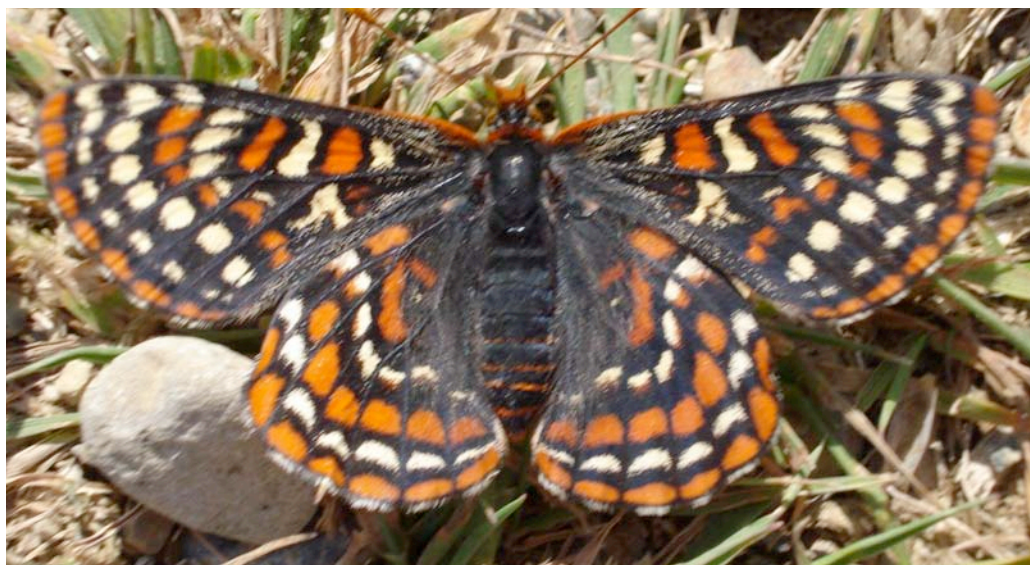


Boreus



Newsletter of the Entomological Society of British Columbia



June 2007
Volume 27 (1)



Thatch ant nest in Helliwell Provincial Park,
May 16 2007.



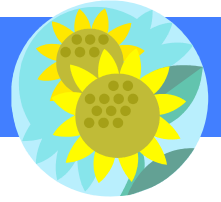
Grey Hairstreak in Helliwell Provincial Park
May 16, 2007



Nick Page and Warren Fleenor enjoy the view at
Helliwell Provincial Park while searching for the
endangered Taylor's Checkerspot butterfly. May 2007.

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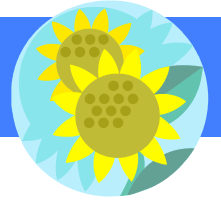


The Executive

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

Entomological Society of BC Executive

<i>President</i>	Richard Ring, University of Victoria,
<i>President-Elect</i>	John McLean, University of British Columbia
<i>Past-President</i>	Karen Needham, University of British Columbia
<i>Secretary / Treasurer</i>	Lorraine Maclauchlan BC Ministry of Forests, 515 Columbia Street, Kamloops, BC, Canada V2C 2T7
<i>Editorial Committee (Journal)</i>	Ward Strong (Editor), BC Ministry of Forests Geoff Scudder, University of British Columbia Lorraine Maclauchlan, BC Ministry of Forests Joan Cossentine, Agriculture Canada, Agassiz
<i>Editor (Boreus)</i>	Jennifer Heron, BC Ministry of Environment
<i>Directors</i>	Naomi DeLury, (1st), Agriculture Canada, Agassiz Dezene Huber (1st), University of Northern BC Mike Smirle (1st), Agriculture Canada, Summerland Marcus Clodius (2nd), Agriculture Canada, Agassiz Rob McGregor (2nd), Douglas College, New Westminster
<i>Honorary Auditor</i>	Karen Needham, University of British Columbia
<i>Regional Director of National Society</i>	Allan Carroll, Canadian Forest Service, Victoria
<i>Web Page Editor</i>	Bill Riel, Canadian Forest Service, Victoria
<i>Web page</i>	http://www.sfu.ca/biology/esbc/



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://www.sfu.ca/biology/esbc/>), and should be sent to the Editor, Dr. Ward Strong, BC Ministry of Forests, 3401 Reservoir Road, Vernon BC, Canada V1B 2C7; tel 250-549-5696; fax 250-542-2230; e-mail Ward.Strong@gov.bc.ca.

The deadline for submissions to be included in the 2007 issue is **September 1, 2007**.

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 Editor, Jennifer Heron (Jennifer.Heron@gov.bc.ca).

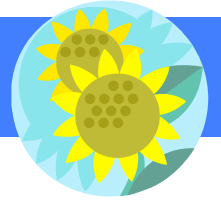
The deadline for submissions to be included in the December 2007 issue is **November 15, 2007**.



Michelle Connolly searching for butterflies at Vanier Grove, Courtenay, May 2007



Suzie Lavallee counting Taylor's Checkerspot larvae on Denman Island, May 2005



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).

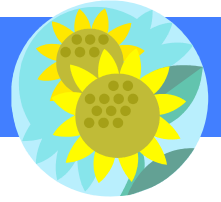
Inquiries concerning membership and back issues should be sent to the Secretary/Treasurer, Dr. Lorraine Maclauchlan, BC Ministry of Forests, 515 Columbia Street, Kamloops, BC, Canada V2C 2T7; tel 250 828-4179; fax 250 828-4154; e-mail Lorraine.Maclauchlan@gov.bc.ca

Cover Sketch: *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. Credit Robert A. Cannings.

Cover Photograph: Taylor's Checkerspot (*Euphydryas editha taylori*) butterfly, occurring in Canada only on Denman Island, BC. Photograph taken May 16, 2007.



Busy bee in Helliwell Provincial Park, May 2004



Boreus Editor's Notes

This past spring I spent three weeks in Panama on a 'birds and bugs' tour with two friends. It was their idea to travel to Panama, and being that I had never been to Central America, I thought it would be an exciting place to acquaint myself with the six-legged fauna.



Leafcutter ant

The insects were sensory overload, and I spent most of my days wandering around being amazed by the arthropod fauna. The best part for me was the leaf cutter ants, whose constant parade and endless numbers were astonishing. The ants seem to be everywhere; in every corner and every crack of housing, roadways and gardens; within all the niches of the forests and fields. There were days when I thought the torrential rains would wash the trees away, yet the ants soldiered on, seemingly not deterred by the pebble-sized drops of water. I placed barriers in front of their path, watching their confusion only for a few minutes before the

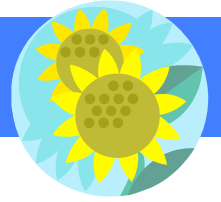
determined ants had found a way around the roadblock.

Towards the end of our trip, we were at a park outside of Panama City and came across an ant superhighway. The stream of leafcutter ants was about half a metre wide, and stretched from the branches of a mango tree, down the bark and along an exposed pipe, over the sidewalk and into the adjacent ditch, dissolving into little condo ant nest mounds. I spent an hour following the habits of the colony.

Now back in BC, I am inspired to continue (one of my many) side projects, surveying the ant fauna of British Columbia.

Vacations inspire, and Panama certainly inspired me.

Jennifer Heron



Society Business

Message from the President



It is a pleasure to be the ESBC President this year, and I look forward to a successful *AGM and Alien and Invasive Species Symposium*. There are four issues I think need attention by ESBC members, so please take the time to consider these topics.

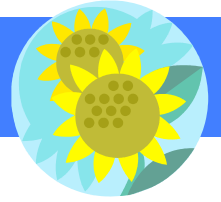
1. Library Policy This is, for me, the most important issue facing the *Entomological Society of BC* this year. I am attaching the most recent Library Report presented by our library representative, Dr. Vince Nealis, at this year's spring meeting of the Executive Committee at UBC on 20 April 2007. The Executive had a lengthy discussion of this report, and agreed that the *Draft Library Policy (2002)* should be reviewed and modified to fit our needs, and then presented at the AGM in October 2007 for approval by the membership. Please read this recent report as well as the Draft Library Policy and come to the AGM prepared to vote on our **definitive** Library Policy. The latter is a very detailed document (20 pages) and I can e-mail it to you on demand.

Vince and I met recently, and tried to prioritize the items/issues that should be first addressed: e.g.

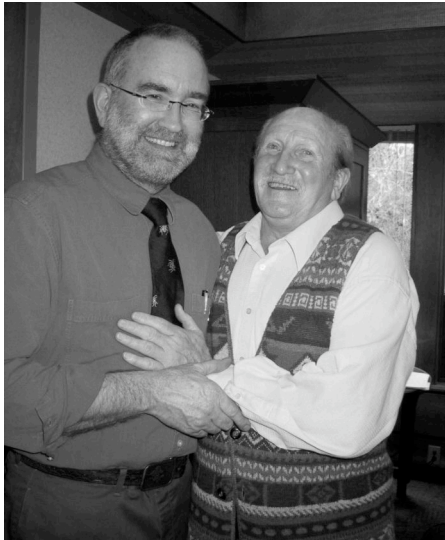
- a. Approval of the Library Policy
- b. Finances needed to buy essential library materials (e.g. archival boxes)
- c. Lending Policy
- d. Role of the Librarian in lending to other institutions
- e. Public access
- f. Coordination of volunteers
- g. Address to use for our National and International exchanges
- h. Donations --- who decides?, income tax receipts issued?, etc.
- i. Other issues?

The Library is where the history and records of our Society reside. It is also where you will find the remarkable contributions of our members to the legacy of entomology and culture in Canada. It is also a place where you can keep up-to-date in the science of entomology using the wide network of links to other library resources. Please make this a high priority item for discussion at the AGM.

2. Reminder Please consider sending your favorite image of an insect (or related taxon) to the Entomological Society of Canada, and it may grace the covers of *The Canadian Entomologist* and the *Bulletin of the Entomological Society of Canada* in 2008. It should be original, unpublished, and reflect the great



diversity of work and interests in Canadian Entomology. Send your image(s) to: Dr. Kenna MacKenzie, Chair, Publications Committee, AAFC, 32 Main Street, Kentville, Nova Scotia B4N 1J5, mackenziek@agr.gc.ca



Richard and Robb Bennett, at the reception to honour Robb's contribution to the ESBC

3. **New position on the Executive Committee** The Executive Committee approved the addition of a "Student Member" to the Executive of the ESBC. This will entail an election procedure (Motion #1) and, if approved, a change to our Bylaws (Motion #2). Please consider this proposition and come to the AGM prepared to vote on these two issues.
4. I hope you will join me in **wishing Staffan Lindgren a very speedy recovery** from his recent illness. I know it scared many others, and I and I hope you will be back to "normal" before long, Staffan. We hope to see you again soon, perhaps at the AGM in Victoria or even sooner. We wish you well in your recovery and expect that you will soon be back in your pursuit of that deadly enemy, the MPB (the Mighty Pine Beetle)!

Respectfully submitted,
Dr. Richard A. Ring
President, ESBC

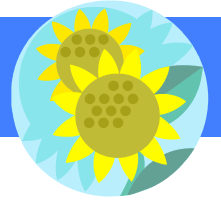
Report from ESBC Library Committee April, 2007



<http://cfs.nrcan.gc.ca/directory/vnealis>

The ESBC library has been housed for more than a decade at the Pacific Forestry Centre (PFC), 506 W Burnside Rd., Victoria, BC. Although the collection is accessible to members and the public at large, its value is underappreciated because it has not been catalogued and is therefore essentially invisible as a resource to entomologists and other scientists outside of Victoria.

In 2006, the library committee of the ESBC made a successful proposal to obtain funding from the federal government's Invasive Alien Species Strategy to undertake cataloguing of the serials in the ESBC collection. The project is jointly funded by Natural Resources Canada-Canadian Forest Service (CFS) and the Canadian Food Inspection Agency (CFIA) through the office of PFC program director, **Jim Wood**. These federal agencies recognized the unique and valuable resource represented by the ESBC collection in their need to rapidly access foreign entomological literature when confronted with alien insect species in Canada. The project supervisor is Vince



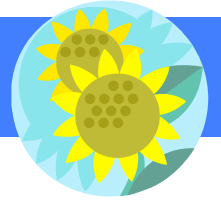
Nealis, a research scientist at PFC and a member of the ESBC library committee.

Development of a work-plan has relied heavily on consultation with **Alice Solyma**, librarian at PFC. Alice's ongoing dedication to this project goes above and beyond her regular duties as librarian at PFC. In addition to her personal investment of time, she has made it a priority to retain the distinction of the ESBC collection within the PFC library through signage and obtaining a portion of the main floor of the library to display recent holdings of the ESBC collection prominently.

The groundwork for this project was greatly expedited by the generous volunteer contributions of **David** and **Susannah Smith** in 2006. The Smiths are the parents of ESBC library committee member Greg Smith. They spent many hours sorting, weeding and clearing the way for efficient application of professional services from a librarian.

