



BOREUS

NEWSLETTER OF THE
ENTOMOLOGICAL SOCIETY
OF BRITISH COLUMBIA

Volume 26 (1)

June 2006

ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA

The Entomological Society of British Columbia is a scientific Society founded in 1902 for the advancement of entomological knowledge in the province.

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Publications of the ESBC

Journal of the Entomological Society of British Columbia

The *Journal of the Entomological Society of BC* is published annually. Papers for the *Journal* need not have been presented at meetings of the Society, nor is it mandatory, although preferable, that authors be members of the Society. The chief condition for publication is that the paper has some regional origin, interest or application. Line drawings or photographs as candidates for the cover are also accepted. Contributions should conform to the standards outlined in the *Journal* and the Website (<http://esbc.harbour.com/>), and should be sent to the Editor, Dr. Ward Strong,; e-mail Ward.Strong@gov.bc.ca

The deadline for submissions to be included in the 2006 issue is **September 1, 2006**.

Boreus

Boreus, the Newsletter of the Society is published in June and December. It contains entomological news, comments, reports, reviews and notices of meetings and other events. While emphasizing the Society's affairs, *Boreus* provides members with a forum for their views and news of British Columbia entomology, as well as informal articles, notes regarding research projects, and anything else that may be of interest to entomologists. Please send correspondence concerning *Boreus* to the Editors, Jennifer Heron (Jennifer.Heron@gov.bc.ca) or Suzie Lavalley (slavalle@interchange.ubc.ca).

The deadline for submissions to be included in the December 2006 issue is **November 1, 2006**.

Membership of the Entomological Society of BC is available to anyone interested in entomology. Annual dues are Can\$20.00 (regular member) or Can\$10.00 (student member). Members receive the *Journal*, *Boreus* and *Occasional Papers* (the latter published intermittently).

Inquiries concerning membership and back issues should be sent to the Secretary/Treasurer, Dr. Robb Bennett, BC Ministry of Forests, 7380 Puckle Road, Saanichton, BC, V8M 1W4, Canada; tel 250.652.6593; fax 250.652.4204; e-mail Robb.Bennett@gov.bc.ca

Cover: *Boreus elegans* (Mecoptera: Boreidae); one of the more conspicuous snow scorpionflies in BC. Larvae and flightless adults live in, and feed on, moss and clubmoss. Adults appear in the fall and are active on snow on warm winter days.

Editor's Notes

Jennifer Heron

It's June. Ahhh...I love June. June means butterflies in the south Okanagan, rapid aerial assessment with Suzie, pooter making with my Mom's grade two class, beetle hunting with my sister, and various other entomological forays. Field work is a time to brainstorm, banter theories, and solve all the world's problems while netting a Behr's Hairstreak.

Just as exciting as the fieldwork, are the people you meet during entomological forays. Charging off in the direction of a fluttering butterfly, while trying to maintain some semblance of professionalism is at times a challenge and thus often attracts attention. I suppose it should not surprise me that attaching a bug net to the grille of your vehicle and cruising around the countryside would attract attention. From astonished horror and outright shock, to awe and wonder, bug nets and light traps seem to attract all sorts of creatures. And...I am not just talking about the bugs.

Part of being an entomologist is explaining your profession to the lay person. You have a net in your hand, and someone asks you what you are doing? To me its obvious (bug net?) but after I explain I am catching insects, the look on some people's faces is absolute bewilderment. One personable woman asked me what I was doing, and after explaining to her I was an entomologist she exclaimed "Oh, my daughter has diabetes too." (Huh?). Another woman, blanched at the words and then took a step backwards as if I was going to give her fleas. I guess this gets me thinking further, why are public perceptions of insects so negative? Why are bugs thought to be so disgusting? Sure there are a few insects that cause havoc on humans (disease and all that other nasty stuff) but for the most part insects are great!

So as members of the ESBC, get out there and promote your profession this field season! Change those public perceptions about insects and share your knowledge with those you encounter. Tell me about your funny field work stories and your thoughts on public perceptions of insects. Above all, enjoy your summer and your fascination with entomology!



Jennifer Heron

Suzie Lavallee

One of the higher goals of my thesis was to work on insects as real animals (live capture and release) and not “substrata” (mass killing of thousands), as so many broad-scale collection surveys do. While broader surveys certainly serve a purpose, I have always wondered at the impact of collection on insect populations and communities. While the majority of pest species may produce hundreds, if not thousands, of young every year, this guild of insects represents only one end of the life history spectrum. What about the other 95% of insect species?

In my studies on *Scaphinotus angusticollis* (O. Coleoptera, F. Carabidae), I found that the production of eggs was exceedingly low: estimated at 2 – 4 eggs per female per year. If populations of this handsome creature are to be self-replacing, this means that adults would have to live 4 – 5 years! I think back to the days of my master’s thesis, when I identified about 20,000 *S. angusticollis* from a long-term sampling survey and imagine the impact of removing this large predator from the forest. When you consider that this species ALONE makes up 65 – 80% of the pitfall trap catch in wet forests of British Columbia, the effects of systematic removal must be prolonged and devastating.

The subject of how collecting insects affects populations is not new to entomology. Butterfly collectors have long recognized that rare specimens are valuable and will pay top dollar for specimens of rare and endangered species, resulting in the near extinction of many species of showy butterflies. Although this has provided an impetus for programmes such as the Insect Farming and Trading Agency in Papua New Guinea (Sloane et al. 1997), habitat conservation and not population conservation is the focus for these efforts.

Even when the study subjects are released, the effects of research on insect populations may have implications. Mallet et al. (1987) examined the effects of handling on butterflies that were released into the wild and found that many individuals were adversely affected by netting and releasing. I can only hope that the *S. angusticollis* I marked and released for my Ph.D. field work fared better.



As more and more species of insects are listed with COSEWIC (see the latest ones on page 21 of this edition of Boreus) and BC’s Wildlife Act (2004) is extended to include insects, entomologists may soon have some hard questions to answer regarding the impacts of different methods on insect populations.

Suzie Lavallee

References:

- Mallet, J., Longino, J.T., Murawski, D., Murawski, A., Simpson De Gamboa, A. 1987. Handling Effects in *Heliconius*: Where Do All the Butterflies Go? *The Journal of Animal Ecology* 56: 377 - 386.
- Sloane, T.H., Orsak, L.J., and Malver, O. 1997. A comparison of price, rarity and cost of butterfly specimens: Implications for the insect trade and for habitat conservation. *Ecological Economics* 21: 77 - 85.

Society Business

ESBC Executive Elections

This year, we have a number of candidates running for positions on the ESBC Executive. Following is a list of candidates, a short biography for each. Ballots and voting envelopes will be mailed separately and must be returned by 1 September 2006.

