pest Management program at Simon Fraser University, an arctic and boreal entomology course at Churchill, and other activities.

5. Other matters

The Committee considered information about international liaisons, membership of the Scientific Committee, the location of meetings, and other subjects.

Recently deceased

Compiled by Ed Becker

Paul Wilkinson, husband of Joyce Wilkinson, 305 Ortona St., Lethbridge AB, T1J 4K9, (403) 328-0325, died on 20 December 2003, age 84. Born in Calcutta, his family moved to England in 1923. Following active service in WWII, he worked with the British Colonial Service on malaria research in Uganda. From 1950-1962 Paul worked with the CSIRO in Australia, and from 1962-1984 he worked at Lethbridge on tick ecology.

Dean Read, husband of Marjorie Read, 42 Brackley Point Rd., Charlottetown PEI, C1A 6X9, (902) 894-8472, dcreadislandtelecom.com, died on 22 January 2004 after a lengthy illness, age 78. His career was spent at the Charlottetown Research Station.

Paul Morrison, husband of Ethel Morrison, 75 Cardinal Cres. S., Parkwood Mennonite Home, Waterloo ON, N2J 2E6, (519) 886-2723, paul.morrison@sympatico.ca, died on 3 February 2004. He was editor of *The Canadian Entomologist* for several years and taught at Waterloo University. His research was on fly control.

Tony Musgrave, husband of Anne Musgrave, c/o Michael Kerr, #3 - 512 Woolwich St., Guelph ON, N1H 3X7, (519) 821-1716, died on 9 February 2004, at the age of nearly 91. He spent his professional career teaching at the University of Guelph, mainly in physiology and toxicology.

Raymond Morris, passed away on 26 February 2004 in his 84th year. Ray worked at the Agriculture and Agri-Food Canada Research Centre in St. John's Newfoundland. He was President of the ESC.

Doug Peterson, #505 - 61 Cooper St., Ottawa ON, K2P 0G3, died on 24 February 2004, at age 82. Doug attended the University of Saskatchewan (BA), University of Western Ontario (MSc), and Cambridge University (PhD). He was with Agriculture Canada from 1955 to 1978, most of the time was dealing with administration.

Seeking a Treasurer

The Entomological Society of Canada is looking to fill the position of Treasurer. The Treasurer is a Trustee of the Society, a member of the Governing Board, and an *ex officio* Member of the Finance Committee. The primary duties of the Treasurer are to prepare an annual budget for the Society, and to arrange for an audited statement of the Society's financial affairs. Other duties include supervision of the Society's office in Ottawa, which requires that the Treasurer reside in or near Ottawa. The ability to work in both French and English would be an asset. Please express your interest in the position to the chair of the *ad hoc* search committee, Bob Lamb, First Vice-President, by 31 March 2004. The *ad hoc* search Committee will make a recommendation to the Governing Board, who gives final approval to the appointment of all trustees.

A la recherche d'un Trésorier

La Société d'entomologie du Canada cherche à combler un poste de Trésorier. Le Trésorier est un fiduciaire de la Société, un membre du Conseil d'administration et un membre *ex officio* du Comité des finances. Les tâches principales du Trésorier sont de préparer un budget annuel, pour la Société, et de travailler à la vérification comptable des affaires de la Société. D'autres tâches comprennent la supervision des bureaux de la Société à Ottawa, ce qui requiert que le Trésorier vive dans la région d'Ottawa. La capacité de travailler en français et en anglais serait un atout. Prière d'exprimer votre intérêt au Président du Comité *ad hoc*, le Premier Vice-président Bob Lamb, au plus tard le 31 mars 2004. Le Comité *ad hoc* fera une recommandation au Conseil d'administration, qui donne son approbation finale pour tous les fiduciaires.

The Canadian Entomologist and past issues of the *Memoirs* are available from the Ottawa office, and may be purchased by Mastercard, Visa, cheque or money order.

Executive Council

The mid-term meeting of the Executive Council will be held at the Entomological Society of Canada office (393 Winston Ave., Ottawa) 24 April 2004. Matters for consideration at the above meeting should be sent to the secretary (for contact details, see inside front cover).

Conseil exécutif

La réunion de mi-session du Conseil exécutif aura lieu au Siège social de la Société d'entomologie du Canada le 24 avril, 2004. Veuillez faire part au secrétaire de tout sujet pouvant faire l'objet de discussion à cette réunion (Voir à l'intérieur du couvert pour coordonnées détaillées).

54th Annual General Meeting and Governing Board Meeting

The Annual General Meeting of the Entomological Society of Canada will be held at The Rod Charlottetown Hotel, Charlottetown PEI on Sunday, 17 October 2004 at 16:00. The Governing Board Meeting will be held at the same location on Friday, 15 October from 8:30 to 17:00. Matters for consideration at either of the above meetings should be sent to Rick West, Secretary of the ESC.