Several delays were encountered in getting the project rolling, mostly the result of current re-organization of library services within Natural Resources Canada and associated shifts in software, access to services, *etc.* The project finally got underway in early January 2007 with the hiring of **Sylvie Dufresne** in a full-time clerical position for 3 months and **Margie Clarke** as a part-time professional librarian for a maximum of 90 days. Both are exceptionally well-qualified for their respective positions and we were very fortunate to find them available. Thanks are due to **Nita Wilson** and **Eléna Jenner** (PFC) for their advice and attention to staffing actions. Workspace was found within the PFC library and the ESBC now has a small office within the library where the ESBC librarian can work without interruption from PFC library activities. Because of the late start, it was realized that the primary objectives would not be met by the original deadline 31 March, 2007. An agreement was reached with CFS management to extend the terms of both Sylvie and Margie as necessary.

As of this report, most of the hurdles have been cleared and we are well on our way to completing the cataloguing by the end of April. Eventually, anyone will be able to go onto the Government of Canada website and find their way to professionally prepared bibliographic information on ESBC holdings and utilize functions of the website to make inquiries regarding availability, inter-library loans, etc. This not only will raise the profile of our valued collection but will, by extension, raise the profile of those foreign entomological societies with which we exchange publications.

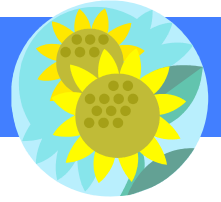


Considerations and recommendations

This project establishes the ESBC collection as a full bibliographic service to entomologists around the world. The consequence is an elevated set of obligations and responsibilities for the ESBC. Following are points the executive needs to discuss and act upon.

- 1) The draft library policy developed in 2002 needs to be reviewed and made into a working policy. This is absolutely necessary and requires immediate attention. Consultation with A. Solyma is advisable as we would want, as far as practical, to harmonize ESBC policy with that of Natural Resources Canada libraries.
- 2) More volunteer contributions will be required from the membership. Shortly there will be the need for many hands to physically re-arrange the existing collection on shelves to reflect alphabetical listings of the serials. In the long-term there will be the need for someone in the society to arrange for receipt and timely delivery of journals to PFC and arrange for up-dating the holdings catalogue. Responsibility for these on-going clerical issues should be dealt with explicitly in connection with review of the ESBC library policy.
- 3) The \$\$ for this project from the federal government were time- and objective-limited. The ESBC must now prepare for occasional expenditures associated with the maintenance and improvement of the collection. For example, some of our holdings are old, valuable, and fragile. A selection of special gloves should be made available for handling these documents. Similarly, the soft covers of many documents leads to their 'sagging' on the shelves and becoming damaged. The purchase and use of rigid archival boxes is suggested. These could be purchased over time so the collection is gradually upgraded. I have asked Margie Clarke to provide an estimate of how many she would recommend and their approximate cost. I suggest that an order be placed before we physically move the serials as that is the best time to transfer the loose documents.
- 4) The ESBC should consider purchasing attractive signage with their logo to advertise the location of the ESBC collection and to increase visibility within PFC.
- 5) At the completion of the project, it would be a nice gesture for the ESBC to recognize those non-members who were key in delivering this project. One suggestion would be for the president to host a lunch that includes: J. Wood, A. Solyma, S. Dufresne, and M. Clarke.
- 6) It is especially important that the Chief Scientist of Natural Resources Canada in Ottawa, Dr. Yvan Hardy (an entomologist), hears of this project and the appreciation of the ESBC and the entomological community. This letter should be copied to Sue Farlinger, Director General at PFC.

Vince Nealis, Library Committee, April, 2007



Web Editor's Report - April, 2007



<http://cfs.nrcan.gc.ca/directory/briel>

The website redesign is now complete, and we have transitioned completely to the new site. All of the old pages have been archived for safe keeping. Reaction to the new web site has been very positive, and it is proving to be much simpler to maintain than the old site.

I wish to offer a big thank-you to all those who provided feedback and caught the inevitable errors that occurred during this transition. And I welcome continued feedback on the web site as there could very well be errors that I haven't detected yet, or information that should be available that isn't at present.

Bill Riel,
Web Editor

New ESBC Website Link

Change your ESBC website bookmark, the new link is

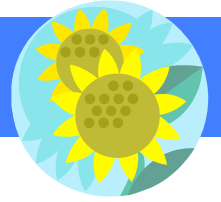
<http://www.sfu.ca/biology/esbc/>



Random Butterfly Occurrences

Sandhill Skipper, observed and photographed nectaring on plants in the Penticton Canadian Tire parking lot. Sandhill Skipper is known from four locations in BC, from Vernon to Osoyoos, and is Red-listed by the BC Conservation Data Centre. Survey results from other Canadian Tire parking lots are welcome.

Documented by Arwyn Moore, BC Conservation Corp Invertebrate Species At Risk crew member, May 2007.



Executive Profiles

Ever wonder what our executive is up to when not attending to ESBC business.

Ward Strong

Journal Editor - Journal of the Entomological Society of British Columbia



This past year Ward accepted the position of the *BC Ministry of Forest and Range Cone and Seed Pest Research Scientist*, working with insect pests of conifer seed orchards. Some of the major projects started by Ward include working with the Western Conifer Seedbug (host finding and novel trap design, with the Gerhard Gries lab at Simon Fraser University), *Dioryctria* (basic biology and mating behaviour, both in-house and with the Maya Evendon Lab at University of Alberta), and the Cooley Spruce Gall adelgid and other adelgids (species complex, dispersal and life history, with the John McLean lab at the University of British Columbia). Ward has several smaller in-house projects including the Sequoia Pitch Moth economic impact, Douglas-fir cone gall midge monitoring, *Leptoglossus* mark-release-recapture, mountain pine beetle host preference studies, and others. Ward's lab will be busy with four to six graduate

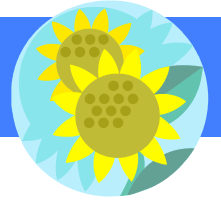
students and technicians. It's shaping up to be a fun summer!



Adelges lariciatus gallicolae adult. Photo taken June 19, 2006 by Ward Strong.



Leptoglossus occidentalis, the subject of a mark-recapture project with Sylvie Desjardins, UBC-Okanagan. Photo: S. Desjardins



Rob McGregor

Director

Institute of Urban Ecology, Douglas College

Insects in the City Last fall, the Institute of Urban Ecology presented a unique art exhibit called “Insects in the City” at the Amelia Douglas Gallery. The exhibit featured paintings and insect art by Vancouver artist, Tiko Kerr. We exhibited six beautiful drawings of biological control agents that were prepared especially for this exhibit. As far as we know, this show marks the first art exhibit ever to focus on biological control.



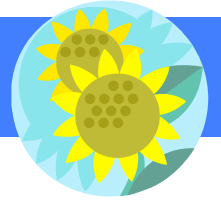
Projects 2007 In summer 2007, we will be involved in a variety of research projects of entomological interest. Work will continue on biological control of tomato psyllid on greenhouse vegetables. Collection of native parasitoids of psyllids will be our focus this year. We also have a project on conservation biological control in a community garden at Colony Farm Regional Park. Finally, we will be evaluating host-fitness effects of *Wolbachia* infections on the egg parasitoid, *Trichogramma sibiricum*.

John McLean

President Elect

Insects were not a high priority in my early years in New Zealand. My annual tussles with the aromatic pentatomid *Nezara viridula* as it sucked the contents from my bean plants left me with a not uncommon sentiment that the only good bug was a dead bug. Senior year undergraduate projects at Auckland University helping graduate students pursue stoneflies, mayflies and caddisflies in streams flowing through native forests opened the fascinating world of freshwater entomology to me. My Masters thesis centered on a large pool dwelling mayfly *Oniscigaster wakefieldi*. My university education was supported by a Teacher's Studentship and as part of that contract I was required to teach high school for at least as many years as I had received funding support. I had the great fortune to be able to serve four years of that time as a Lecturer in Biology at the then new University of the South Pacific in Suva Fiji. There we developed a series of Ecology Field Guides, one of which was on the Streams and Ponds of Fiji. It was an interesting time and a taxon that I collected extensively were the damselflies of upland streams. This collection was later worked up by Dr. Nick Donnelly of SUNY, Binghamton NY.

The World Congress of Entomology in 1972 was held in Canberra, Australia. Several Canadians traveled through Fiji on their way to or from that conference. One entomophagous nematode specialist, John Webster from Simon Fraser



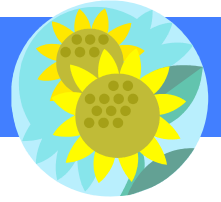
University, stopped in to give us a most interesting lecture on the use of nematodes for mosquito control. In addition to research opportunities, John was also looking for potential recruits for SFU's Masters in Pest Management Program. Subsequently, I applied to SFU and was very fortunate to be taken on by John Borden who introduced me to the wonderful world of scolytine semiochemical ecology. My assignment was to assess the use of the aggregation pheromone of the ambrosia beetle *Gnathotrichus sulcatus* for surveying and mass-trapping pest populations in the old Chemainus sawmill. We also identified the aggregation pheromone of *G. retusus* and were among the first to define the importance of characterizing optical isomers as species-specific semiochemical signals. Much of our evaluative fieldwork was carried out at the Malcolm Knapp Research Forest where I met several members of the UBC Forestry Faculty. After completing a post-doc at SFU I was most fortunate to be appointed to the UBC Faculty of Forestry as the entomologist after the retirement of Ken Graham.



John in Stanley Park, April, 2007

My time at UBC has been most interesting. I have had the pleasure of supervising top flight graduate students as well as encouraging undergraduates into rewarding professional careers. There are many more tales that can be told. I have also had my share of administrative roles –Associate Dean of Graduate Studies and Research for 10 years, two years of which were as Acting Dean when we moved into our new Forest Sciences Centre on the UBC campus. It is a whole different world to see the

operation of a large university close-up as well as interacting with the industry and government players in BC's largest natural resource-based industry. After leaving the Dean's Office I returned to the Forest Sciences Department where I continue to teach my third year and graduate forest entomology courses and thrive on the interactions with my current graduate students. For the last three years I have taught a section of first year Biology in the hope of relating some forestry aspects to both faculty and students in Science. A current endeavor is the development of an entomological contribution to the restoration of Stanley Park (see separate article).



ESBC 2007 Elections

This year's elections are for *President-Elect* and two *Director* positions. Directors serve a term of two years. Please fill out your ballot (enclosed in this mail out) and mail back to:

Lorraine Maclauchlan,
ESBC Secretary/Treasurer,
BC Ministry of Forests,
515 Columbia Street,
Kamloops, BC, Canada V2C 2T7

by the specified date and according to the directions on the ballot.

Candidates

President-Elect (one candidate)

Sheila Fitzpatrick

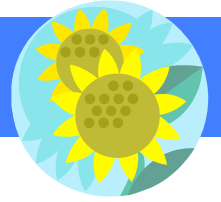
I am a research scientist with Agriculture and Agri-Food Canada at the Pacific Agri-Food Research Centre in Agassiz, BC. Insect behaviour and ecology are my primary research interests; integrated pest management of berry crops is my research mandate at AAFC. In the late 1980's, I became an active member of the ESBC, serving as Director (1989-1991), President (1993-1994) and, frequently, as judge of student paper competitions at annual meetings. Recently I accepted the invitation to serve as Agriculture Subject Editor for the Journal of the ESBC. I have seen the ESBC evolve and grow over the last 18 years, and am pleased to let my name stand for President-Elect in 2007.

Director (four candidates for two positions)

Jim Corrigan

Hello, Jim Corrigan here. I am a candidate for election as a Director of the Entomological Society of British Columbia.

I have studied insect ecology, biological control and parasitoid biology at the University of Guelph (BScAg, 1980) and Rutgers University (MSc, 1988). As well, I completed a teaching certification (BEd) program at the University of Western Ontario in the spring of 2001. Professionally, I worked as a Research Associate in the Biological Control Laboratory at the University of Guelph from 1990-2000. In the early 1990s, I conducted research on the mass rearing of *Trichogramma minutum* for inundative release against the eastern spruce budworm, *Choristoneura fumiferana*. On completion of this project, I worked with the Ontario Biological Control Program against Purple Loosestrife for four years, and directed this program from 1996-98. I was a Sessional Lecturer in the Department of Environmental



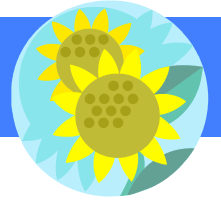
Biology at the University of Guelph between 1997 and 2003, teaching four different entomology and environmental biology courses through this time. From 2000 to 2005, I ran my own biological consulting business called 'Biological Alternatives.' I was successful in getting several contracts from Ontario Ministry of Natural Resources to continue my work with purple loosestrife, and I was the 'Bug Wrangler' for a season of the TV series 'The Secret World of Gardens.' I became a BC resident in the spring of 2006, accepting a full-time position with BC Ministry of Forests and Range as the Interior Seed and Cone Pest Management Biologist at the Kalamalka Forestry Centre in Vernon BC. With respect to Society work, I have served two terms (of 3 years each) on the Board of Directors of the Entomological Society of Ontario. I acted as the Chair of the 2003 Annual General Meeting of the Society. I was President of the ESO in 2003, and I've worked on (or chaired) Local Arrangement, Student Affairs, Public Education and Election Committees for this and other entomological societies.

On a personal level, I am a competitive curler, and an enthusiastic (if not too skilled!) fly fisher, a reader and a sports fan.