Candidate for President

<p>John McLean - President</p>	<p>My early interests in entomology were stimulated by collecting mayflies in the native bush areas of New Zealand leading to a Masters degree in Zoology at the University of Auckland in 1968 that centered on a stream pool dwelling species, <i>Oniscigaster wakefieldi</i>. A teaching assignment in at the University of the South Pacific in Fiji for four years provided a wonderful opportunity to prepare a Form 6 (=Grade 12) ecology field guide on the pond and stream fauna in Fiji. It was here that I met John Webster on his return from the 1972 World Entomology Conference in Canberra, Australia. He spoke enthusiastically about the SFU pest management program. I was fortunate to be able to work under John Borden's caring tutelage on the semiochemical ecology of ambrosia beetles with special emphasis on pheromone identification and the use of those pheromones in detection surveys and mass-trapping programs. In 1977, I was appointed to UBC Forestry where I taught the Forest Entomology course to third year foresters as well as a fourth year course and a graduate course in Forest Insect Ecology. I maintain a website, FETCH21, that supports my third year course as well as a Distance Education version of that course. Ambrosia beetles, bark beetles, western spruce budworm, white pine weevil are among the insects that have been investigated by my students over the years. More recently I have also collaborated in studies in biodiversity on Garry oak ecosystems, especially ground dwelling carabid beetles. After a decade of service in the Dean's Office in the Faculty of Forestry, I have returned to fulltime teaching and research. I would be happy to serve again on the executive of the Entomological Society of BC and help promote the continued interest and support for entomology in British Columbia.</p> <p style="text-align: right;">John McLean (p.s. President of ESBC in 1983, served on the executive over that period) Ph.D., R.P. Bio, FRES</p>
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Candidates for Director

<p>Wim Van Herk</p>	<p>Although long fascinated with insects, Wim was first exposed to entomology in 2002, when, as part of a BSc honours project with Dr. D. Raworth, he studied how the presence of coccinellids affect the behaviour of blueberry aphids. Previous to this, he studied history and English (BA in 1997) and education (US and Canada licensure in 1998) and taught high school arts and sciences for several years in both Iowa and BC. While completing his BSc, Wim worked as a research assistant at UCFV, studying the effect of pyrethroid pesticides on DNA fragmentation and cellular apoptosis in human leukocytes and hematocytes, and developing protocols for culturing transgenic cells. He is currently studying the behaviour of wireworms (click beetle larvae) with Dr. R.S. Vernon at the Pacific Agri-Food Research Center and Drs. B.D. Roitberg and G. Gries at SFU. When time permits, Wim enjoys hiking, gardening, and studying other subjects.</p>
<p>Dezene Huber</p>	<p>I completed my B.Sc. in Zoology at the University of Calgary in 1995. During my time at the U of C, I spent several summers in the lab of Dr. Gerrit Voordouw conducting research in microbial molecular biology. My Ph.D. research was completed under the supervision of Dr. John Borden at Simon Fraser University. There I studied the behavioral responses of five species of economically-important bark beetles to the bark and leaf volatiles of non-host angiosperm trees. Following my Ph.D. work, I worked very briefly for the BC Ministry of Forests and Range at the Kalamalka Research Station in Vernon, BC until my NSERC</p>

	<p>postdoctoral fellowship began at the Michael Smith Laboratories at the University of British Columbia. There I worked with Dr. J. Bohlmann on molecular and chemical aspects of Douglas-fir and hybrid poplar defense responses to insect and pathogen pests. Following my NSERC fellowship at UBC, I moved to California where I was employed as a postdoctoral research associate in the UC Davis Department of Entomology and where I worked for almost two years in the lab of Dr. Steve Seybold (USDA Forest Service, Pacific Southwest Research Station) on cytochromes P450 in the California fivespined ips, <i>Ips paraconfusus</i>. I also worked on the applied use of non-host angiosperm volatiles and verbenone as a pest management tool for western pine beetle, <i>Dendroctonus brevicomis</i>, in northern California. I was hired, in 1 July, 2005, as the Canada Research Chair in Forest Entomology and Chemical Ecology & Assistant Professor in the Ecosystem Science and Management Program (Forestry), at the University of Northern British Columbia. I am currently continuing, and expanding upon, my research and collaborations on various aspects of insect-plant interactions in forest settings.</p>
Naomi DeLury	<p>Naomi first became interested in Entomology as a career during her B.Sc (Co-operative Education, 1994) at Simon Fraser University. Work terms as a Forest Health Technician (BC Ministry of Forests, Prince Rupert Forest Region) and a Research Assistant (SFU, Chemical Ecology Group), combined with professors who were passionate about the subject, encouraged her to continue in the field. Naomi conducted research on semiochemical communication of <i>Ascogaster quadridentata</i>, a parasitoid of <i>Cydia pomonella</i>, identifying its sex pheromone and an attractive blend of kairomones as part of her M.Sc. degree (SFU, 1998). Since that time Naomi has worked as a Statistical Consultant (SFU, 1999) and an Insect Chemical Ecologist (Biologist, Agriculture and Agri-Food Canada, Pacific Agri-Food Research Centre, 1999-2002). She currently resides in Summerland, BC where she works as an Insect Ecology Technician (Agriculture and Agri-Food Canada, Pacific Agri-Food Research Centre, 2003-2006) exploring the wonders of <i>Rhagoletis indifferens</i>, the Western Cherry Fruit Fly. If elected as a director, Naomi would look forward to this opportunity to serve the Entomological Society of British Columbia.</p>
Greg Smith	<p>Greg Smith is a Master's student studying bark beetle ecology under the supervision of Dr. Staffan Lindgren at UNBC and Dr. Allan Carroll at the Pacific Forestry Centre (PFC) in Victoria. He has been fascinated by insects for most of his life and decided to take the educational entomological plunge in 2000, enrolling in every bug-related course available prior to graduation with his B.Sc. from the University of Victoria in 2002. A member of the ESBC since 2000, Greg has been involved with the ESBC library committee for the past two years and has helped coordinate volunteers to prepare the ESBC holdings, which are shelved at PFC, for cataloguing by a professional librarian. Currently, Greg is the co-chair of the ESC student committee; however, he would like to expand his involvement with the ESBC by acting as a Director for the upcoming term. Greg resides in Victoria with his wife Jessica and their 5 month-old son, Thomas.</p>
Ken White, RPBio and RPF	<p>I grew up on a large, wooded property in North Vancouver, and that is where my interest in entomology started. I received a B.Sc. in biology from the University of Victoria (1988), and a Masters of Pest Management from S.F.U. (1992). Since my graduation I have worked for the Canadian Forest Service and, for the last 11 years, the B.C. Ministry of Forests and Range. I have worked at the Branch, Regional and District levels within the Ministry, and am currently the Regional Entomologist for the Northern Interior Forest Region based out of Smithers. Before settling in Smithers, I worked and lived in many areas of B.C., including Riske Creek, Kamloops, Okanagan Falls, and Victoria. My primary area of work is providing advice to the Ministry clients on entomological issues. In addition, I also work on estimating losses to forest insects. I have recently become involved in forest soil macro-fauna studies as part of an ecosystem recovery project within the Ministry. Some of my other interests outside of entomology include listening to music of all kinds, and Italian food (particularly if I can be in Italy to eat it).</p>
Leo Rankin	<p>Graduated from the University of Victoria in 1982 with a B.Sc. in Zoology. Graduated from Simon Fraser University with a Masters in Pest Management in 1988. I have worked for the Ministry of Forests ever since as an Entomologist in the Cariboo and Southern Interior Regions. Most of my work is focused on bark beetle and defoliator control.</p>

Bob Lalonde	I got started in Entomology at Laurentian University in Sudbury where my M.Sc. project under Joe Shorthouse focused on the process of gall formation. From there I went on to complete a Ph.D. under Bernie Roitberg at SFU, looking at factors influencing seed predation by a tephritid fly. I completed a couple of post-docs at the University of California (Davis) in the Zoology (with Marc Mangel) and Entomology (with Jay Rosenheim) Departments. In 1993, I was hired by Okanagan University College and later by UBC when they took over the Kelowna operation. My current research focuses on information use by parasitoid insects and the influence of information use on population processes.
Mike Smirle	Since 1990, I have been a Research Scientist with Agriculture and Agri-Food Canada in Summerland. My research is focused on insect toxicology, physiology, insecticide resistance management, and IPM in orchard crops, as well as recent work on the environmental fate of new insecticides. I have been a member of the ESBC for a number of years, and have served as a Director in 1994-1995. I am a lifelong resident of B.C., born and raised near Abbotsford, and attended UBC (B.Sc.) and SFU (MPM, Ph.D.). I am currently on the Editorial Board of Biopesticides International, and serve as an Associate Editor of The Canadian Entomologist. I would welcome the opportunity to make more of a contribution to the ESBC.

