

Boreus



Newsletter of the Entomological Society of British Columbia



June 2010
Volume 30 (1)



Table of Contents

The Executive..... 4

Publications of ESBC 5

Journal of the Entomological Society of British Columbia.....5

Boreus5

Membership 6

Society business..... 7

Executive nominations7

Amendments to the Bylaws of the ESBC.....12

Announcements 15

ESBC-ESC Joint Annual Meeting "COMMUNICATION!", to be held in Vancouver15

2010 President's Prize Competition.....17

JAM Symposia announcements18

Biological Survey of Canada Curation Blitz22

Grasslands Celebration 201023

Graduate Studentship in Pest Management (MPM)26

9th Annual G.E. Scudder Lecture in Entomology26

In Memory 27

Terence Leckie Shore.....27

Entomological Humour 29

Sweep of the Net..... 30

Calendar of events 33

ESBC Executive contact information..... 33

Photographers in this issue 37



Unsuspecting Isopod. Photo Ward Strong.



The Executive



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

President	Tom Lowery Agriculture and Agri-Food Canada, Agassiz
President-Elect	Rob McGregor Douglas College, New Westminster
Past-President	Sheila Fitzpatrick Agriculture and Agri-Food Canada, Agassiz
Secretary / Treasurer	Lorraine Maclauchlan B.C. Ministry of Forests & Range 515 Columbia Street, Kamloops, B.C., Canada V2C 2T7
Editorial Committee (Journal)	Hugh Barclay (Editor), Canadian Forest Service, Victoria Robert Cannings, Royal B.C. Museum, Victoria Lorraine Maclauchlan, B.C. Min. Forests & Range, Kamloops Sheila Fitzpatrick, Agriculture and Agri-Food Canada, Agassiz
Editors (Boreus)	Jennifer Heron, B.C. Ministry of Environment, Vancouver Jeremy deWaard, University of British Columbia, Vancouver
Directors	Ward Strong (1 st), B.C. Ministry of Forests & Range, Vernon Naomi Deluri (1 st) Agriculture and Agri-Food Canada, Summerland Leo Rankin, (2 nd), B.C. Ministry Forests & Range, Williams Lake Dezene Huber (2 nd), University of Northern B.C., Prince George Alida Janmaat (2 nd), University of the Fraser Valley, Abbotsford Jim Corrigan (1 st), B.C. Ministry of F. & R., Vernon
Student Representative	Melanie Hart, Simon Fraser University, Burnaby
Honorary Auditor	Sheila Fitzpatrick Agriculture and Agri-Food Canada, Agassiz
Regional Director of National Society	Bill Riel, Canadian Forest Service, Victoria
Web Page Editor	Bill Riel, Canadian Forest Service, Victoria
Web Page	http://www.sfu.ca/biology/ESBC/



Publications of ESBC

Journal of the Entomological Society of British Columbia



The Journal of the Entomological Society of B.C. 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. Hugh Barclay, Canadian Forest Service, Pacific Forestry Centre, 506 West Burnside Road, Victoria, British Columbia, Canada, V8Z 1M5
Email: HBarclay@pfc.cfs.nrcan.gc.ca

The deadline for submissions to be included in the 2010 issue is September 1, 2010.

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(s), Jennifer Heron (Jennifer.Heron@gov.bc.ca) and Jeremy deWaard (Jeremy.deWaard@gmail.com).

The deadline for submissions to be included in the December issue is November 15, 2010.



Membership

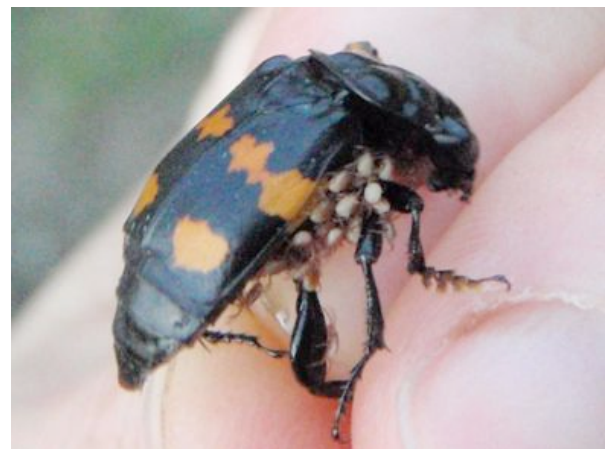
Membership of the Entomological Society of B.C. is available to anyone interested in entomology. Annual dues are Can\$20.00 (regular member) or Can\$10.00 (student member). Members receive the *Journal*, *Boreus* and Occasional Papers (the latter published intermittently).

Inquiries concerning membership and back issues should be sent to the Secretary/Treasurer, Dr. Lorraine Maclauchlan, B.C. Ministry of Forests, 515 Columbia Street, Kamloops, B.C., 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 B.C. 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 Ward Strong and Robert A. Cannings.

Cover Photographs: pollinators, photos Jennifer Heron.

South Okanagan, 2009	Backyard garden, Victoria, Summer 2009	London, England at Charles Darwin's home, September 2009
Denman Island clearcut, April 20, 2010	Backyard garden, New Westminster, August 2009	London, England, Streatham Common, September 2009



Burying beetle (*Nicrophorus* sp.) with commensal mites, collected in September 2009 at Como Creek. Photos Pamela Zevit.