Smaller regional societies are most successful when their elected Officers exhibit a dedicated volunteer spirit. If elected, I will strive to be a productive member of the Board of Directors of the ESBC. My interests in Society work traditionally have been focused on education and outreach. As a Director, I would work toward improving the public awareness of entomological issues in BC and I would hope to foster greater student engagement with the ESBC.

Alida Janmaat

I first became interested in pursuing entomology during my undergraduate degree at Simon Fraser University. As a co-op student, I had the opportunity to work as a crop scout for Coast-Agri, Abbotsford, an entomology research technician at the Ministry of Agriculture, Cloverdale, and as a forestry research technician at the Red Rock research station near Prince George. I then moved on to the Master's of Pest Management program at Simon Fraser University where I studied the impacts of *Varroa* mite parasitism on honey bee colonies under the supervision of Dr. Mark Winston. After completing my Master's, I worked as the research and technical assistant for the BC Greenhouse Growers Association on issues related to pest management. Following which, I worked as a research assistant at the Agrotechnological Research Institute in the Netherlands on the use of essential oils and controlled atmosphere for the fumigation of cutflowers. I then decided to pursue a PhD at the University of British Columbia where I studied the evolution of resistance to *Bacillus thuringiensis* in greenhouse cabbage looper populations under the supervision of Dr. Judith Myers. I returned to SFU for post-doctoral studies under Dr. Elizabeth Elle's supervision where I studied the ecological costs of spittlebug herbivory on *Collinsia parviflora*.



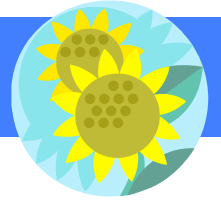
Currently, I am part of the biology faculty at the University-College of the Fraser Valley where I am conducting projects on the biological control of green peach aphids in greenhouses and the classical biocontrol of purple loosestrife. I am keen on expanding my involvement with the Entomological Society of British Columbia as a director if elected.

Greg Smith

Greg Smith is finishing his Master's thesis through the University of Northern BC studying bark beetle ecology (mountain pine beetle, of course) under the supervision of Dr. Staffan Lindgren at UNBC and Dr. Allan Carroll at the Pacific Forestry Centre (PFC) in Victoria. A life-long insect fan, he has been involved in entomology since his undergrad, taking every insect course he could prior to graduation from the University of Victoria in 2002. Greg has been an active member of the ESBC since 2000 and has been involved with the ESBC library committee for the past three years and has helped coordinate volunteers to prepare the ESBC holdings at PFC for cataloguing by a professional librarian. While employed at PFC over the past few years, he has had the opportunity to work with a number of forest pests and occasionally carries his study methods over to examine the insect fauna of his backyard. Currently, Greg is the co-chair of the ESC student committee and would like to increase his involvement in the entomological community by serving as a Director for the ESBC in the coming year. Greg resides in Victoria with his wife Jessica and their 16 month old son, Thomas.

Rob McGregor

Rob McGregor has spent much of his career studying the ecology of entomophagous insects and their use for biological control of agricultural pests. Rob completed two graduate degrees (MPM and PhD) at the Center for Pest Management at Simon Fraser University. Since 1999, Rob has been a faculty member in the Biology Department at Douglas College where he is also Director of the Institute of Urban Ecology. Current research includes projects on biological control of tomato psyllid, conservation biological control in community gardens, ground beetles in urban riparian habitats, and reproductive parasites of *Trichogramma* wasps.



Announcement

2007 ESBC Annual General Meeting and Alien and Invasive Species Symposium

This year's AGM and Symposium will be held at the **Pacific Forestry Centre**, Victoria on October 19 (Annual General Meeting) and 20 (Alien and Invasive Species Symposium) 2007.

The AGM will include oral presentations and posters by members and students. This year's symposium will bring together experts from western Canada and the Pacific Northwest, who represent academia, the government, and private industry, to discuss current topics in *alien and invasive species*. Members of the general public are also welcome to attend.

For more information about the ESBC AGM and Symposium contact:

Richard Ring, ESBC
President
Biology Department,
University of
Victoria, Victoria,
BC, Canada V8W 3N5
Tel: 250-721-7102
Fax: 250-721-7120
Email:
raring@uvic.ca

- When:** Presentations and AGM --- Friday 19 October 2007.
Symposium --- Saturday 20 October 2007.
- Time:** 9:30 am – 5:00 pm each day (lunch included in registration fee).
- Cost:** \$20 per day; \$10 for students and amateur entomologists

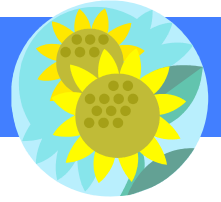
The details of these sessions have still to be arranged, and progress will be posted on the Entomological Society of BC website (<http://www.sfu.ca/biology/esbc/>). If you would like to be added to a reminder email list, please send an email to Jennifer Heron (Jennifer.Heron@gov.bc.ca) or Richard Ring (raring@uvic.ca).

Submit **titles and abstracts** (50 words maximum) by **September 21st** for presentations or posters to:

AGM to Rob McGregor (r_mcgregor@douglas.bc.ca) and
SYMPOSIUM to Richard Ring (raring@uvic.ca).

Prizes will be awarded for best MSc. and best PhD. presentations at the AGM.

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.



Symposium speakers are requested to submit a 200-400 word abstract of their talk for publication in the *Journal of the Entomological Society of British Columbia*. They are also invited to publish a scientific note or full paper on the topic of their presentation, although the submission would be peer-reviewed and processed as a regular manuscript submission.

ESBC 10th Annual Graduate Student Scholarships

The *Entomological Society of British Columbia* announces the tenth 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.



BC Invertebrate Conservation Crew surveying for butterflies at White Lake, May 2007.

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
- 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 2007 Scholarships is 28 September 2007. This year's scholarships will be awarded during the ESBC Annual General Meeting, 19 October 2007. Send applications to:

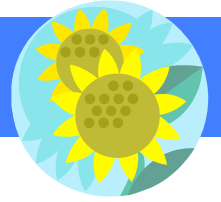
Lorraine Maclauchlan

Secretary/Treasure, ESBC

BC Ministry of Forests,

515 Columbia Street, Kamloops, BC, Canada V2C 2T7

or by e-mail to: Lorraine.Maclauchlan@gov.bc.ca



Announcement from the Entomological Society of Canada

**Joint Annual Meeting of
The Entomological Society of Canada and
The Entomological Society of Saskatchewan
September 29-October 3, 2007
The Bessborough Hotel, Saskatoon, Saskatchewan
601 Spadina Crescent East, Saskatoon, SK**

On behalf of the Entomological Societies of Saskatchewan and Canada we cordially invite you to attend the 2007 Joint Annual Meeting to be held at the Delta Bessborough Hotel in Saskatoon, Saskatchewan.

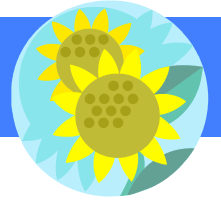
For more information
about the ESC/ESS AGM
contact:

Dwayne Hegedus,
JAM 2007 Organizing
Chair
Agriculture and Agri-
Food Canada
107 Science Place
Saskatoon, SK S7N 0X2
Tel: 306-956-7667
E-mail:
hegedusd@agr.gc.ca

The Delta Bessborough is a venerable Canadian Pacific hotel on the bank of the South Saskatchewan River. It is adjacent to the Meewasin Valley Trail which follows the river through the heart of Saskatoon. The Trail encompasses over 21 kilometres of cycling, jogging, and walking routes that travel through beautifully landscaped parks and natural areas. Hundreds of species of birds and other wildlife make their home near the Trail and by Meewasin Riverworks Weir, one of Saskatoon's most popular visitor attractions for viewing wildlife. We encourage you to stay at the Hotel to enjoy the ambience and to help keep our meeting costs down. When registering, please indicate you are with **ESC**.

The theme of 2007 JAM is **Insects: Microscale Subjects for Megascale Research**. Our Plenary Session features Roy Ritzmann from Case Western Reserve University, who investigates how animals move in their natural environment in order to design and build hexapod robots; and Helen Nichol, from the University of Saskatchewan, who utilizes transgenic *Drosophila* and synchrotron technology to investigate how cells store and detoxify metals and metalloids. Our first general symposium focuses on different aspects of insect-microbe interactions, and our second symposium examines basic and applied aspects of neuroethology.

To take a break from the innovative science program, we plan to have a mid-meeting excursion to Wanuskewin Heritage Park. Here we will see the prairie as it was before European settlement, and we may even have an opportunity to do some insect observation. Our Heritage Lecture and Annual General Meeting are scheduled to take place at Wanuskewin.



More information is posted on the websites of ESC (www.esc-sec.org) and ESS (www.sfn.saskatoon.sk.ca/science/ess/ESS-ESC/intro.html). Remember, abstracts are due by June 29, and registration at the low rate must be received before August 25.

Tentative Program

JAM Entomological Society of Canada and Entomological Society of Saskatchewan 2007

Saturday, 29 September

Morning and afternoon: ESC Board Meeting
Afternoon & evening: Registration

Sunday, 30 September

Morning: Opening ceremonies, ESC awards, Gold Medal Address and Plenary Session
Afternoon: President's Prize sessions
Evening: General mixer

Monday, 1 October

Morning: President's Prize sessions
Afternoon: Wanuskewin Tour, Heritage Lecture – Dr. Peter Harris, Scientist Emeritus AAFC, ESC Annual General Meeting
Evening: President's reception and student social (by invitation)

Tuesday, 2 October

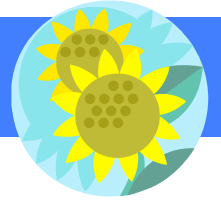
Morning: Symposium I – Insect-Microbe Interactions
Noon: ESC Board Meeting
Afternoon: Student-organized symposium, poster presentations, contributed paper sessions & workshops
Evening: Banquet and student award presentations

Wednesday, 3 October

Morning: Symposium II - Basic and Applied Aspects of Neuroethology, Contributed paper sessions
Noon: ESC Board Meeting

For more information
about the ESC/ESS AGM
contact:

Dwayne Hegedus,
JAM 2007 Organizing
Chair,
Agriculture and Agri-
Food Canada,
107 Science Place
Saskatoon, SK
S7N 0X2
Tel: 306-956-7667
E-mail:
hegedusd@agr.gc.ca



ESC JAM Information
cont.

Associated meetings

Friday September 28 - AAFC Biological Control Working Group Meeting at AAFC Contact Peter Mason (AAFC Ottawa) masonp@agr.gc.ca

Monday October 1 - Canadian Forum for Biological Control Contact Kevin Floate (AAFC Lethbridge) floatek@agr.gc.ca

Wednesday October 3 - Biological Survey of Canada
Contact: Susan Goods sgoods@mus-mature.ca

NOTICE of Silent Auction

- bring your old bug trinkets!



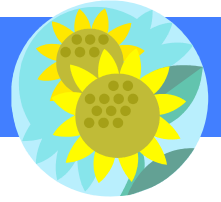
Entomological gear piled onto a skidder for ease of delivery, Bute Inlet, July 2007

The Student Affairs Committee of the Entomological Society of Canada plans to hold a silent auction at the 57th Joint Annual Meeting at Saskatoon. The Committee is in search of **entomology-related articles that patrons are willing to donate for auction**. Here is an opportunity to downsize your entomological library, find a home for those collecting materials that you haven't used in years, or recycle useful entomological material in general. Proceeds will go towards ESC student scholarships.

Invited Speaker Biographies

Plenary Session

- **Helen Nichol** (U Saskatchewan) is interested in how cells store and detoxify excess metals and metalloids. Though her early studies were on insects (see *Annu. Rev. Entomol.* 47: 535 [2002]), her focus has now turned to how the dysregulation of metal metabolism contributes to human diseases. Helen hasn't fully let go of her 'insect bent', as she uses transgenic *Drosophila*, in combination with synchrotron technology, to understand the roles of metals in such disorders as Alzheimer's, Parkinson's, Huntington's and ALS. <http://www.usask.ca/anatomy/people/nichol.shtml>
- **Roy Ritzmann** (Case Western Reserve U) conducts research into how animals move through the complex terrain in their natural environment; that is how does an animal climb over, go round, or burrow under obstacles that block its path. The data generated by this research can be used to



design and build hexapod robots.

<http://www.case.edu/artsci/biol/ritzmann/ritzmann.htm>

ESC JAM Information
cont.

Symposium I (Insect-Microbe Interactions)

- **Cameron Currie** (University of Wisconsin-Madison) focuses on the ecology and evolution of symbiotic associations between insects and microbes. He uses a multi-disciplinary approach and employs molecular ecology and phylogenetic techniques to investigate how microbes shape the biology of higher organisms. The model system being investigated is the quadripartite association between fungus-growing ants, their fungal cultivars, mutualistic bacteria, and specialized pathogens.