ESBC Annual General Meeting and Symposium 2006 at the Richmond Nature Park



As voted on by the membership of the ESBC at the 2005 AGM, this year's meeting will be a two day affair: one day of talks by graduate students and professional entomologists and a one-day symposium on a specialized topic in entomology.

This year's symposium will bring together experts from BC and Washington State, who represent academia, the government, and private industry, to discuss current topics in aquatic entomology. The symposium will be of interest to ESBC members, as well as environmental consultants and fisheries researchers. Members of the general public are also welcome to attend. The unique location will provide an opportunity for some outdoor time during our breaks: a walk on a nature trail, a visit to the nature house, or a 'pond poke' at lunchtime.

WHEN: Friday, October 13th, 2006 (AGM)
Saturday, October 14th, 2006 (Symposium)

TIME: 9:00 am – 5:00 pm each day (lunch included in registration fee)

WHERE: Richmond Nature Park's Kinsmen Pavillion
11851 Westminster Highway; Richmond, BC V6X 1B4

Phone: (604) 718-6188 Fax: (604) 718-6189
<http://www.geog.ubc.ca/courses/klink/g448/2000/rnp/rnp.htm>

COST: Non-members: \$30 one day/\$50 two days
ESBC members: \$20 one day/\$40 two days
Students: \$10 one day/\$20 two days

Submit **titles and abstracts** (50 words maximum) for presentations or posters for:

AGM to Rob McGregor (r_mcgregor@douglas.bc.ca)
SYMPOSIUM to Karen Needham (needham@zoology.ubc.ca)

by September 15th

Prizes will be awarded for best MSc. and best PhD. presentations.

Check the ESBC website (<http://esbc.harbour.com/>) for updates and information on speakers as the program develops.

For more information about either event, contact:

Karen Needham, ESBC President
Spencer Entomological Museum,
Department of Zoology, UBC
6270 University Boulevard, Vancouver, BC V6T 1Z4
Phone: (604) 822-3379 Fax: (604) 822-2416
Email: needham@zoology.ubc.ca

Winners of the annual MSc and PhD Graduate Student Travel Scholarships will be announced at the AGM. These awards consist of \$500 each to attend conferences other than the ESBC AGM. See the Funding Opportunities section of this newsletter for more detail.

Awards

SFU President's 40th Anniversary Award to Thelma Finlayson



Photograph courtesy of Marianne Meadahl, SFU Media and Public Relations

Professor emerita Dr. Thelma Finlayson was recognized for her contributions to Simon Fraser University during Convocation on June 9, 2006, when she was awarded the President's 40th Anniversary Award. As part of the University's 40th Anniversary celebrations, forty individuals who "helped build and bring recognition to SFU" received this award.

Members of the Entomological Society of BC know Thelma very well, as she began her career in entomology over 70 years ago, and has served both as Director (1971-1974) and as President (1974-1975) of the society. She is recognized as an expert in taxonomy, insect parasitoids and biological control.

Thelma received her B.A. (Hons.) in Biology from the University of Toronto, 1936. With few opportunities for women to work in science, she returned to college and completed a Teaching Certificate in 1937. Her love of biology pulled her away from the classroom and back to the laboratory, initially as a volunteer and eventually as the first woman to be hired as a Technical Officer for the Dominion Institute for Biological Control. Following her marriage to Leonard Roy Finlayson in 1940, government regulations prohibiting married women from working for the federal government forced Thelma into retirement. Wartime labour shortages allowed her to return to work at the Dominion Laboratory in 1942. When the war ended, Thelma successfully challenged government regulations that required women to resign their positions, establishing an important human rights precedent for the Federal Civil Service. In 1964, Thelma was promoted to the highest level of Research Scientist.

In 1967, Thelma joined SFU's Department of Biological Sciences, as one of the founding members of the Pestology Center (a.k.a. the Centre for Pest Management). Since its inception, the Centre has awarded Masters of Pest Management degrees to more than 250 students. Thelma's teaching and service record at SFU were exceptional. At 92, Thelma continues to give to SFU. She volunteers her time in counseling students as a Special Advisor to the Academic Advice Centre, and has established 4 annual scholarships totaling \$22,000 for MPM students and an endowment to support a Professorship/Chair in Biological Control. In recognition of her service, the benevolent society of SFU bears her name.

Her commitment to science and SFU has garnered her many honours and awards: the Order of Canada (2005), Honorary LL.D., SFU (1996), Fellow of the Entomological Society of Canada (1993), Honorary Member of the Entomological Society of Canada (1990), Honorary Life Member of the Entomological Society of BC (1985), Foundation Honorary Member, Professional Pest Management Association of British Columbia (1984), Honorary Member, Golden Key International Honour Society (2000), Award of Excellence, Department of Biological Sciences SFU (1996), C.D. Nelson Memorial Prize (1986). Two species of insects have been named in her honour - an oakworm moth (*Anisota finlaysoni* Riotte) and a wasp (*Mesopolobus finlaysoni* Dglr.). Please join me in congratulating Thelma on this latest honour.

Tammy McMullan, SFU

Geoff Scudder South Okanagan Grasslands Research Field Station

On Friday, June 9, 2006 *The Nature Trust* renamed a building on one of their properties in the Vaseux Lake area to be called the *Geoff Scudder South Okanagan Grasslands Research Field Station*. This facility which is leased by the Ministry of Environment will become a centre for grasslands research in the area and will be used for housing researchers and providing laboratory space. Dr. Scudder was recognized in this way for his research on and active promotion of the preservation of the highly endangered grassland ecosystem in British Columbia. Congratulations!



Photo by Bob Lincoln

Getting Out There



Got a collecting trip planned and you need some help? Heard about a great seminar lately? The "Getting Out There" section of *Boreus* is here to promote and advertise entomology gatherings of all kinds! Please let us know if you have any additions to this section.

Lectures

G.G.E. Scudder Lecture Series, UBC



This year, the G.G.E. Scudder Lecture was given by Dr. Naomi Pierce. The following biography and abstract were provided by Dr. Pierce.

Dr. Pierce is the Hessel Professor of Biology in the Department of Organismic and Evolutionary Biology at Harvard. Research in her laboratory focuses on the ecology and evolution of species interactions. This work has ranged from studying genetic mechanisms and biochemical signaling pathways underlying three-way interactions between plants, pathogens and insects, to dissecting the ecological costs and benefits of symbioses

between caterpillars and their attendant ants.