54^e L'assemblée générale annuelle et la réunion du comité directeur

L'Assemblée générale annuelle de la Société d'entomologie du Canada aura lieu au Rod Charlottetown Hotel, Charlottetown IPE, le dimanche, 17 octobre 2004 à 16 h 00. La Réunion du comité directeur de la SEC aura lieu au même endroit le vendredi 15 octobre 2004 de 8 h 30 à 17 h 00. Veuillez faire part au secrétaire, Rick West, de tout sujet pouvant faire l'objet de discussion à ces réunions.

Committees and Representatives Comités et représentants

Standing committees Comités permanents

Nominations / Nominations

S. Smith, Chair, Toronto
R. Bennett, Victoria
J. Delisle, Ste.-Foy
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Elections / Élections

R. Hallett, Chair, Guelph
C. Cutler, Guelph
S. Goodfellow, Guelph
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Continuing committees Comités en cours

Achievement Awards Prix d'excellence

R. Lamb Chair, Winnipeg
S. Fitzpatrick, Agassiz
Y. Pelletier, Fredericton
R. Roughley, Winnipeg
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Annual Meeting / Réunion Annuelle

T. Shore, Chair, Victoria
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Bilingualism / Bilinguisme

M. Roy, Chair, Québec
H. Chiasson, St.-Jean-sur-Richelieu
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Bylaws, Rules & Regulations Règlements

R. Footitt, Chair, Ottawa
G. Gerber, Winnipeg
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu
R. West, *ex officio*, Portugal Cove-St Philips

Finance / Finance

P. Bouchard, Chair, Ottawa
P. Mason, Ottawa
D. Parker, Ottawa
M. Sarazin, Ottawa
G. Gibson, Treasurer, Ottawa
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Fund Raising / Levée de fonds

N. Bostanian, Chair, St.-Jean-sur-Richelieu
G. Pohl, Edmonton
D. Giberson, Charlottetown
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Headquarters / Siège social

V. Behan-Pelletier, Chair, Ottawa
J. Cumming, Ottawa
G. Gibson, *ex officio*, Ottawa
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Heritage / Patrimoine

C. Gillott, Chair, Saskatoon
E. Becker, Ottawa
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Insect Common Names

Noms communs d'insectes

C. Buddle, Saint-Anne de Bellevue
H. Goulet, Ottawa
M. Roy, Ste.-Foy
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Marketing / Comité du marketing

O. Olfert, Chair, Saskatoon
H. White, Winnipeg
L. Braun, Saskatoon
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Membership / Adhésion

J. Sweeney, Chair, Fredericton
L. Braun, ESS, Saskatoon
D. Giberson, AES, Charlottetown
D. Hunt, ESO, Harrow
N. Larocque, SEQ, Laval
P. MacKay, ESM, Winnipeg
G. Pohl, ESA, Edmonton
T. Shore, ESBC, Victoria
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Publications / Publications

A. Carroll, Chair, Victoria
R. Bennett, Victoria
G. Boivin, St.-Jean-sur-Richelieu
P. de Groot, Sault Ste. Marie
L. Gilkeson, Victoria
P. Kevan, Guelph
P. Fields, *ex officio*, Winnipeg
B. Lyons, *ex officio*, Sault Ste. Marie
J. Turgeon, *ex officio*, Sault Ste. Marie
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu
R. Ring, *ex officio*, Victoria

Science Policy and Education

Politique scientifique et éducation

D. Quiring, Chair, Fredericton
Y. Pelletier, Fredericton
T. Shore, ESBC, Victoria
R. Bourchier, ESA, Lethbridge
L. Braun, ESS, Saskatoon
P. MacKay, ESM, Winnipeg
D. Hunt, ESO, Harrow
N. Larocque, SEQ, Laval
D. Giberson, AES, Charlottetown
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Student Affairs / Affaires étudiantes

T. Mousseau, Chair, Winnipeg
B. Sarauer, Saskatoon
C. Schmidt, Edmonton
R. De Clerck-Floate, *ex officio*, Lethbridge
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Student Awards

Prix aux étudiantes et étudiants

R. De Clerck-Floate, Chair, Lethbridge
J. Delisle, Ste Foy
J. Myers, Vancouver
N. Holliday, Winnipeg
T. Wheeler, Ste-Anne-de-Bellevue
D. Currie, Toronto
D. Larson, St. John's
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Ad hoc Committees

Comités ad hoc

Joint Meeting Document

Document du congrès conjoint

T. Shore, Chair, Victoria
J. Sweeney, Fredericton
C. Vincent, *ex officio*, St.-Jean-sur-Richelieu

Appel de Nominations: Deuxième vice-président et Conseiller

Les nominations pour deuxième vice-président et conseiller doivent être signées par trois membres de la Société, et envoyées au Secrétaire de la Société d'entomologie du Canada, Rick West, avant le **30 avril 2004**.

Call for Nominations: Second Vice President, Director-at-Large.