<http://www.bact.wisc.edu/gradstudies/facultyListing.php?id=25>

- **Anne Hajek** (Cornell University) has a comprehensive research program on fungal pathogens of insects including evolution of pathogen virulence and host resistance at the level of population genetics, host specificity of pathogens, and epizootiology of insect diseases. The model system that she has studied extensively is *Entomophaga maimaiga* (Zygomycetes: Entomophthorales) infection of gypsy moth populations.

http://www.entomology.cornell.edu/Faculty_Staff/Hajek/Hajek1.htm

- **Kevin Floate** (Agriculture & Agri-Food Canada, Lethbridge Research Centre) investigates insect parasitoids as potential biological control agents of filth flies associated with livestock production. Recently much research progress has been made towards understanding the role of symbiotic bacteria, such as *Wolbachia*, in host insect reproduction and physiology as

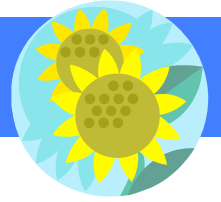
well as population genetics. This has led to an interest in the impact such symbionts play in the production and successful utilization of insect parasites as biological control agents and to potential new approaches for manipulating symbionts to the benefit of parasitoid agents.

http://sci.agr.ca/lethbridge/scitech/kdf/floate_e.htm

- **Michel Cusson** (Canadian Forest Service, Laurentian Forestry Centre) has a broad range of interests in insect physiology and endocrinology and in particular the regulation of juvenile hormone biosynthesis in Lepidoptera. Polydnviruses associated with hymenopteran parasitoids are asymptomatic in host wasps but cause major disruptions in development and immune



Dave Holden, Robb Bennett and Darren Copley investigate the entomological fauna of Bute Inlet, July 2006.



ESC JAM Information
cont.

systems of the lepidopteran host of the wasp. This system is being investigated at molecular level as a model for developmental regulation.

<http://cfs.nrcan.gc.ca/directory/mcusson>

- **Chrystel Olivier** (Agriculture & Agri-Food Canada, Saskatoon Research Centre) has research interests in the role of insects in the vectoring of phytoplasmas that cause plant diseases. She has investigated the vector-phytoplasma interaction at the molecular level in insect hosts as well as at the ecological level in terms of vector population density and movement in the spread of phytoplasma diseases in crops. The current model system being investigated is leafhopper transmission of grape phytoplasmas.

Symposium II (Basic and Applied Aspects of Neuroethology)

- **Mark Frye** (UCLA) examines how animals navigate through complex landscapes. Using a combination of *Drosophila* molecular genetics and state-of-the-art engineering, he is attempting to understand how the fly's brain coordinates the biomechanics and dynamics of walking and flight. The results will stimulate significant technological advances in bio-inspired robotic devices.

<http://www.physci.ucla.edu/physcifacultyindiv.php?FacultyKey=2807>

- **Brian Smith** (Arizona State U) focuses on how animals learn relationships among stimuli in their environment, in particular, how these stimuli predict the occurrence of important events such as feeding, predation, and mating. Using the honeybee as a model, he is studying the integration of visual and olfactory information that enables the insect to locate and identify floral resources.

<http://sols.asu.edu/faculty/bsmith.php>

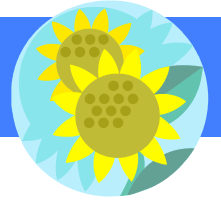
- **Jack Gray's** (U Saskatchewan) goal is to learn how the nervous system produces and controls complex adaptive behaviours. He uses as models systems for which there is already a strong behavioral and neurophysiological base, notably collision avoidance in locusts and odour-guided flight in hawkmoths. These systems are studied in a virtual reality-based flight simulator where multineuronal recordings from the insect's central nervous system can be made, while simultaneously the insect's flight

kinematics. <http://www.usask.ca/biology/gray/>

- **Andrew Mason** (U Toronto) is broadly interested in the mechanisms by which the nervous system controls ongoing activity, and how these mechanisms relate to behavioral adaptation. More particularly, he studies sound production and reception in a range of arthropods, including spiders, katydids and flies. Because of the constraints imposed by the physics of



Robb Bennett and Darren Copley investigating woodpiles in Bute Inlet, July 2006



ESC JAM Information
cont.

sound production, nanoscale acoustic microphones (tiny ears) with directional sensitivity are difficult to create. The parasitic fly, *Ormia ochracea*, has largely solved this difficulty and is a valuable model from which to develop improved human hearing aids.

<http://www.scar.utoronto.ca/~amason>

Deadline for AGM early registration is August 25th

Note: On line secure-site registration can be made through:

www.sfn.saskatoon.sk.ca/science/ess/ESS-ESC/intro.html

Registration fee in \$ Cdn includes Program and admittance to meetings, trip to Wanuskewin, mixer and banquet, and GST. Extra banquet tickets also may be purchased at the registration desk.

	Before August 25	After August 25
Amount		
Regular member	\$215	\$315
Non-member	\$305	\$410
Student members, retirees	\$100	\$160
Student non-member	\$140	\$180
Accompanying member	\$80	\$120
Extra banquet ticket	\$50	\$50

Cancellation policy: before 25 August – full refund; before 15 Sept – 40% refund, on or after 15 Sept, no refund. Please indicate if banquet preference is a vegetarian dish

Accommodation: Rooms

at \$128/night have been reserved for participants at the Hotel Bessborough. To obtain this reduced rate indicate that you are attending “ESC” when making reservations. This rate will end 27 August. Any groups requiring additional meeting rooms should contact the conference organizers.

Hotel reservations are available through:

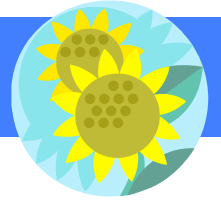
Delta Bessborough Hotel
601 Spadina Crescent East
Saskatoon, Saskatchewan

Phone 1-800-268-1133/ (306) 244-5521

www.deltahotels.com/hotels/hotels.php?hotelID=8



Beetles on display at the Spencer Entomological Museum, University of British Columbia



ESC JAM Information
cont.

CALL FOR SUBMITTED PAPERS AND POSTERS

DEADLINE FOR SUBMISSION: June 29, 2007

57th Joint Annual Meeting Entomological Society of Canada and Entomological Society of Saskatchewan



Art and Chris Borkent, at the Canmore JAM, 2005. It's minus 30 degrees and they were out looking for insects!

Categories of presentation:

Oral presentation - Regular or President's Prize*

Poster presentation - Regular or President's Prize*

Presentations (including the Abstract) may be given in either official language.

* President's Prize Eligibility Criteria: Candidate is:

- currently enrolled in a degree program or has graduated from a degree program since the last annual meeting
- registered at the meeting and has designated the President's Prize category at the time of abstract submission
- the principal researcher of the paper or poster

Abstracts (not more than 70 words) should be submitted by e-mail to cedric.gillott@usask.ca in Rich Text Format (rtf). Abstracts should include the following information, as per the example: 1) authors' names, with name of presenter in **bold** font, 2) authors' addresses and affiliation, 3) presentation title, 4) presentation category and language of presentation 5) summary text

Tara D. Gariepy^{1,2,3}, Ulrich Kuhlmann², Cedric Gillott³, Martin Erlandson¹

¹Agriculture and Agri-Food Canada, Saskatoon Research Centre, Saskatoon, SK Canada, S7N 0X2; ²CABI Bioscience Switzerland, Rue des Grillons 1, CH-2800 Delémont, Switzerland; ³Department of Biology, University of Saskatchewan, 112 Science Place, Saskatoon, SK Canada, S7N 5E2.

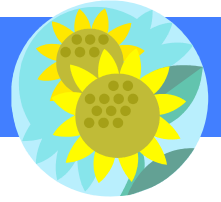
A Molecular Approach to Evaluating the Ecological Host Range of European *Peristenus* spp. (Hymenoptera: Braconidae), Parasitoids of *Lygus* spp. (Hemiptera: Miridae)

(Oral, President's Prize - English Presentation)

Molecular methods for detecting and identifying parasitoids within their hosts may expedite ecological studies prior to introducing exotic biological control agents. To determine the utility of molecular diagnostics in non-target risk assessment of European parasitoids of *Lygus* (Hemiptera: Miridae), a multiplex PCR assay for *Peristenus* (Hymenoptera: Braconidae) was applied to field-collected target and non-target mirids. Parasitism levels and parasitoid species composition based on rearing, dissection, and molecular analysis were compared.

For more information
about the ESC/ESS AGM
contact:

Dwayne Hegedus,
JAM 2007 Organizing
Chair,
Agriculture and Agri-
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E-mail:
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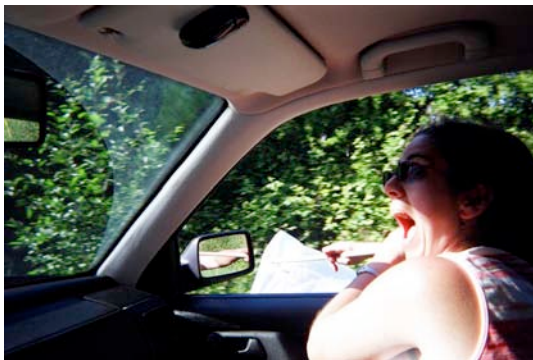
ESC JAM Information
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Oral presentations (regular and President's prize) will be 12 minutes plus 3 minutes for questions and discussion. Presentations in PowerPoint only, using common Windows fonts for text and symbols and with limited use of animation. Facilities for loading oral presentations from USB storage devices or CD-R formats will be provided at designated times during the meeting.

Poster presentations **should be sized to fit a 1.2 (h) x 1.0 (w) metre format**

Random photos from the field

Do you have a random photo from the field? Email a copy to Jennifer.Heron@gov.bc.ca



Suzie Lavallee partaking in rapid aerial assessment (sticking her net out the car window at 20 km/hr). Note: identification of specimens is difficult at speeds past 25km/hr.



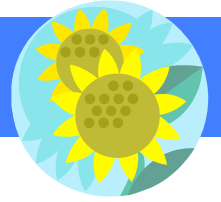
Geoff Scudder looking for bugs in the south Okanagan grasslands, May 1998.



Wayne Maddison, UBC, looking for jumping spiders in Burns Bog, June 2004.



Lynn Westcott and BC Parks Ranger at the Behr's Blitz, Osoyoos, June 2004



Upcoming meetings and conferences

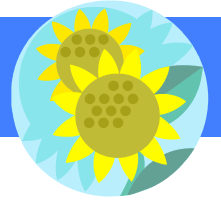
Year 2007

Do you have an entomological event that you would like posted in *Boreus*? Send us your announcement by November 15 and we will post it in the December issue.



Litanentria minor, BC's only species of native mantid.
Photo by R.A. Cannings

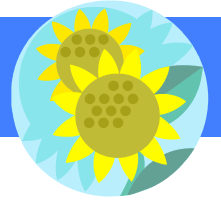
- 1. Joint meeting of the Entomological Society of Canada and the Entomological Society of Saskatchewan**
30 September - 3 October 2007
Delta Bessborough Hotel, Saskatoon, Saskatchewan
<http://www.deltahotels.com/hotels/hotels.php?hotelId=8>
Theme - *Insects: Microscale Subjects for Megascala Research*
- 2. The 51st Livestock Insect Workers' Conference and 9th International Symposium on Ectoparasites of Pets** will take place in Lexington, Kentucky on June 10-14, 2007. Contact Fred Knapp at 859-257-7450 or fknapp@email.uky.edu.
URL: http://www.pestmanagement.info/ISEP_LIWC
- 3. The Ohio Pest Control Association Summer Meeting** will be held June 15 in Newark, Ohio. URL: <http://www.ohiopca.com>
- 4. The 2007 CCB Taxonomic Identification and Conservation Workshop** will be held June 15-16, 2007 at the University of Connecticut. John Ascher from the American Museum of Natural History and Sam Droege of USGS Patuxent Wildlife Research Center will lead this two-day workshop on bee identification, sampling, and conservation. For more information, contact pat.anderson@uconn.edu.
- 5. The Pest Control Operators of California** are holding their 64th Annual Convention and Trade Show at Loews Coronado Bay Resort in San Diego, California, June 21-23, 2007. For more information call 916-372-4363 or go to <http://www.pcoc.org>.
- 6. The 9th International Pollination Symposium** will be held at Iowa State University in Ames, Iowa, June 24-28. URL: <http://www.ucs.iastate.edu/mnet/plantbee/home.html>
- 7. The Florida Pest Management Association Annual Convention & Exposition** will be held June 25-27 at the Marco Island Marriott Resort in Marco Island, Florida. URL: <http://www.flpma.org>
- 8. The North American Forensic Entomology Association's 5th Annual Conference** will be held at Simon Fraser University, Vancouver, British Columbia, Canada, July 11-13, 2007. Contact Dr. Gail Anderson at ganderso@sfu.ca or (604) 291-3589. URL: www.nafea.net



9. **The 90th Annual Meeting of the Florida Entomological Society** will be held July 15–18, 2007 at the Ritz-Carlton Resort in Sarasota, Florida. URL: <http://www.flaentsoc.org/annual.htm>
10. **The American Society for Horticultural Science's Annual Conference** will be held on July 16-19, 2007, at the Westin Kierland Resort and Spa in Scottsdale, Arizona. *Contact:* ASHS, 113 S. West Street, Suite 200, Alexandria, VA 22314, phone 703-836-4606, fax 703-836-2024, ashs@ashs.org URL: <http://www.ashs.org>
11. **The 20th Entomological Congress of Venezuela** will be held July 22-26, 2007 at the Universidad del Táchira, San Cristóbal, Táchira, Venezuela. Contact Angel N. Torres at 58-416-376-2721 or entoche@gmail.com. URL: www.sve.org.ve/congreso
12. **The NPMA's Mid-Atlantic Summer Conference 2007** will be held July 26-28 at the Kingston Plantation Hilton Myrtle Beach Resort in Myrtle Beach, Florida. URL: <http://www.pestworld.org>
13. **The 1st International Conference on Malaria Vaccines for the World** will be held by the Royal Society of Medicine in London, UK, September 17-19, 2007. Closing date for poster abstract submissions July 27, 2007. URL: http://www.meetingsmanagement.com/mvw_2007/index.htm
14. **The Annual Meeting of the Dragonfly Society of America** will be held July 27-30 in Springerville, Arizona. Contact Jerrell Daigle at (850) 878-8787 or jdaigle@nettally.com. URL: http://odonatacentral.bfl.utexas.edu/dsa1/annual_meeting.htm
15. **The American Phytopathological Society Annual Meeting** is slated for July 28-August 1, 2007, in San Diego, California. URL: <http://www.apsnet.org>
16. **The 78th Rocky Mountain Conference of Entomologists** will be held July 29-August 2, 2007 at Woodland Park, Colorado. Contact Edmond Bonjour at edmond.bonjour@okstate.edu or 405-744-5099. URL: www.entopl.okstate.edu/rmce
17. **The 92nd Annual Meeting of the Ecological Society of America** is slated for August 5-10, 2007, in San Jose, California. URL: <http://www.esa.org>
18. **The International Congress of Insect Biotechnology and Industry** will be held August 19-24 2007 in Daegu, Korea. URL: <http://www.icibi2007.com>



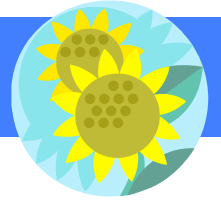
Arwyn Moore, BC Conservation Corp Invertebrate Species At Risk crew member, Mahoney Lake Provincial Park May 2007.