Pierce is currently studying the evolution of the Lycaenidae (the family of butterflies containing the blues, coppers and hairstreaks). Members of this group are characterized by a striking diversity of life histories. These range from exquisitely refined symbioses in which ant farmers defend their caterpillar cows in exchange for a protein-rich "milk," to pure exploitation in situations where caterpillars chemically fool ants into admitting them into the nest where the caterpillars feast on the ant brood. Pierce is interested in patterns of speciation in these butterflies. She and her students are using molecular characters to reconstruct the evolutionary history of the family. With a phylogenetic framework in hand, they can then ask questions about the evolutionary polarity of particular life history traits, and whether these traits have affected rates of diversification of different lineages. They can also investigate how current distributions of species reflect the group's biogeographic past.

Pierce was born in Denver, Colorado. She did her undergraduate degree at Yale, and her doctoral research at Harvard. She went to Australia for two years as a postdoctoral fellow in the Australian School for Environmental Studies at Griffith University in Queensland, and then moved to England, where she spent two years at Oxford University in the Department of Zoology and as a Research Lecturer at Christ Church. After five years at Princeton as Assistant and Associate Professor of Biology, she moved to Harvard in 1990. She is a Senior Fellow of Harvard's Society of Fellows, has received honors such as a Fulbright fellowship and a MacArthur award, and is currently an editor of *Behavioral Ecology*. She lives in Cambridge with her husband, science writer Andrew Berry, and their two daughters.

Ants and the evolution of blue butterflies

Ecologists seek to understand how species interactions have shaped organic life as we know it, and the butterfly family Lycaenidae, which includes the blues, coppers and hairstreaks, is a model system for the analysis of how different kinds of interactions can affect the evolutionary trajectories of particular lineages. This is because the caterpillars of the majority of the some 4500 species of Lycaenidae associate in complex and often bizarre ways with ants. When the relationship is mutualistic, caterpillars supply attractive food rewards for attendant ant

guards; whereas when it is parasitic, caterpillars use chemical camouflage to penetrate the ant nest and feast on the brood inside. Lycaenids also consume an unusually wide range of host plant taxa, and frequently engage in highly specialized forms of carnivory. Research on ecological, behavioral, and biochemical mechanisms underlying ant/caterpillar interactions suggests that ant association has played a significant role in the diversification of the Lycaenidae. This is confirmed by comparative studies showing that ant association is an evolutionarily conserved trait, and that, contrary to conventional ecological wisdom, ant-parasitism always evolves from ant-mutualism.

Upcoming Conferences and Meetings

Joint Annual General Meeting, Entomological Society of Canada and Société d'entomologie du Québec

November 18 - 22, 2006 in Montréal, Quebec

- The joint meeting of the Entomological Society of Canada and the Société d'entomologie du Québec will be held at the Holiday Inn Midtown Hotel (420 Sherbrooke St. W., Montreal, Quebec. The theme of the meeting will be "Diversité".
- Further information available on the SEQ website: http://www.seq.qc.ca/accueil_fr.htm

77th Rocky Mountain Conference of Entomologists

July 30 - August 3, 2006 in Woodland Park, Colorado <http://entopl.okstate.edu/rmce>

International Union for the Study of Social Insects 2006 Congress

July 30 - August 5, 2006 in Washington DC <http://www.iussi.org/IUSSI2006.html>

Annual Meeting of the Entomological Society of America

December 10 - 14, 2006 in Indianapolis, Indiana

http://www.entsoc.org/annual_meeting/Future_meetings/indianapolis.htm

XXIII International Congress of Entomology

July 6 - 11, 2008 in Durban, South Africa <http://www.ice2008.org.za/default.asp>

4th Annual Meeting Forensic Entomology

Purdue University, Lafayette, IN. Hosted by Dr. Ralph Williams rew@purdue.edu and Marissa Fusco mfusco@purdue.edu

1st International Conference on Medicinal Uses of Honey

August 26 - 28 2006, Kelantan, Malaysia www.honey2006.kk.usm.my

VIII European Congress of Entomology

September 17 – 22, 2006, Izmir www.ece2006.org

9th International Pollination Symposium

June 24 – 28, 2007, Iowa State University Contact: maharris@iastate.edu

Summer 2006 In the Field

Metalmark Mash 2006



The **Mormon Metalmark Mash** will be from **Monday, August 14 to Friday, August 18, 2006** in sunny Keremeos. The details of the training and meeting points aren't finalized, contact Jennifer Heron (Jennifer.Heron@gov.bc.ca) for more information. The Metalmark Mash will coincide with the Bugs and Beers event in Penticton.

Bugs and Beers 2006



Those of you interested in being social, we are re-starting a "Bugs and Beers" monthly social event on the third Monday of every month at 7:30 pm. This is meant to be an informal setting for amateurs, enthusiasts, and professionals to meet and talk bugs. Come out and meet other entomologists!

Monday, July 16 th	Alexander's Beach Pub, Vernon (12408 Kal Lake Road) We have it on good authority (thank you, Ward) that this is a fine location for a Bugs and Beers "meeting".
Monday, August 14 th <i>Note: special date to combine with Metalmark Survey</i>	The Barley Mill Pub 2460 Skaha Lake Rd., Penticton Phone: 250-493-8000

Snapshots from the field

Mosquito Surveys with Jennifer Johansson



I work for the city of Port Coquitlam as a mosquito surveyor in the vector control department. Essentially, we control the number of mosquitoes in the Coquitlam, Maple Ridge and Pitt Meadows in an effort to deter the spread of the West Nile Virus. To do this, we focus our control on the larva of the mosquitoes in permanent standing water areas, such as catch basins and ditches. We collect a lot of data at each site we survey for mosquitoes. Data like water depth, temperature, organic content found in the catch basin, number of mosquitoes present and stage of development, which species of mosquitoes found, any predators present (bloodworms), and the surrounding area around the catch basin (e.g. under trees, tall grass, pavement). We use a bacteria-based pesticide called Bti, or VectoBac, to stop the growth of the larval mosquitoes. Its effectiveness is short-lived and must be replaced every 48 to 72 hours. That gives us lots of work to do

in the summer months, as there are more than 50,000 catch basins estimated to be in the Tri-Cities area!

Jennifer Johansson
jjohansson1@my.bcit.ca

New and Upcoming Publications

Conifer Defoliators of British Columbia, by Robert W. Duncan

Review by Jeremy Tatum, physicist and lepidopterist!

Conifer Defoliators of British Columbia by Robert W. Duncan. Canadian Forest Service, Natural Resources Canada, 2006. Pp. 359. ISBN 0-662-42518-9.

This beautiful book, which must surely be counted as a major contribution to the natural history of British Columbia, describes the caterpillars, or larvae, of about 170 species of moths, butterflies and sawflies that are known to feed on conifers in British Columbia. An additional 11 species are known but have not yet been successfully photographed; it may be hoped that some of these will appear in future editions. About 20 species are not restricted to conifers, so, if your caterpillar comes from a nonconiferous host, there is still a chance that you will find it here.

There are so many fine features of this book that it is hard to know where to begin, but high up on the list must surely be the superb quality of the photographs, obtained with great skill by the author and his colleague Dion Manastyrski, using *film* (!). Although the photographs were taken in the laboratory, you would not know it, for the background is skilfully arranged so that each looks as though the surroundings are part of the natural outdoors. The species illustrated are not only from the well-known "macro" families, but include also the less familiar "micros", such as the Gelechiidae and the Cochyliidae. I was particularly delighted to see an excellent photograph of the gelechiid caterpillar *Coleotechnites macleodi*, named after the Sooke naturalist Jack McLeod whom many readers will know personally. (The misspelling is not Duncan's – the extra *a* was inserted when the insect was first formally described, and the Rules of Zoological Nomenclature provide that under such circumstances the misspelling must remain.)