Nominations for the Second Vice President and Director-at-Large must be signed by three members of the society in good standing, and received by the Secretary of the Entomological Society of Canada, Rick West, by **30 April 2004**.

Bulletin of the Entomological Society of Canada

Editor: Paul Fields

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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the next issue, 30 April 2004**



Bulletin de la Société d'entomologie du Canada

Rédacteur : Paul Fields

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.

Envoyer vos sousmissions à :
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**Date de tombée pour le
prochain numéro :
30 avril 2004**

The Buzz / Bourdonnements

Paul Fields, *Bulletin* Editor / Rédacteur du *Bulletin*



I have learned a few things over the 15 years I have been bicycling in to work year round in Winnipeg.

1. A bike will last about three winters before rusting solid.
2. Thumbs are the hardest parts of the body to keep warm.
3. I am a slow learner. (This has been verified by my wife and teachers)

A case in point: My route to the lab takes me around a corner and onto an intersection with traffic lights. In a car in this situation, if you see a green light, most of the time you will make the light, which is also true with a bike in the summer. However, in the winter if you see a green light, you never make the light, given the snow, the rusty bike and the body complaining of cycling at -30°C . The converse of this rule is: If you see a red light, pedal like a fool.

This simple rule of thumb dawned on me only after ten years of being taught this lesson, day in and day out, year after year. Besides being a slow learner, I think that there were other reasons why this lesson took so long to be learnt. I had to unlearn 20 years of driving habits, and every summer the rule no longer worked. It has also become clear to me that, the rules that govern the natural world are much more complicated and subtle than the ones that I use to cycle to work. This is a good news/bad news story; on the brighter side there will always plenty of things for me to learn in entomology, however it will take me years to solve the simplest of puzzles.

In other news, I would like to welcome Lucie Royer as Assistant *Bulletin* Editor. Lucie has been involved in the ESC for a number of years, most recently as the Chair of the Bilingualism Committee. I look forward to working with her in the coming months.

J'ai appris quelque chose pendant les quinze années que je me rende au travail à bicyclette toute l'année à Winnipeg.

1. Une bicyclette dure trois hivers avant de devenir toute rouillée.
2. Les pouces sont la partie du corps la plus difficile à garder chauds.
3. Je suis épais (Ceci a déjà été vérifié par ma femme et mes professeurs).

Un exemple : Quand je prends le chemin du labo, je tourne un coin et je vois un carrefour avec des feux de circulation. En voiture, si on voit un feu vert ici, la plupart du temps on réussit à traverser le carrefour, c'est la même chose en bicyclette en été. Par contre, en hiver, si on voit un feu vert, la plupart du temps on ne peut pas traverser le carrefour à cause de la neige, ma bicyclette rouillée et mon corps qui ne fonctionne pas très bien à -30°C . Le contraire de ce règle est : Si on voit un feu rouge, on pédale comme un fou.

Ce simple conseil m'est venu à l'esprit seulement après dix ans de leçons, jour après jour, année après année. À part d'être un élève lent, je pense qu'il y avait d'autres raisons pour que cette leçon me soit si difficile à apprendre. Il a fallu que j'oublie 20 ans de conduite et chaque été la règle ne marchait plus. Il m'est aussi venu à l'esprit, que les règles qui gouvernent la nature sont beaucoup plus compliquées et subtiles que celles que j'utilise pour me rendre à bicyclette au travail. Ceci a un bon côté ; il y aura toujours des choses intéressantes pour moi à découvrir en entomologie, par contre, il me faut des années pour résoudre les plus simples casse-têtes

À part ça, j'aimerais souhaiter la bienvenue à Lucie Royer, qui prend la poste de Rédactrice adjointe du *Bulletin*. Lucie s'implique à la SEC depuis des années, dernièrement comme Présidente du comité du bilinguisme. J'attends avec plaisir de travailler avec elle dans les mois à venir.

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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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Vice-président Michel Cusson
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Rédacteur (Antennae) Christine Jean
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<http://www.seq.qc.ca/>

Acadian Entomological Society

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<http://www.upei.ca/~aes/>

Illustrated on the front cover is the life cycle of the northern house mosquito, *Culex pipiens*. Mosquitoes have always been a topic of conversation in Canada, but with the advent of the West Nile Virus, mosquitoes have been even more prevalent in discussions. *Culex pipiens* is a major vector of both St. Louis equine encephalitis and West Nile Virus in central and eastern North America. Drawing by B. Flahey. Reproduced with permission from Department of National Defence, Canada.

La page couverture illustre le cycle biologique du moustique domestique boréal, *Culex pipiens*. Les moustiques ont toujours fait l'objet de discussions au Canada, mais encore plus depuis l'apparition du virus du Nil occidental. *Culex pipiens* est un vecteur important de l'encéphalite équine de Saint-Louis et du virus du Nil occidental dans le centre et l'est de l'Amérique du Nord. Dessin par B. Flahey. Reproduit avec la permission du ministère de la Défense nationale, Canada.

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