19. **The 13th European Carabidologists' Meeting** will be held August 20-24, 2007 at the American University in Bulgaria, Blagoevgrad. For more information, see <http://www.ecolab.bas.bg/ecm2007>
20. **Epidemiology and control of Infectious Diseases: An Introduction to Mathematical Models of Global and Emerging Infections** will be held at Imperial College, London, UK, September 3-14, 2007. This is an interactive short course for public health professionals, policy-makers, clinicians, researchers and health economists. Phone: +44 (0)20 7594 6886; email: cpd@imperial.ac.uk; URL: <http://www3.imperial.ac.uk/cpd/courses/subject/medical/epidemiology>
21. **A Malaria Conference** will be held at Magdalen College, Oxford, UK, September 9-14, 2007. Applications for this meeting must be submitted by August 19, 2007. Contact Kevin Marsh at kmarsh@kilifi.kemri-wellcome.org or Chetan Chitnis at cchitnis@icgeb.res.in. URL: <http://www.grc.org/programs.aspx?year=2007&program=malaria>
22. **The International Organization for Biological and Integrated Control of Noxious Animals and Plants (IOBC)** is holding a Working Group Meeting in Lund, Sweden, September 9-14, 2007 to celebrate the 300th anniversary of Carl Linnaeus. Topics include plant volatiles and insect olfactory space, underground chemical ecology, safeguarding insect control with semiochemicals, and chemical ecology research in threshold countries. URL: <http://www.phero.net/iobc/lund/announc6.html>
23. **The 11th International Symposium on Scale Insect Studies (ISSIS-XI)** will be held in Oeiras, Portugal, September 24-27, 2007. Contact Dr. Manuela Branco at issis2007@isa.utl.pt.
24. **The 16th International Plant Protection Congress** in association with the BCPC International Congress, *Crop Science and Technology 2007*, will be held on October 15-18, 2007, in Glasgow, Scotland. URL: <http://www.bcpc.org/iapps2007>
25. **The National Pest Management Association's PestWorld 2007** will be held on October 17-20, 2007 in Orlando, Florida. URL: <http://www.pestworld.org>
26. **An Insect Rearing Workshop** will be held at the Mississippi State University's Department of Entomology & Plant Pathology the week of October 21-26, 2007. Contact fdavis@entomology.msstate.edu. URL: <http://www.msstate.edu/Entomology/resources/Rearingwksp.html>
27. **Maintaining Worldwide Connections for Quality Assurance in Arthropod and Nematode Rearing**, hosted by the Biocontrol Network of Canada, will be held October 28 - November 1. Contact Maclay Burt at



Swallowtail butterfly at Mahoney Lake Provincial Park, May 23, 2007.



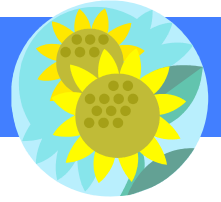
- maclayb2@aol.com or 714-544-8295. URL: http://www.anbp.org/joint_meeting.htm
28. **The 56th Annual Meeting of the American Society of Tropical Medicine and Hygiene** will take place at the Philadelphia Marriott in Philadelphia, Pennsylvania, November 4-8, 2007. URL: <http://www.astmh.org/meetings/index.cfm>
 29. **The Joint Annual Meeting of the American Society of Agronomy, the Crop Science Society of America, and the Soil Science Society of America** will take place on November 4-8, 2007, in New Orleans, Louisiana. URL: <http://www.asa-cssa-sssa.org>
 30. **Biological Control without Borders**, a collaborative symposium sponsored by the International Organization for Biological Control and the Mexican Society for Biological Control, will be held November 13-15, 2007 in Merida, Yucatan, Mexico. Contact Robert N. Wiedenmann at 479-575-2451 or rwieden@uark.edu. URL: <http://entomology.uark.edu/iobcsymp.html>
 31. **The 2007 ESA Annual Meeting** will be held on December 9-13, 2007, in San Diego, California. *Contact:* ESA Annual Meeting, 10001 Derekwood Lane, Suite 100, Lanham, MD 20706, phone 301-731-4535, fax 301-731-4538.

Year 2008



BC Conservation Corp Invertebrate Species At Risk survey crew at Mahoney Lake Provincial Park, May 23, 2007.

1. **The 72nd Annual Purdue Pest Management Conference** will be held January 7-11 in West Lafayette, Indiana. Contact Susan Umberger at 800-359-2968 or sumberger@purdue.edu.
2. **The 3rd Molecular Approaches to Malaria Meeting** will be held at the Mantra Erskine Beach Resort, Lorne, Victoria, Australia, February 3-7, 2008. Email: enquiries@mamconferences.org. URL: <http://www.mamconferences.org>
3. **The 18th Biennial International Plant Resistance to Insects Workshop** will take place on February 10-13, 2008, in Fort Collins, Colorado. *Contact:* Frank Peairs, phone 970-491-5945, Frank.Peairs@ColoState.Edu.
4. **The USDA Forest Service's 4th Hemlock Woolly Adelgid Symposium** will be held at the Hartford Hilton Hotel in Hartford, Connecticut, February 11-15, 2008. Contact Dennis Souto at dsouto@fs.fed.us, Victoria Smith at victoria.smith@po.state.ct.us or Katherine McManus at kmcmanus@fs.fed.us. URL: <http://na.fs.fed.us/fhp/hwa>
5. **The 5th International Crop Science Congress** will be held April 13-18, 2008, in Jeju, Korea. URL: <http://www.cropscience2008.com>

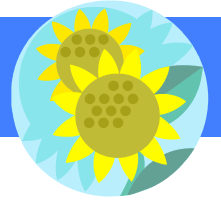


6. **The XXIII International Congress of Entomology, *Breaking the Barriers*, is slated for July 6-12, 2008, in Durban, South Africa.** This event is sponsored by the Entomological Society of South Africa. URL: <http://www.ice2008.org.za>
7. **The American Phytopathological Society Annual Meeting** is slated for July 26-30, 2008, in Minneapolis, Minnesota. URL: <http://www.apsnet.org>
8. **The 93rd Annual Meeting of the Ecological Society of America** is slated for August 3-8, 2008, in Milwaukee, Wisconsin. URL: <http://www.esa.org>
9. **The 2008 ESA Annual Meeting** will be held on December 7-11, 2008, at the Charlotte Convention Center in Charlotte, North Carolina. *Contact:* [ESA Annual Meeting](#), 10001 Derekwood Lane, Suite 100, Lanham, MD 20706, phone 301-731-4535, fax 301-731-4538

Source: Entomological Society of America website
<http://www.entsoc.org/pubs/periodicals/news/dantebook.htm>



Egg case of the preying mantis (*Mantis religiosa*), introduced to the Okanagan from Ontario in the 1930s in an attempt to control grasshoppers. Originally from Europe, the species was introduced to eastern North America in the late 1800s. The adults come in both a green and brown phase and both sexes fly. Up until 10 or 15 years ago, this mantid was regularly found only in the South Okanagan, but recently it has showed up as far north as Kamloops. Photograph by Lea Gelling, Vernon, May 2007.



Educating the Next Generation



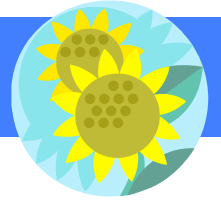
Ward Strong, Ministry of Forests, training the next generation of entomologists, Vernon.



Sylvie Desjardins, UBC, and summer student in the field in Keremeos, BC. Sylvie is completing mark-recapture studies with Behr's Hairstreak and Mormon Metalmark butterflies. Photo: J. Hobbs



Suzie Lavallee with her daughter Marie, Helliwell Provincial Park, May 2004



Upcoming Surveys and Bio-blitz Events

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!

Biodiversity Survey of Canada Annual Bio-blitz

Bio - Blitz 2007

Where: Riding Mountain National Park

When: July 16-20, 2007

Why: To assist the park in documenting its insect fauna

Who: Anyone with an interest in collecting insects

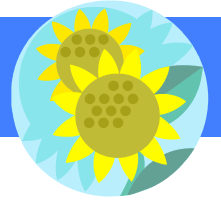
Contact information:

Dr. Rob Roughley

Department of Entomology, University of Manitoba,
(204) 474-6023; rob_roughley@umanitoba.ca

Dr. Bob Lamb

Agriculture and Agri-Food Canada, Winnipeg,
(204) 983-1458; rlamb@agr.gc.ca



Behr's Blitz, South Okanagan

Behr's hairstreak (*Satyrium behri columbia*) is a nationally threatened butterfly that lives in the Antelope-brush ecosystems of the south Okanagan. The butterfly typically starts its flight period in mid June. The Behr's Blitz Butterfly Event was started a few years ago to help survey for this butterfly and raise public awareness for this and other species that depend on Antelope-brush. This year the Behr's Blitz is scheduled from **Monday, June 11 – Friday, June 22, 2007**. Assistance is needed with surveys. Contact Jennifer Heron if you would like to participate: Jennifer.Heron@gov.bc.ca



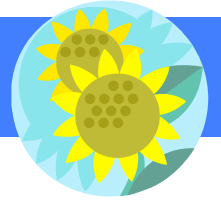
Dennis St. John explaining Behr's Hairstreak butterfly habits and biology at Osoyoos Desert Centre, June 2004

Mormon Metalmark Surveys, South Okanagan



Mormon Metalmark butterfly, photo taken August 2007 at roadside in Keremeos.
Photo by Orville Dyer.

Mormon Metalmark (*Apodemia mormo*) is a nationally endangered butterfly with occurrences in the lower Similkameen river valley. Historic occurrences are from the south Okanagan, although the butterfly has not been seen in this valley for over fifty years. The annual Mormon Metalmark surveys are from August 11 – August 31, 2007. For more information, or if you would like to be involved, contact Jennifer Heron at Jennifer.Heron@gov.bc.ca



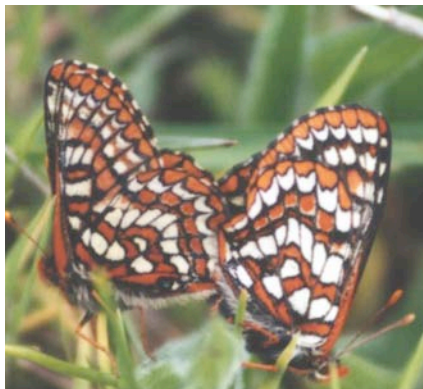
Requests for Information & Assistance

Parowan Tiger Beetle Records Suzie Lavallee is writing a status report on the Parowan Tiger Beetle (*Cicindella parowan wallisi*) for the Committee on the Status of Endangered Wildlife in Canada. Information, records or sightings are most welcome. Historic records are from Vernon, south through the Okanagan valley to Osoyoos. The beetle is known from saline lakes, although recent information suggests the beetle may be in other sandy riparian habitats.