A big plus is that the sawfly larvae (often regarded by amateur lepidopterists, including myself, as sinister, ugly and rather nasty) are also included. In spite of its "sinister" appearance, I recommend to any naturalist a careful observation of the very curious mode of progression of a pamphiliid larva. It can move along the *underside* of a leaf, dorsal side uppermost (and hence in contact with the underside of the leaf), thoracic legs apparently dangling downwards (it has no abdominal prolegs). Think about this; it will appear impossible. But it does it!

The adult insects are not illustrated. Many of them are available on the Web, but I would suggest that anyone who finds a larva and successfully identifies it and then wants to know what the adult insect looks like should try to rear the insect to maturity. What better way?

The arrangement of the insects is alphabetically by family (boldly colour-coded), then alphabetically by genus within each family, and alphabetically by species within each genus. Some readers may have preferred the sequence to be taxonomic, but probably the phylogeny of most of the species has not been thoroughly worked out and is in any case subject to frequent change, and I found the alphabetic arrangement to be both convenient and sensible.

In addition to the fine photographs (often with both dorsal and lateral views) the text gives for each species the plant hosts, distribution, description, life history ("bionomics"), damage, and similar species. With regard to "damage", the author makes it clear that only a very few species actually do serious damage, and that all are a vital part of the ecology of a

forest. The author is particularly skilful in writing clear descriptions of each caterpillar species. This is not an easy thing to do, and it will be worth studying examples from Duncan's text to see how well it can be done. From a combination of the beautiful photographs and the clarity of the descriptions, I have just been able to identify with no difficulty a caterpillar that is sharing my desk with me as that of the noctuid *Egira curialis*.

Being a conscientious reviewer, I tried my very hardest to find mistakes, and, believe me, it was hard work. I had just about given up when I found one! The spelling of the scientific name of the Ceanothus Silk Moth should be *Hyalophora euryalus*, not the tempting pseudo-Latin genitive "*euryalis*". Like some others of our saturniids (such as, for example, *Antheraea polyphemus*), this one is named after a character in Greek mythology, Euryalus. But that was all I could come up with in my search for mistakes.

This well-designed book is essential to all who love caterpillars. It is truly a magnificent effort, for which the author and all others involved in its production should be warmly congratulated.

Jeremy B. Tatum

Cool Online Entomological Newsletters

- *Tachinid Times* is an annual newsletter for those interested in parasitic flies (Diptera) of the family Tachinidae. <http://www.nadsdiptera.org/Tach/TTimes/TThome.htm>
- *Buprestis* – circulated since 1978, Buprestis is an electronic newsletter for those interested in Coleoptera: Buprestoidea, the world of jewel beetles
<http://www.cdfa.ca.gov/phpps/ppd/Entomology/Coleoptera/Buprestidae/index.html>
- *Water Beetle World* – a newsletter for those interested in aquatic coleoptera
<http://www.zo.utexas.edu/faculty/sjasper/beetles/index.htm>
- *Illiesia, International Journal of Stonefly Research* – publishes papers online on all aspects of the biology of Plecoptera, and is free!
<http://www2.pms-lj.si/illiesia/>
- *The Journal of Research on the Lepidoptera* – pdf articles from old issues
<http://www.doylegroup.harvard.edu/~carlo/JRL/contents.html>

A whole list of links is posted at <http://www.ent.iastate.edu/list/directory/151/vid/4> – go crazy!

Notes and News

Call for Letters to Thomson Scientific in support of JESBC

The ESBC has learned that the Journal of the Entomological Society of BC is not abstracted in Thomson Scientific's abstracting service, Web of Science, or the associated Current Contents. While we are included in their Biosis and Biological Abstracts services, the Web of Science is an important service because without inclusion, we have no official Impact Factor (IF), which many institutions use to evaluate the worth of an author's papers.

Discussions with Thomson Scientific revealed that there are two main reasons the JESBC has not been included: low unofficial IF, and timeliness of publication. We are addressing the timeliness issue by distributing by the publication date (December of each year). Historically we have distributed up to three months after the publication date, which counts against us from Thomson Scientific's point of view.

The unofficial IF is more difficult to address. Impact factor is calculated as the number of times our journal has been cited by all sources in one year, say 2005, divided by the number of citable papers we published in that and the previous year, 2004-5. It's a classic catch-22: we aren't listed in the Web of Science or Current Contents, so people don't find our papers and cite them, and because of that we aren't listed in the Web of Science.

The Executive of the ESBC feels that a letter-writing campaign might convince Thomson Scientific that our Journal has influence beyond the unofficial IF, and thus they might decide to include us despite a low IF. If you would like to support your journal, the JESBC, being listed in Web of Science and Current Contents, please write a letter to Thomson Scientific expressing your views. It is particularly important for people who have published in the JESBC to write, as they have proven faith in the scientific credibility of the JESBC. A sample letter appears below. This is available for download in the online version of Boreus at <http://esbc.harbour.com/publ.html>. Send it as is, or modify as you see fit.

Thomson Scientific will next evaluate the JESBC in 2007. If a copy of your letter is sent to me, I collect them and re-send in 2007 to remind Thomson of our position.

Thank you for your help.

Ward Strong, Editor-in-Chief, JESBC
ward.strong@gov.bc.ca

Mariana Boletta
Senior Editor,
Science Editorial Development
Thomson Scientific
3501 Market Street
Philadelphia, PA 19104 USA
215-386-0100 ext. 1217
mariana.boletta@thomson.com

Dear Ms. Boletta:

RE: JESBC EVALUATION FOR WEB OF SCIENCE

I am writing as a contributing author to the Journal of the Entomological Society of British Columbia. I have recently learned that the JESBC was rejected for inclusion in Web of Science and Current Contents, in part because of a low unofficial Impact Factor. I would like to express my dismay at this decision. Being a small regional journal with only a single issue per volume, the Impact Factor unfairly assesses its influence. Though citations to the Journal may be low in any given two-year period, much important information is published which cumulatively represents a wide-ranging and influential body of knowledge. Lack of inclusion in Web of Science and Current Contents prevents the full and justified dissemination of this knowledge.

The JESBC has been publishing top-quality peer-reviewed scientific papers for over 100 years without interruption. Information of regional and national interest is published which is not elsewhere available. I have published, and plan to continue publishing, in the JESBC because of its high standard of quality and editorial professionalism. Please consider accepting the JESBC for inclusion in the Web of Science and Current Contents in your next evaluation in 2007, despite a potentially low unofficial Impact Factor.

Sincerely yours,

JESBC available online

Despite the fact that the Journal of the Entomological Society of British Columbia is available for FREE online, few academic and professional institutions have added it to the list of their available online journals! Check to see if the resource centres you use have it listed, and if not, petition the science collections manager to make it available. As a local journal, important publications on species introductions and other regional news are published in a peer-reviewed format.

Articles from 2003 to present are available in pdf format and titles from 1998 to present are also available.

You can access the journal online at:

<http://esbc.harbour.com/journal.html>

New COSEWIC-listed insect species

The Half-moon hairstreak and the Sonora skipper were listed by the Committee on the Status of Endangered Wildlife in Canada in May 2006. This summer the COSEWIC Arthropod Subcommittee meets in Whitehorse this summer to discuss listing further invertebrates including arachnids, black flies, tiger beetles and Odonates. ESBC members Robb Bennett and Rob Cannings are both on this committee.

Apple clearwing moth found in BC



Members of the ESBC have consulted with the Canadian Food Inspection Agency staff in BC on a survey protocol to determine the distribution of a new tree fruit pest, the apple clearwing moth (*Synanthedon myopaeformis*) in apple-growing regions of BC and Eastern Canada. This European pest was confirmed in 2005 for the first time in North America from adult specimens collected in a couple of apple orchards near Cawston, BC. The BC Ministry of Agriculture & Lands has submitted applications for emergency use and minor use registration of Isomate-P Pheromone, currently registered as a mating disruption tool for control of peach tree borer in soft fruits. This summer research entomologists at the Agriculture and Agri-Food

Canada Pacific Agri-Food Research Centre (Summerland) and Simon Fraser University will initiate a collaborative research project to collect information on the sex pheromone, biology and economic impact of this new pest.

Hugh Phillip,
BC Ministry of Agriculture and Lands

Photo courtesy of Christina Machial, Okanagan Similkameen Field Service
Christina was the first person to find the adult clearwing moth in North America.
She just started her Ph.D. at UBC with Murray Isman.

Taylor's checkerspot update

The Taylor's checkerspot butterfly (*Euphydryas editha taylori*) sightings on Denman Island last year have given way to sightings of both larvae and mating adults this year. Feeding of larvae on several plants was observed and photo records were taken as well. This is hopeful news for the species, which was thought to be extirpated prior to sightings of adults in 2005.

The site where the Taylor's checkerspot was sighted is currently being reviewed for acquisition by The Land Conservancy, an NGO group that purchases land parcels of importance to conservation and assists in their protection.

Master of Pest Management program at SFU

Issues involving plants, animals and other organisms as pests continue to occur and affect food production, forestry, health and conservation worldwide. Pests have substantial economic, environmental, health and social implications at local and international levels. Pest problems offer opportunities for research of the biological processes involving organisms that cause damage to crops and structures or threaten human health. The MPM program at SFU allows students to access these opportunities in the



management and research of pests and furthermore, directly apply this knowledge.

The Master of Pest Management program was founded in 1967 and it became recognized nationally and internationally for its contributions to the biology and management of pests. It relied upon valuable contributions from numerous guest instructors providing a broad and comprehensive training to MPM students, covering numerous aspects of



pest management. In 2003, the MPM program underwent a major revision to provide students with contemporary training and research experiences. The program continues to provide unique opportunities for students through a combination of basic research with the practical application of pest management strategies. The underlying philosophy is that students graduating from the program should attain a broad and interdisciplinary

background. The MPM program uses strong applied approaches to learning and discussion of biological principles, and provides experience interfacing science with problems facing society. A core of graduate courses, while theoretically based, extend the principles of biological systems to practices that reduce the impact of pest organisms. Additionally, field courses, where pest biology and management are examined and assessed within their environmental and human contexts, are an integral part of the program.



The MPM program provides a unique opportunity for students by offering a combination of basic research with the practical applications of pest management principles, as well as a broad and diverse selection of research areas for graduate student projects. For more information on the Master of Pest Management program at SFU, please visit our website at:



www.sfu.ca/biology/mpm.

Quaestionnes Entomologicae Journal Available

Full sets of University of Alberta's now-discontinued journal, Quaestionnes Entomologicae, are available from the University of Alberta's Strickland Entomology Museum. Contact Danny Schplaley at the Strickland Entomology Museum if you are interested in obtaining a set.

Aquatic Taxonomist Listing

The Water Quality Monitoring Office at Environment Canada in Vancouver is currently compiling a list of contract taxonomists in Western Canada capable of identifying freshwater benthic invertebrates in support of the Canadian Aquatic Biomonitoring Network (CABIN) program.

If you can contribute to this list, please contact:

Stephanie Sylvestre, Environment Canada
Email: stephanie.sylvestre@ec.gc.ca
Phone: 604-664-4099

ESBC Library Available

The Entomological Society of BC library holdings have been shelved at the Pacific Forestry Centre (PFC) in Victoria for the past 15 years but our numerous international journals and texts have never been properly catalogued. This makes them virtually inaccessible to anyone other than those with direct access to the PFC library. Before that can be done, the ESBC Library Committee (Vince Nealis, Robb Bennett and Greg Smith) has been trying to get the collection organized in such a way as to allow a professional librarian to come and catalogue the holdings and add them to an electronic database. That first goal of organizing the collection now has been accomplished, thanks to the volunteer efforts of David and Susanne Smith of Ontario.



David and Susanne are retired elementary school teachers from Manitowaning on Manitoulin Island. During the spring of 2006, they were visiting their son Greg, his wife Jessica and their newborn son, Thomas in Victoria. David has had an illustrious volunteer career, heading the Assiginack Historical Society for over 35 years, acting as organist at his church for over 40 years and playing key roles in a number of community groups. Susanne has also been very active as a volunteer and has been involved with the church for over 30 years and has chaired the community Planning Board Committee among other activities. While visiting Victoria this past spring, David joined the Friends of Beacon Hill Park Society and spent many of his mornings clipping and pulling the invasive pest plant English Ivy (*Hedera helix*). If that wasn't enough to keep him occupied, he offered to help organize the ESBC collection prior to returning east.

Spending over 45 hours organizing the collection with the assistance of Susanne, David sorted everything from A to Z, putting the collection in order and making it ready for the next step of cataloguing.

The ESBC Library Committee extended their thanks to both David and Susanne by presenting them with a gift certificate to Blue's Bayou restaurant in Brentwood Bay and we would like to again acknowledge the amount of work done by these two terrific volunteers. Once the collection has been catalogued, more volunteers will be needed to maintain the incoming materials. If you are in the Victoria area and would be interested in lending a hand, please contact Greg Smith at grsmith@pfc.forestry.ca.

Funding Opportunities

9th Annual ESBC Student Travel Scholarships

The Entomological Society of British Columbia announces the ninth annual Graduate Student Scholarship competition. Two \$500.00 Scholarships (one M.Sc., one Ph.D.) are awarded each year at the Annual General Meeting. Scholarships are to be used to defray research paper or poster presentation related costs (including travel) incurred by graduate students for participation in conferences other than the ESBC AGM.

For consideration, applicants must be:

- Graduate students and ESBC members in good standing, and **must submit a Word file containing:**
 - name and locality of conference to be attended,
 - title and abstract of research to be presented, and
 - current CV.

Abstract should be double spaced, 12 font, and a **maximum** of 200-250 words (based on processor electronic word count). Applications will be judged on the basis of scientific importance, quality of the application, and qualifications of the applicant. Applications from M.Sc. and Ph.D. students will be judged in separate categories; a singleton application in either category will be judged with applications in the other.

Deadline for receipt of applications for 2006 Scholarships is **30 September 2006**. This year's scholarships will be awarded during the ESBC Annual General Meeting, October 13, 2006. Send applications to:

Robb Bennett
Secretary/Treasurer, ESBC
BC Ministry of Forests
7380 Puckle Road, Saanichton, BC V8M 1W4
or by e-mail to: robb.bennett@gov.bc.ca

Honeybee Research Grant: Boone Hodgson Wilkinson Trust Fund

The British Columbia Honey Producers Association has **\$2,000 - \$3,000** of funding available for students who are doing research on apiculture, either at the undergraduate or post-graduate level. This funding is intended for student support or for courses in apiculture.