Please contact
Suzie Lavallee, PhD.,
University of British Columbia,
Faculty of Forestry
Phone: 604-822-4987
or 604-785-1778
Email: Suzie_lavallee@yahoo.ca

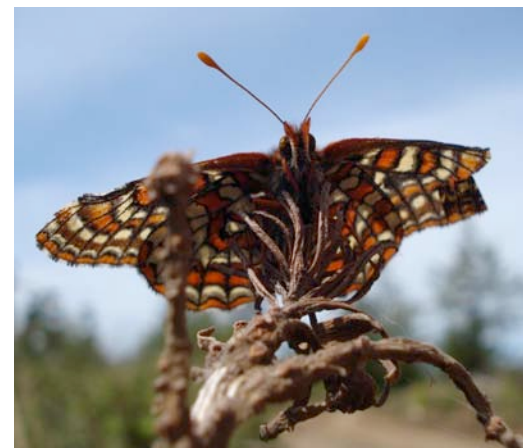


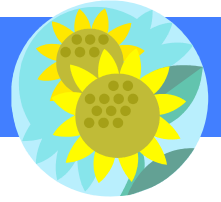
Taylor's Checkerspot Sightings Taylor's Checkerspot (*Euphydryas editha taylori*) is a nationally endangered butterfly in Canada. The species is known from Denman Island, but likely remains in unchecked habitats throughout southern Vancouver Island and the gulf islands. Recent occurrences of the butterfly are from clearcuts, roadsides, forest openings and meadows that have moist soils and a healthy population of the known foodplants (*Plantago* species). Parks Canada and BC Ministry of Environment are working to survey for this species, as well as appealing to the public for information on possible locations. If you have seen this butterfly, please send your report to the BC



Taylor's Checkerspot butterfly

Conservation Data Centre at cdcddata@gov.bc.ca or Jennifer Heron at Jennifer.Heron@gov.bc.ca. Please do not collect this species.

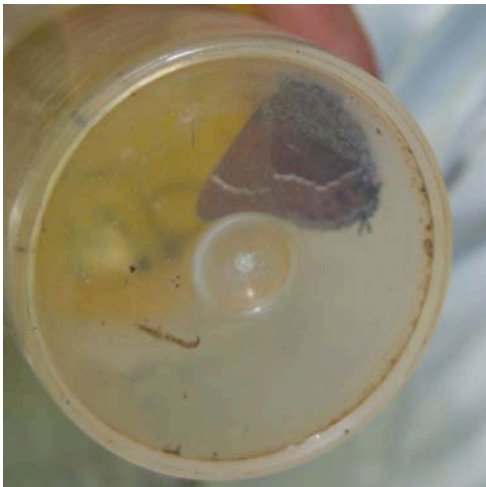




Monarch Butterfly Sightings Don Davis is asking for information and sightings of the Monarch butterfly in British Columbia. He continues to coordinate the **Journey North Program** and has been following the spring migration of monarch butterflies into eastern North America. Monarchs are seen every year in the Okanagan Valley and Fraser River area, and he is asking you to please send reports of any sighting of adult monarch butterflies, eggs or larva. Please also spread the word to internet-based discussion groups, to field naturalists or others who might be in a position to share their observations. Donald's email is donald.davis1@gmail.com

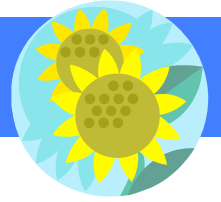
Millipede Collections from BC Roland Shelley, North Carolina Museum of Natural Sciences, will be visiting the University of British Columbia Spencer Entomological Museum in late August. He will be reviewing the millipede collections. If you have millipedes that are from BC, and need identification confirmation, please contact Karen Needham at the Spencer Entomological Museum by August 15, 2007. Email: needham@zoology.ubc.ca. Phone: 604-822-3379.

Insect Records from Stanley Park John McLean is coordinating the gathering of occurrence records for insects in Stanley Park. See article "Stanley Park Restoration", in this edition of Boreus. Contact John McLean on how you can be involved john.mclean@ubc.ca



Johnson's Hairstreak butterfly, Pacific Spirit GVRD Park. May 29, 2007. Photo Michelle Connolly.

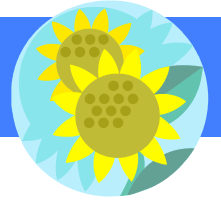
Information on Johnson's Hairstreak Butterfly Michelle Connolly is working for BC Ministry of Environment to complete a report on the status of Johnson's Hairstreak butterfly in British Columbia. Johnson's Hairstreak caterpillars feed on exposed hemlock dwarf mistletoe, and adults feed on wildflowers in forest openings. If you have information on Johnson's Hairstreak or hemlock dwarf mistletoe distribution, please contact Michelle at michelleconnolly78@hotmail.com



Bugs and Beers

Bugs and Beers continues with great fun! If you can't join me, let me know where you meet and I will post it in the next Boreus issue. This is meant to be an informal setting for amateurs, enthusiasts, and professionals to meet and talk bugs. Come out and meet other entomologists!

<p>Wednesday June 13, 2007 6 pm</p>	<p>The Dream Café 67 Front Street, Penticton Telephone: 250-490-9012 This fabulous café brings together food and music that makes one feel like on vacation. The beer and the great atmosphere will make for an enjoyable evening. http://www.thedreamcafe.ca/</p>
<p>Wednesday July 18, 2007 6 pm</p>	<p>Cranbrook Area Granny Cottle's British Café & Ice Cream Parlour 400 Cranbrook Rd., Cranbrook Telephone: 250-426-2817 OK, there likely isn't too much beer, but perhaps there is beer-flavored ice cream? We can move to a local pub after the ice cream.</p>
<p>Tuesday, August 14, 2007 5 pm</p>	<p>Pot-luck BYOB BBQ at Ward Strong's Home, Vernon Please RSVP Ward through email at Ward.Strong@gov.bc.ca, and he will also provide directions to his home. Ward lives on the lake, so bring your bathing suit, snorkel and flippers and we can survey the aquatic fauna too!</p>
<p>Tuesday, September 25, 2007 6 pm</p>	<p>Spinnaker's Brew Pub 308 Catherine Street, Victoria, BC Telephone 1-877-838-2739 http://www.spinnakers.com/brewpub/index.htm</p>
<p>Tuesday, October 16, 2007 6 pm</p>	<p>The Orange Room 620 Sixth Street, New Westminster Telephone: 604-520-6464 www.theorangeroom.ca</p>
<p>Tuesday, November 13, 2007 6 pm</p>	<p>The Whip Gallery Restaurant 209 East 6th Ave @ Main St, Vancouver BC Telephone: 604 874 4689 www.thewhiprestaurant.com</p>
<p>Tuesday December 4, 2007 6 pm</p>	<p>Foggy Dew Irish Pub 405 North Road, Coquitlam Telephone 604-937-5808 www.foggydewirishpub.com</p>



New Publications

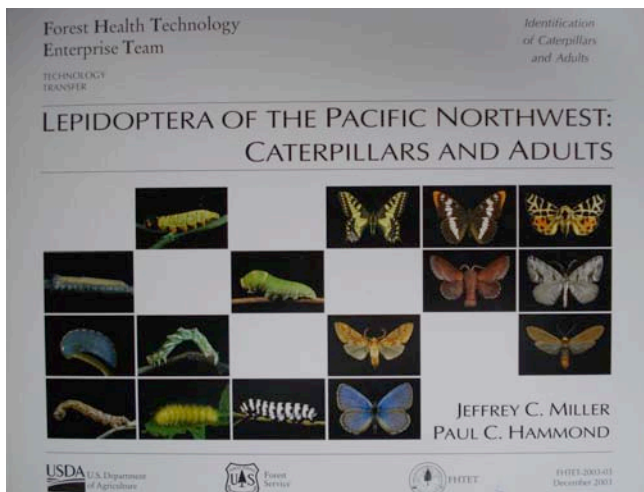
Firebugs Poster

This fabulous poster, produced by BC Ministry of Forests and Range, explains the insects associated with fire. Copies of this poster are no charge.

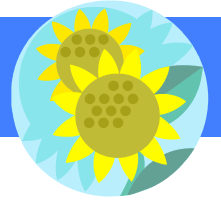


Contact Lorraine Maclauchlan,
Forest Entomologist
Southern Interior Region
515 Columbia Street
Kamloops, B.C. V2C 2T7
Email: Lorraine.Maclauchlan@gov.bc.ca
Phone: 250-828-4179
Fax: 250-828-4154

Lepidoptera of the Pacific Northwest: Caterpillars and Adults



Written by Jeffrey C. Miller and Paul C. Hammond.
2003. United States Department of Agriculture.
This great publication is a guide to many of the common Lepidoptera within coastal BC, and can be obtained no charge from the USDA.
Contact Richard C. Reardon,
USDA Forest Service,
180 Canfield Street, Morgantown, WV 26505.
Phone 304-285-1563
Email: rreardon@fs.fed.us



Awards and Honours



Propertius duskywing from Helliwell Provincial Park, May 2004.

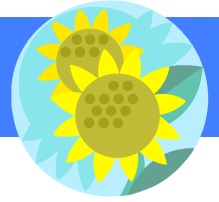
De Wind Award to Kirsten Prior, PhD student, University of Notre Dame

Kirsten Prior has been awarded the **DeWind Award** from the **Xerces Society for Invertebrate Conservation** for her PhD project titled, **"Indirect effects of an invasive gall wasp on a native butterfly, a possible mechanism for population declines in a threatened butterfly species"**. This is an award given to students that are engaged in research related to Lepidoptera Conservation.

Propertius Duskywing, *Erynnis propertius*, is an oak specialist whose larvae are dependant on Garry oak trees, *Quercus garyanna*, in British Columbia. This species is Red-listed in the province, as 95% of its habitat has been lost to development, and the remaining portion of its habitat is under threat from habitat degradation. Patches of oak meadows where natural forest buffers have been removed because of urban encroachment seem to have a higher number of invasive insects on *Q. garyanna* and lower abundances of *E. propertius*. One of the most prominent invasives is the jumping gall wasp, *Neuroterus saltatorius*, which expanded its range to Vancouver Island from mainland Washington over 30 years ago. *Neuroterus saltatorius* occurs in high abundances on Vancouver Island and causes considerable damage to *Q. garyanna* foliage. Outbreking insects are known to change the quality of their host plant by causing inducible defenses and by reducing nutrients that are essential and often limiting to herbivores. In high abundances, I have found that *N. saltatorius* decreases moisture and nitrogen concentrations in *Q. garyanna* foliage. This summer I am testing the effects of *N. saltatorius* outbreaks on *E. propertius* performance by conducting feeding experiments in the field and analyzing nutrient and secondary chemical concentrations of leaves with different damage levels, relating these to butterfly performance.



Kirsten is a doctoral student of Dr. Jessica Hellmann's at the University of Notre Dame. Please contact Kirsten if you are interested in learning more about her research. **Kirsten Prior (kprior1@nd.edu)**.



Notes from the field:

Stanley Park Restoration

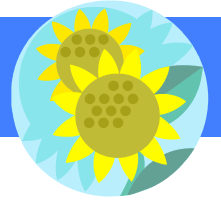
Written by John McLean, UBC Faculty of Forestry, Vancouver, BC

Last winter's storms toppled large volumes of trees in Stanley Park. Much of the windfall is located near Prospect Point, a popular stopping point for tourists (Fig.1).

UPDATE:
Stanley Park Storm Clean-up (Jan 4, 2007)



Figure 1: Major damage areas in Stanley Park after winter storms.



The very large increase in coarse woody debris, from background levels of 80-100 tons/ha to more than 670 tons/ha, indicates the challenges this “natural disturbance” has created. Without a doubt there is LOTS of habitat for wood boring insects even after the merchantable material is removed. There are major concerns for fire risk at the moment let alone what impacts a high population of insects such as the Douglas-fir beetle might have.



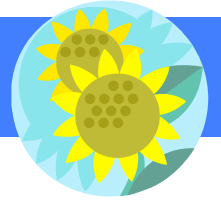
Figure 2: John Borden, Chief Scientific Officer for Pherotech International (a.k.a. Professor Emeritus SFU), baiting one of the hanging traps.

Contacts with the Stanley Park Ecological Society indicate that little is known about the insect diversity of Stanley Park. I have worked with the Stanley Park Restoration Committee to integrate an insect sampling program in this year’s work plan to help assess the diversity of insects in the park. Two areas where heavy equipment will not be working this summer are the area by the Vancouver Aquarium and the area immediately south of the Hollow Tree Park. Pherotech International has kindly provided hanging traps and semiochemical lures (Figure 2) that will allow us to monitor for two species of ambrosia beetle, the Douglas-fir beetle, general wood borers (with a ethanol plus alpha-pine lure) as well as an “exotic” beetle lure that could give us a possible heads-up for non-native species.

In addition, a pit fall trap has been set out near each hanging trap location. All traps have been labeled (Figure 3).



Figure 3: Trap label for all traps set out on April 20th 2007.



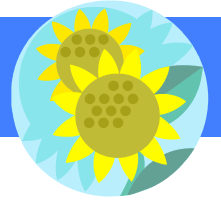
In addition to the trapping program, infested logs will be identified and monitored. Bolts will be collected in the fall by Canadian Food Inspection Agency personnel and ourselves for rearing in laboratory facilities. In addition some light trapping will be carried out over the summer.

Another objective of our study is to develop display materials for the nature House that has been refurbished and should be open again in a month's time. The Stanley Park Ecological Society is keen to have insect display material. The Restoration Committee is also supportive of our efforts to describe the insect diversity of Stanley Park.

Past-President Karen Needham will be happy to hear from volunteers who would like assist in the collection of aquatic insects in Stanley Park this summer.

Jennifer Heron, (editor, *Boreus*) will be happy to hear from volunteers wishing to assist with butterfly and moth surveys in the park.