Preference will be given to applicants from British Columbia, but this funding is not restricted to students from British Columbia. Interested applicants should contact:

John Boone
BC Honey Producers Association
3830 West 37th Ave.
Vancouver, BC
V6N 2W3

Brief Bios: Our Fearless ESBC Executive

Dr. Richard Ring

Richard has moved into semi-retirement after a 40-year career as a researcher and teacher in entomology in the Department of Zoology at UBC, in the CNC in Ottawa, and, ultimately, in the Biology Department at the University of Victoria. I still have a few remaining graduate students at the University of Victoria (among the most brilliant I have ever had!), and am currently Editor-in-Chief of The Canadian Entomologist, our national, and, indeed, international journal of entomology. Thus, I have continued to be involved in the discipline of entomology and our concerns for the future of our graduate students. I have been President of the Entomological Society Canada, President of the Entomological Society of BC (x2), Editor of the Journal of the ESBC, and Assistant Editor of the CJZ. It is now time that I retired!! However, I remind you of why I became an entomologist. I didn't even know the word, having grown up on a farm in Scotland. As an academic entomologist I have had the opportunity to travel the world talking about "my specialty". As a teacher at one of the great universities of the world, I get to meet young students and talk about the wonders of entomology (on a never ending basis!). Why become an entomologist? (1) Become an entomologist and see the world, and (2) Have more time to appreciate it (the second greatest longevity among professional groups is ENTOMOLOGISTS--- immediately behind Conductors of Classical Music). Believe me!

Markus Clodius

British Columbia has been home for my entire life: I grew up in Port Coquitlam and graduated from UVic and SFU. After a few pleasant years in Penticton, I'm now living in the coastal rain forest again, out in Chilliwack. I work at the Agriculture and Agri-Food Canada research station in Agassiz, harassing wireworms (a.k.a. elaterid larvae) under the close eye of Bob Vernon. Other facets of insect pest management that I've been involved in are studying codling moth dispersal in orchards, municipal mosquito control, and playing "What is that?" with clients at a garden center. My favorite arthropods are dragonflies and the social Hymenoptera. When I'm not being an entomologist, I kickbox, hike, study medieval dance, and read anything from "Parasite Rex" to "Nowhere".

Jen Perry, Department of Zoology, University of Toronto, Toronto

I was first introduced to entomology during my undergraduate degree at the University of Alberta, where I studied interactions between yucca moths and wood ants in southern Alberta. My first involvement with the ESBC was to present the results of this project at the 2001 annual meeting in Summerland. I then began my masters degree with Bernie Roitberg at Simon Fraser University, working on trophic eggs and sibling cannibalism in ladybird beetles. I presented results from this work at the 2002 and 2003 annual meetings. I thoroughly enjoyed the meetings, so when Tammy McMullan of SFU suggested that I run as a director, I thought that would be an excellent way to become more involved with the Society. Sadly, since last September, I have been exiled to Toronto, where I am studying ladybirds and water striders for my PhD at the University of Toronto. I have continued entomological activities by typesetting the ESBC's journal and by acting as a student representative for the Entomological Society of Canada. I've been very pleased to serve on the board of the ESBC this past year and a half, and I'm hoping to continue activities with the Society when I return to B.C.

Robb Bennett

Robb obtained his graduate degrees from Western Carolina University and the University of Guelph. He has worked as an entomologist with the British Columbia Ministry of Forests since 1992. He also serves as an Associate Editor and the Secretary-Treasurer of the Entomological Society of British Columbia.

Although his paid employment is with forest insects, Robb has a special interest in the natural history, taxonomy and classification of spiders which he has studied for over 25 years. He earned both of his graduate degrees working on spiders and has published a wide variety of scientific papers and other articles on spiders.

Bill Riel

I came by entomology rather late in life in a round about fashion. I began my career working in the field of forest growth and yield. I graduated with a B.Sc. in Forestry (UBC) in 1988, after which I worked for a small Vancouver Island coastal forest company for a year.

While working at this job, I became very interested in modelling forest growth and decided that furthering my education would give me more opportunities to pursue my interests. I left the company and started work on an M.Sc. at UBC, specifically looking at sampling methods and modelling techniques for projecting tree and stand growth.

In 1992, prior to completing my degree, I was hired at the Pacific Forestry Center to work on the development of bark beetle decision support systems. I knew very little about forest entomology, but was hired primarily on the strength of my modelling background and ability to quantify losses. This change in career direction has turned out to be fabulously more interesting than I could have guessed! I have been fortunate to work closely with some of the top bark beetle researchers in the world.

The only downside to this career move was the realization that bark beetle population dynamics are far more challenging and interesting than tree and stand dynamics, which made the completion of my M.Sc. a difficult task! I finally completed that work in 1994, but my interests now lie fully in the field of forest entomology.

Karen Needham

Karen is the curator of the Spencer Entomological Museum and a lecturer in the Department of Zoology at UBC. Her speciality is aquatic insects, mainly Heteroptera and Ephemeroptera. She has published an identification guide to larval mayflies of BC and has conducted aquatic insect biodiversity surveys in many parts of British Columbia. Karen is also active in public education involving entomology. Over the years, she has hosted an insect segment on the Discovery Channel, run identification workshops and training sessions at parks and schools, and has published a children's book on aquatic insects for beginning readers. Karen has been a member of the ESBC for many years, serving twice in the past as a director and currently serving as its president.

Ward Strong

I am currently employed by the BC Ministry of Forests, Research Branch as a cone and seed pest research scientist. My studies of taxonomy, life histories, management, and ecological aspects of pests are used to develop integrated pest management plans and on-site seed orchard recommendations to ensure the long-term productivity of the Province's seed orchards. I have collaborative projects with other researchers in BC, across Canada, and in the USA. My current position was recently created, and it's been fun finally putting together projects I've been wanting to work on for a long time. My favourite insects to play around with are the western conifer seedbug, *Leptoglossus occidentalis*, the fir coneworm, *Diorctria abietivorella*, and spruce adelgids, *Adelges* and *Pineus* spp.

In between research activities, I'm the Editor-in-Chief of the Journal of the ESBC, chair of a Bicycle Advisory Committee in Vernon, and enjoy cycling, backpacking, paddling kayaks, and gardening in my spare time.

Dave Raworth

Dr. David Raworth was born and raised (to 14 years) in the heart – or close to the heart – of Canada's bread basket, Lethbridge, Alberta. Here he gained a true appreciation for wind, sub-zero temperatures, outdoor ice rinks, chinooks, bare feet on sun-baked asphalt, vast open space, and the famous Agriculture Canada corn roast. Dave moved to BC in 1962 and graduated from West Van High in 1965 with a focus on the 'hard' sciences. He received a B.Sc. in marine biology at SFU in 1972 and a Ph.D. in population ecology and entomology at the Institute of Animal Resource Ecology at UBC in 1982. Dave has worked at Agriculture Canada as a Technician (73-83), Biologist (83-86) and Research Scientist (86-present). As author and co-author, he has contributed more than 50 scientific papers on population ecology and agricultural entomology to refereed journals. Dave has served as Director and President of the ESBC, and Editor of the JESBC. His current research interests include transmission, epidemiology, and control of blueberry scorch virus, and the effect of climate change on the life history traits of arthropods.