President-elect John would be happy to hear from others who would like to contribute to this study according to their interests (Email john.mclean@ubc.ca). I have also suggested to the executive of ESBC to have our 2008 AGM in Stanley Park and to include a one day Symposium on the Saturday after the regular papers on the Friday, to report to ESBC and interested members of the public on what we have found to that date in Stanley Park.



Notes from the Field:

Survey of the Aquatic Insects in the Pond at Jericho Park, Vancouver, BC (March 2006–March 2007)

Written by R.D. Kenner & K.M. Needham, Spencer Entomological Museum, University of British Columbia, Vancouver, BC

There have been a number of surveys of aquatic insects in British Columbia and some of these have been summarized in Cannings, Cannings, and Scudder (2001). The surveys of lentic habitats have mostly focused on lakes of the interior or lakes in the UBC Research Forest, Maple Ridge. Although there has been sporadic collecting in many aquatic habitats in the Greater Vancouver area, there does not seem to have been any longer term surveys. We report here a list of the species identified during the first thirteen months of collecting in the main pond at Jericho Park, Vancouver. A monthly breakdown of the results is being published elsewhere (Needham and Kenner, *Discovery*, in press).



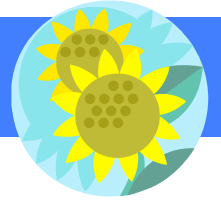
Notonecta kirbyi (Hemiptera: Notonectidae)

The main pond at Jericho Park is in a relatively natural state and supports many species of birds and a wide variety of invertebrates including insects. Those who have visited the park over the years will have seen gradual changes in the ponds, particularly the increase in the area occupied by *Typha* which is a symptom of the gradual reduction in the average water depth. The pond now also has dramatically reduced water levels in the summer months with the western end drying out completely in recent years. While anecdotal evidence suggests that the composition of the aquatic insect fauna has also changed there is no baseline data to verify this.

The Jericho Park Stewardship group asked us to conduct a baseline study of the aquatic insects in the main pond at Jericho Park to help guide



Rex Kenner surveying aquatic insects at Jericho Park.



possible rehabilitation plans for the pond. We began these surveys, which involve qualitative sampling of the pond once or twice a month, in March 2006. We use aquatic dip nets and occasionally passive sieves or aerial insect nets for sampling. This produces some bias in the species collected as, for example, the larger aquatic beetles will be under sampled, but it was felt that due to the very public nature of the park the use of traps was not appropriate.

We report here our results between March 2006 and March 2007, inclusive, for the following orders: Coleoptera, Ephemeroptera, Hemiptera, Odonata, and Trichoptera.

Although we noted the presence of various species of Diptera as well as some non-insect

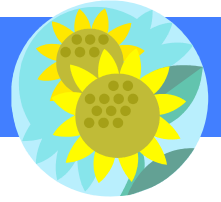
invertebrates such as amphipods and mollusks, these were not systematically collected and are not included here. We also did not collect some of the larvae we encountered as many of them cannot be identified to species. Voucher specimens for all collected species are deposited in the Spencer Entomological Museum (SEM) at the University of British Columbia.



Jericho Pond

During the survey period reported here, 55 species in 16 families were identified. Almost every month we continue to add species to our list suggesting that we have not yet found all the species within the surveyed groups. Most of the species collected are relatively common in the Lower Mainland; there are, however, several species of special note:

- *Othebius brevipennis*, a minute moss beetle. As far as we have been able to determine, this species was previously known in Canada from a single BC record, 1930 at Agassiz (Perkins 1980). Prior to our Jericho Park survey, we had no specimens of this species in the Spencer Entomological Museum and there are none in the Canadian National Collection in Ottawa.
- *Pachydiplax longipennis* (Blue Dasher) is a British Columbia Conservation Data Centre blue-listed dragonfly. It is associated with ponds containing abundant aquatic vegetation, and in BC is found only in low-lying areas of the south coast and along the north shore of Osoyoos Lake. It appears to be a relatively recent addition to the fauna of the Lower Mainland (Kenner 1996, Kenner and Lane 1997).



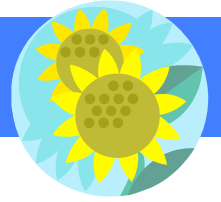
- *Ranatra fusca* is BC's only waterscorpion, and although it is not officially considered rare, we seldom see it while collecting in the Lower Mainland.
- *Buenoa confusa*, a small backswimmer, has been reported from the Lower Mainland only twice in the literature, once "near Squamish" in 1965 (Scudder 1965) and again in 1977 from Stanley Park (Scudder 1977). So, although it appears quite common in Jericho Pond, it is apparently rare throughout the rest of the Lower Mainland.
- *Cenocorixa blaisdelli* and *Corisella inscripta* are listed as rare waterboatmen in Maw *et al.* (2000). Both of these are found in Canada mainly in the Lower Mainland of BC. *Corisella inscripta* is often associated with extreme habitats, such as saline, septic, or stagnant waters. According to the literature, another boatman, *Sigara alternata*, was represented in BC by only two records prior to this survey (Scudder 1986).
- *Microvelia buenoi* is a small waterstrider that in the Spencer Entomologist Museum (UBC) was only represented by two Lower Mainland locales: UBC Botanical Gardens and Pitt Meadows.



Rex on the hunt.

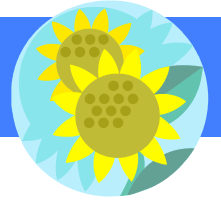
We are continuing the surveys in Jericho Park. Comparable surveys at other ponds in the Lower Mainland are ongoing (eg. Stanley Park, see Boreus article on Stanley Park Restoration written by John McLean) and will be useful to help put these results in perspective.

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- Cannings, R.A., S.G. Cannings & G.G.E. Scudder 2001. Insect Collections, surveys and conservation in British Columbia in the 20th century. *Journal of the Entomological Society of British Columbia* **98**: 17–32.
- Kenner, R.D. 1996. A new dragonfly for the Lower Mainland. *Discovery* **25**: 143–144.
- Kenner, R.D. & I. Lane 1997. Photographic records for Lower Mainland dragonflies. *Discovery* **26**: 51–53.
- Maw, H.E.L., R.G. Foottit, K.G.A. Hamilton and G.G.E. Scudder 2000. Checklist of Hemiptera of Canada and Alaska. NRC Research Press, Ottawa, 220 pp.
- Perkins, P.D. 1980. Aquatic beetles of the family Hydraenidae in the Western Hemisphere: Classification, biogeography and inferred phylogeny (Insecta: Coleoptera). *Quaestiones Entomologicae* **16**: 3–554.
- Scudder, G.G.E. 1965. The Notonectidae (Hemiptera) of British Columbia. *Proceedings of the Entomological Society of British Columbia* **62**: 38–41.
- Scudder, G.G.E. 1977. An annotated checklist of the aquatic and semiaquatic Hemiptera (Insecta) of British Columbia. *Syesis* **10**: 31–38.
- Scudder, G.G.E. 1986. Additional Heteroptera new to British Columbia. *Journal of the Entomological Society of British Columbia* **83**: 63–65.



Species found in Jericho Park Pond March 2006—March 2007

Order	Family	Genus	Species	Author
Coleoptera	Dytiscidae	<i>Aeilus</i>	<i>abbreviatus</i>	Mannerheim
		<i>Agabus</i>	<i>strigulosus</i>	(Crotch)
		<i>Colymbetes</i>	<i>densus densus</i>	LeConte
		<i>Dytiscus</i>	<i>cordieri</i>	Aubé
		<i>Graphoderus</i>	<i>perplexus</i>	Sharp
		<i>Hygrotus</i>	<i>sayi</i>	Balfour-Browne
		<i>Laccophilus</i>	<i>maculosus decipiens</i>	LeConte
	Haliplidae	<i>Rhantus</i>	<i>consimilis</i>	Motschulsky
		<i>Halipplus</i>	<i>immaculicollis</i>	Harris
	Hydraenidae	<i>Pelodytes</i>	<i>callosus</i>	(LeConte)
		<i>Hydraena</i>	<i>(circulata species group)</i>	
	Hydrophilidae	<i>Octebius</i>	<i>brevipennis</i>	Perkins
		<i>Anacaena</i>	<i>lutescens</i>	(Stephens)
		<i>Berosus</i>	<i>fraternus</i>	LeConte
		<i>Berosus</i>	<i>striatus</i>	(Say)
		<i>Crenitis</i>	<i>paradigma</i>	(d'Orchymont)
		<i>Enochrus</i>	<i>californicus</i>	(Horn)
		<i>Hydrobius</i>	<i>fuscipes</i>	(Linnaeus)
		<i>Paracymus</i>	<i>confusus</i>	Woodriddle
<i>Paracymus</i>		<i>subcupreus</i>	(Say)	
<i>Tropisternus</i>		<i>columbianus</i>	Brown	
<i>Tropisternus</i>	<i>lateralis marginatus</i>	Motschulsky		
Ephemeroptera	Baetidae	<i>Callibaetis</i>	<i>americanus</i>	Banks
Hemiptera	Belostomatidae	<i>Leibocerus</i>	<i>americanus</i>	(Leidy)
		<i>Callitricorixa</i>	<i>vulnerata</i>	(Uhler)
	Corixidae	<i>Cenocorixa</i>	<i>blaisdelli</i>	(Hungerford)
		<i>Corisella</i>	<i>inscripta</i>	(Uhler)
		<i>Hesperocorixa</i>	<i>atopodonta</i>	(Hungerford)
		<i>Hesperocorixa</i>	<i>laevigata</i>	(Uhler)
		<i>Sigara</i>	<i>alternata</i>	(Say)
	Gerridae	<i>Gerris</i>	<i>buenoi</i>	Kirkaldy
		<i>Gerris</i>	<i>incognitus</i>	Drake & Hottes
		<i>Gerris</i>	<i>incurvatus</i>	Drake & Hottes
	Nepidae	<i>Ranatra</i>	<i>fusca</i>	Palisot-Beauvois
	Notonectidae	<i>Buenoa</i>	<i>confusa</i>	Truxal
		<i>Notonecta</i>	<i>kirbyi</i>	Hungerford
		<i>Notonecta</i>	<i>undulata</i>	Say
Veliidae	<i>Microvelia</i>	<i>buenoi</i>	Drake	
Odonata	Aeshnidae	<i>Aeshna</i>	<i>palmata</i>	Hagen
		<i>Anax</i>	<i>junius</i>	(Drury)
		<i>Rhionaeschna</i>	<i>californica</i>	(Calvert)
		<i>Rhionaeschna</i>	<i>multicolor</i>	(Hagen)
	Coenagrionidae	<i>Enallagma</i>	<i>carunculatum</i>	Morse
		<i>Ischnura</i>	<i>cervula</i>	Selys
		<i>Ischnura</i>	<i>perparva</i>	McLachlan
	Lestidae	<i>Lestes</i>	<i>congener</i>	Hagen
	Libellulidae	<i>Libellula</i>	<i>forensis</i>	Hagen
		<i>Libellula</i>	<i>quadrimaculatus</i>	Linnaeus
		<i>Pachydiplax</i>	<i>longipennis</i>	(Burmeister)
		<i>Platythemis</i>	<i>hydia</i>	(Drury)
		<i>Sympetrum</i>	<i>corruptum</i>	(Hagen)
		<i>Sympetrum</i>	<i>illotum</i>	(Hagen)
		<i>Anobolia</i>	<i>bimaculata</i>	(Walker)
Trichoptera	Limnephilidae	<i>Limnephilus</i>	<i>sp.</i>	
		<i>Onocosmoecus</i>	<i>unicolor</i>	Banks



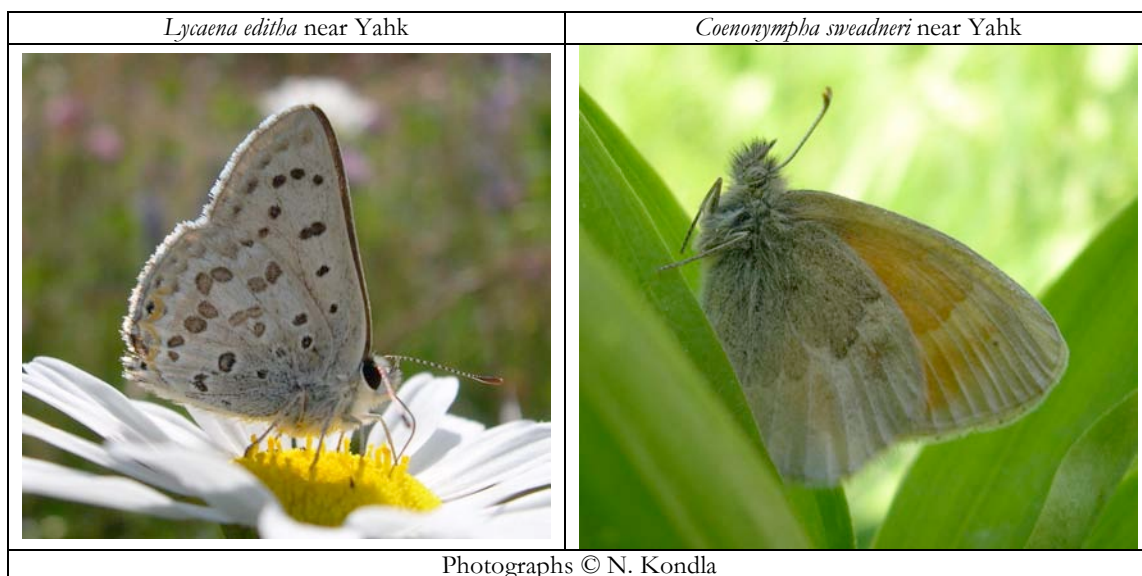
Submitted articles:

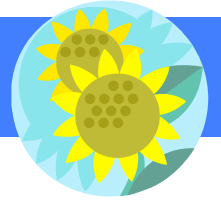
Two new butterflies for British Columbia

Written by Norbert G. Kondla, Genelle, BC Email: Colias@shaw.ca

Two species have been added to the known butterfly fauna of British Columbia in recent years: *Lycaena editha* (Lycaenidae) - Edith's Copper and *Coenonympha sweadneri* (Nymphalidae) - Sweadner's Ringlet. This note briefly summarizes the discoveries. Readers traveling through southeastern BC are encouraged to watch for these species to assist in determining their distribution in the province.

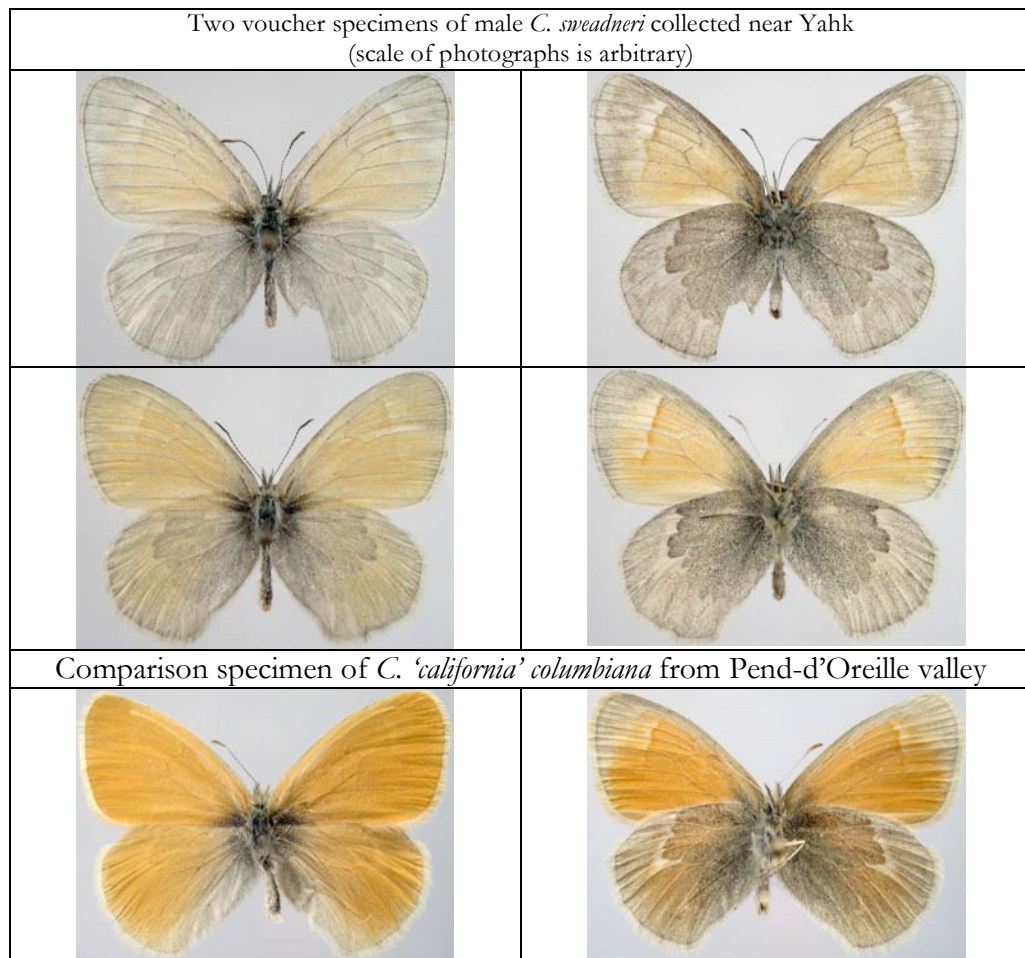
Prior to 2004 *L. editha* was known in Canada from only one old museum specimen collected in SW Alberta many years ago (Anweiler & Schmidt 2003) and was not known at all from British Columbia but it was identified as a hypothetical species by Guppy & Shepard (2001). In 2004, Chris Schmidt found the species present in the Teepee Creek area south of Cranbrook. In 2006, Kondla found multiple adults of both sexes present on two different dates near Yahk and Dean Nicholson turned up one adult a few miles west of Cranbrook. It is not known if the recent discoveries represent a range expansion from southern populations or if the species has been present for some time but remained previously undetected. The species is reported to use *Rumex* species as the larval foodplant and limited data suggests that the adult flight period varies from early July to mid-August, depending on elevation and the usual weather variables in different years.

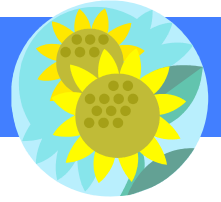




Coenonympha swadneri has not previously been reported from British Columbia or Canada. In 2006 Kondla and Lee Schaeffer discovered this species at several locations near Yahk in grassy forest openings. Grasses are the usual larval food plant for *Coenonympha*. Present information suggests the last two weeks of June and first week of July as the adult flight period.

It is possible that prior specimens of this species exist in some museum or private collections and have been misidentified as specimens of the taxa *californica*, *ampelos* or *columbiana*. *C. swadneri* is an obscure butterfly taxon that has not previously even been illustrated in the literature. For this reason plus the lack of prior references to the species in Canadian literature; observers could easily have encountered adults in the past and not recognized them for what they are. Steve Kohler (Montana) kindly confirmed correct identification of the 2006 voucher specimens.





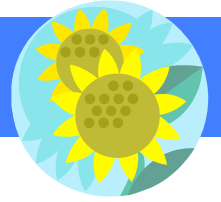
Photographs © N. Kondla

Sweadner's Ringlet was described by Chermock and Chermock (1941) as a full species. For the purpose of this note I take the conservative approach and retain the taxonomic interpretation of the describing authors in treating this taxon as a full species. Nothing has been published to demonstrate that this taxon is a subspecies of any other ringlet species. In fact nothing of use has been published about this little-known butterfly since it was described. Taxonomic review is needed of North American ringlets and also Eurasian ringlets thought to be members of a putative holarctic species.

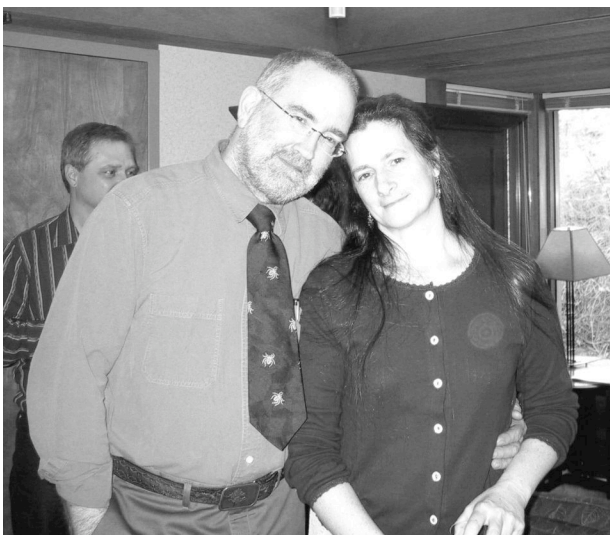
The global distribution of Sweadner's Ringlet is limited to a small area along the border between western Montana and northern Idaho plus the currently unknown additional distribution in adjacent British Columbia.

Literature Cited

- Anweiler, G.G. and B.C. Schmidt. 2003. Edith's Copper, *Lycaena editha* (Lycaenidae) confirmed for Canada. Journal of the Lepidopterists' Society 57(3):249-250.
- Chermock, R.L. and F.H. Chermock. 1941. A new *Coenonympha* from Montana. Proceedings of the Pennsylvania Academy of Science 15:52.
- Guppy, C.S. and J.H. Shepard. 2001. Butterflies of British Columbia. Royal BC Museum. 414 pp



Reception in recognition of Robb Bennett's outstanding contributions as Secretary/Treasurer of the ESBC for the past 12 years

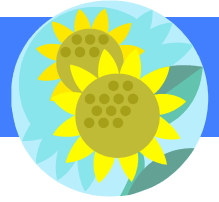


Rob shares a moment with his wife Jenny at the reception.
Photo: R. Ring.

A reception was held on March 16, 2007 at the University Club at the University of Victoria in honour of Robb Bennett and his contributions to the Entomological Society of British Columbia over the past twelve years. Robb kept the Society's financials together, recording and tracking all meetings, elections and business, as well as editorial support to both the journal and *Boreus*. Robb has leveraged resources from the BC Ministry of Forests, to assist with mail outs and administrative support. Robb has also taken the financial aspects of the Society to a sound financial situation. The reception was well attended, with many people coming from Vancouver and elsewhere in the province. Robb is now enjoying the responsibilities of Chief Editor of the *Canadian Entomologist*.



Robb and Jenny with graduate students Maxence Salomen, SFU (left) and Gwylim Blackburn, UBC (right). Photo: R. Ring.



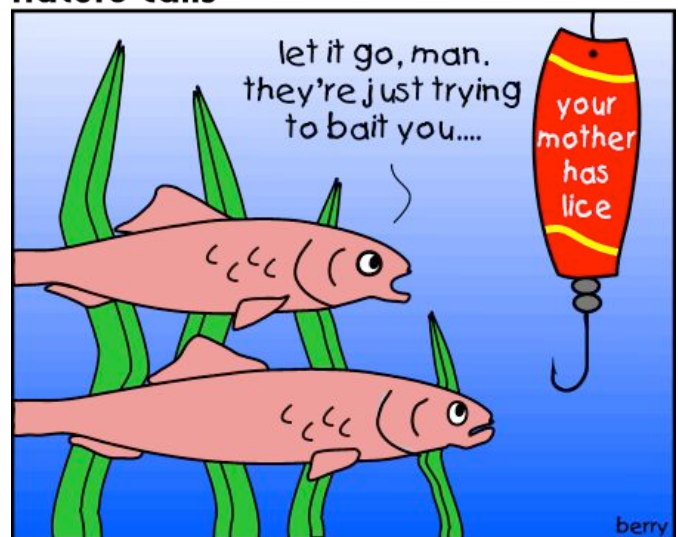
Entomological Humour

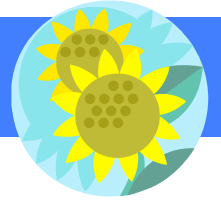
Do you have artistic talent? Do you have a good entomological joke? Send your ideas to the Boreus editor for the December 2007 issue

Berry Wijdeven is a Species At Risk Biologist for the BC Ministry of Environment in Queen Charlotte/Haida Gwaii. Berry has had his work published in McLeans, the National Post, Vancouver Sun and numerous other weekly publications.

Among his artistic talents, he creates the weekly comic *Nature Calls*. Register for Berry's weekly email comics by sending him an email at Berry.Wijdeven@gov.bc.ca

nature calls





In Memory

Dr. Albert (Bert) Turnbull
August 18, 1917 - July 26, 2006

written by Peter Belton



Dr Albert Lloyd (Bert) Turnbull died in Eagle Ridge Hospital, Port Moody on July 26 2006 after being in poor health for a while. He was born 18 Aug 1917 in B-Say-Tah, Saskatchewan and was brought up and educated in Regina, graduating from Balfour Technical Collegiate in 1936. He then worked on the family farm in Comox B.C. during the depression, joining the Canadian Army in 1939, serving at home and in Western Europe until the end of WW2. He used his veterans credits to enter UBC where he obtained Bachelor's (1951) and Master's (1953) degrees in forestry. He met his future wife, Irene Barrie in Fort Camp UBC when they were undergraduates. They married in 1952. He became interested in insects and their predators as a summer student in Agriculture Canada's Biological Control Laboratory in Vancouver (1951-1954) and was given educational leave to study in Oxford, where he obtained a D.Phil in 1957. They then moved to Belleville Ontario, and the Entomology Laboratory where he worked for 10 years on the use of predators in biological

control. His particular interest was in spiders in the forest community, and there, with the encouragement of B.P. Beirne he was able to collaborate with D.A. Chant on the principles of biocontrol and with C.D. Dondale on the spider fauna of Canada. In 1967 he moved with wife and 3 children and 8 others from the Belleville laboratory to British Columbia where he took up a professorship at Simon Fraser University. There he taught in the Pest Management Programme and became deeply concerned with environmental problems, being one of the founding members of the Society for Pollution and Environmental Control (SPEC) in 1969. His interest in ecology and the environment led to pioneering courses at SFU in general scientific education aimed at arts and education students. He retired in 1982 and travelled the world and lived quietly in Coquitlam and Bedwell Bay since. Bert will be remembered as an unassuming intellectual with a very broad knowledge, always willing to help and give an opinion, often a very firm one, on difficult problems.