Niki Hobischak

I am currently a PhD student in Criminology at SFU; as well as, the Research Coordinator for the Forensic Entomology Laboratory under the director Dr. Gail Anderson. I still maintain my "insect roots" by applying my pest management skills to "criminal management".

Hugh Philip

Hugh Philip is a Professional Agrologist currently employed in the Food Safety and Quality Branch of the British Columbia Ministry of Agriculture & Lands as an Insect Pest Management Specialist responsible for IPM development and promotion for new and

established agricultural and horticultural insect and related pests. Before moving to Kelowna in 1989 he worked for Alberta Agriculture and Alberta Environment for 17 years providing agricultural insect pest management research and extension services to farmers and ranchers, as well as providing insect identification and information services to the general public. While in Alberta Hugh served as President of the Entomological Society of Alberta. He is currently serving his second term as a Director on the ESBC Executive.

Hugh now provides advisory services to professionals serving the tree fruit, grape, field crops, and beef sectors throughout BC. He continues to provide insect identification services but only to support garden centres, retail nurseries, Public Health Units, pest control companies, Master Gardeners and consultants. He serves in an advisory capacity to various tree fruit industry initiatives such as the codling moth Sterile Insect Release program and the B.C. Fruit Growers' Association's BCGAP Inc. which is responsible for administering an Integrated Fruit Production certification program and publishing the Best Management Practices for Integrated Fruit Production Guide.

Hugh and his wife Christine are empty-nesters living in Kelowna with one small yappy dog, an old cat with grumpy old-man's syndrome and 13 pond-dwelling goldfish.

Rob McGregor

Rob McGregor has broad interests in insect biology but has spent much of his career studying entomophagous insects and their use in biological control. Rob completed his MPM at SFU with Manfred Mackauer where he studied pea aphid parasitoids. He completed his PhD at SFU in Bernie Roitberg's lab where he studied the influence of parasitoids on life-history timing in a leafmining moth. In recent years, Rob's research has been focused on the omnivorous Heteropteran predator, *Dicyphus hesperus*, and on egg parasitoids in the genus *Trichogramma*. Rob currently teaches biology and environmental science at Douglas College where he is also the Chair of the Biology Department and Director of the Institute of Urban Ecology. Rob previously served on the Board of Directors of ESBC in 1997 & 1998. When not chasing insects, Rob plays mandolin in a couple of Vancouver bluegrass bands.

Suzie Lavallee

Suzie completed her M.Sc. with Dr. Scudder at UBC and is currently in the throes of finishing her Ph.D. in Forestry. (Defense date: July 5th!) Although originally starting with an interest in vertebrate physiology, a contract for sorting bugs convinced her that entomologists are lunatics and that she fit right in! Since then, her studies have centered around carabid beetle ecology in the forest environment. Suzie is a member of the Invertebrate Species at Risk Recovery Team and edits *Boreus* for fun. She teaches Conservation 451 at Forestry and has taught for the last 10 years at UBC in entomology, first-year biology, and ecology. Suzie is also a co-developer of rapid aerial monitoring (RAM).

Jennifer Heron

Jennifer is the provincial Invertebrate Species at Risk Specialist with the BC Ministry of Environment. She obtained her M.Sc. at UBC with Dr. Geoff Scudder, working on ant diversity in the south Okanagan grasslands. Her entomological interests are with ant ecology, insect conservation, and public education. She is gradually sampling her way through British Columbia and is a co-developer of rapid aerial monitoring (RAM).

Submitted Article

Box Elder Bugs – Dapper Dressers and Discerning Diners

Lynn Westcott, Castlegar, BC

'Tis spring, and a young man or woman's fancy turns to thoughts of box elder bugs. OK, maybe not, but if you live in southern B.C., chances are that you know of (perhaps have even cursed?) these little creatures. The western box elder bug, *Boisea rubrolineata*, is a rather handsome bug measuring just over a centimeter long. They sport fashionable black wings with red accents along the wing margins, a sort of bug tuxedo, if you will. They're most stunning in flight, as they show off their brilliant red abdomen, which is modestly covered by their wings when they're resting. At first glance, box elder bugs (BEBs) could be confused with milkweed



bugs, but BEBs have much more black on their wings and they don't hang around milkweed plants. Rather, BEBs prefer the comfort and fine dining (hey, they're dressed for it) offered by the box elder tree, *Acer negundo*, which is actually a species of maple (AKA Manitoba maple or silver maple). The tree provides BEBs with a combined nursery and grocery store. Thus, if you have one or more of these lovely trees (or other species of maple or ash) in your

yard, it's likely been visited by BEBs. Each year in spring, female bugs seek out box elder trees upon which to lay their eggs – young BEBs feed exclusively on the seeds, flowers and leaves of the trees. Though the bugs use their proboscis to suck the juices from the various parts of the tree, their feeding generally causes little damage. Leaf malformations can result from extensive feeding, but it seldom compromises the tree's health or vigour. Adult BEBs will feed on the juices of other plant species, but like their young'uns, they show more of an affinity for the box elders.

In autumn, the friendly BEBs search out a warm, protected place in which to spend the winter months. Like you and me, they enjoy the comforts of home during cold winter days and nights, and will even engage in some quality time in front of the tube:

*On the TV screen he
is the moving spot who is not
electric, slow enough
to be truly alive. Under
his belly, laughter erupts,
but he plods on, a moon
walker in a winged spacesuit
who turned off mission
control at last.*

By Bill Holm

BEBs will endeavour to gain entry to warm houses through various cracks, nooks, and crannies around door jams and windows (sealing and caulking the gaps helps reduce ports of entry). Now that we have visions of black and red BEBs invading our homes, it's time to set our minds at ease – BEBs are in no way harmful to people or animals. They don't bite and they don't breed during the winter, so there's no need to worry about an 'infestation' developing

inside of your house, and unlike some other uninvited insect house guests (I'm thinking of Indian meal moths, the current bane of my existence), BEBs will not invade your Froot Loops® or Corn Flakes®. The bugs don't eat or drink during their time indoors.

As entomologists, we've all had experiences with family and friends, and even complete strangers, requesting your wisdom in the matter of ridding their homes of intruding insects and other invertebrates. If you're faced with a de-BEBing dilemma, inside or outside, and none of what's written about them will endear BEBs to your pleading chum, please ask them not to reach for the noxious, toxic chemicals – they'll only pollute their living environment and kill beneficial insects that inadvertently get in the way. The best tool may be a vacuum cleaner. Just suck up the bugs, and voilà, a BEB-free living space. The procedure may need to be repeated several times if the bugs continue to, literally, come out of the woodwork. A word about disposing of the BEBs in a humane fashion: double bag (or triple bag if very squeamish) the debris from the vacuum and pop it into the freezer for a few days. The bugs simply go into a dormancy that they never recover from. Remove and dispose of the bag in the regular garbage. Rather a sad end for such delightful creatures, but for my part, I'd like to leave you (and all the friendly BEBs out there) with this comforting thought from box elder bug poet Bill Holm:

*Don't fret, bug,
I keep house...
Casually.*

Enjoyed the BEB poetry? There's an entire delightful book of it. Lay your hands on a copy of 'Boxelder Bug Variations: A Meditation on an Idea in Language and Music' by Bill Holm. 1985. 101 pages. ISBN 0-915943-43-3