Society business

2010 Executive Elections and Nominations

ESBC Elections occur each fall and the number of positions varies from year to year. The 2010 ESBC Executive Elections for the 2010 meeting are:

President-elect, 2011 – 2012 term

Directors (three positions need filling this term, serve a two year term), 2010 – 2012

Secretary (one position)

Graduate Student Director (one position, two year term) 2010 – 2012

President

One candidate is running for the position of ESBC President. Candidate is Ward Strong.

Ward Strong

I work with the B.C. Ministry of Forests, Research Branch, as a cone and seed pest research scientist.



My studies of life histories, monitoring, population dynamics, and ecological aspects of pests are used to develop integrated pest management plans and on-site seed orchard recommendations to ensure the long-term productivity of the Province's seed orchards. I have collaborative projects with other researchers in B.C., across Canada, and in the USA and Europe. It has been fun and productive working with such a diverse bunch of people. I currently have two M.Sc. students who have nearly graduated, and a PhD student visiting from Sicily, working on the egg parasitoid complex of Western Conifer Seedbug.

I was a Director for the ESBC in the mid-1990s, and the Web Editor from 1998 to 2001. In 2001 I took on the editorship of the Journal of the ESBC after Dave Raworth stepped down. Over the next 6 years, some major changes made to the Journal included a new, 2-column format, moving to electronic submissions and review, desktop digital publishing, elimination of paper reprints, and print distribution occurring in the year of publication. In

2004, I organized the audio-visuals for the ESC-ESBC JAM in Kelowna, and am currently chair the Scientific Program committee for the 2010 JAM in Vancouver. I would welcome the opportunity to continue serving the ESBC as President.



Directors

Four candidates are running for three ESBC Director positions. Candidates are David Holden, Dezene Huber, Tracy Hueppelsheuser and Art Stock.

David Holden

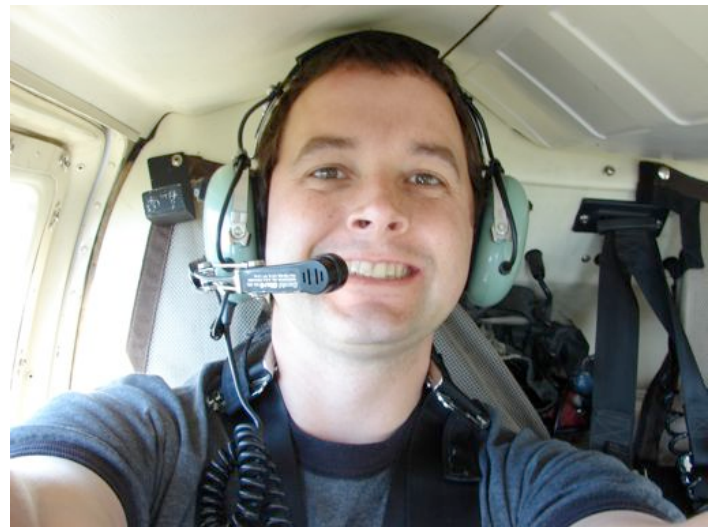
My academic interests started in marine invertebrate biology at Simon Fraser University where I was drawn to the incredible diversity and beauty of our pacific coastal fauna. Naturally I progressed to insects and especially moths because of their detailed shapes, patterns and their incredibly varied and amazing life histories. After completing my Bachelor's degree at SFU, I continued on by enrolling in the Masters of Pest Management program under the supervision of Dr. Gerhard Gries. Through this incredible program I was exposed to all kinds of fascinating projects in Pest Management including my thesis examining the sex pheromone biology of the Satin Moth, a new invader to the city of Edmonton. I was able to use my insect detecting skills to land my first entomological job with the Canadian Food Inspection Agency looking for Asian Longhorn Beetle larvae arriving in wood packaging materials from Asia. I then progressed to a ship inspector looking for stored product insects to my current role as the Western Area Survey Biologist responsible for the early detection of quarantine pests of concern to our Forest and Agriculture industries. I am deeply concerned with the effects of our trade through the import of alien hitchhikers and their impact on our native biodiversity. As a survey biologist, I am a participant in a variety of committees such as the British Columbia Plant Protection Advisory subcommittee on Gypsy Moth that is responsible for recommendations on the management of Gypsy Moth in the province. In my spare time, I enjoy surveying for moths throughout BC. I run a light trap in my backyard and on my travels to learn more about the virtually unknown native micromoth fauna in general and Lymantriid moths in particular – the latter being my self declared specialty. I have worked as the typesetter for the ESBC Journal under the direction of Dr. Peter Belton, Dr. David Raworth and Dr. Ward Strong and have greatly enjoyed the opportunity to help produce this quality product. I am now seeking a role as a director for the ESBC and hope I can be given the opportunity to bring in my entomological experiences to help serve the Society.





Dezene Huber

I completed a B.Sc. in Zoology at the University of Calgary and then carried on to complete an NSERC-funded Ph.D. under the direction of Dr. John Borden at Simon Fraser University. The topic of my Ph.D. research was the effects of nonhost angiosperm volatiles on aggregation of five species of British Columbia bark beetles. After my time at SFU, I worked for two years as an NSERC postdoctoral fellow with Dr. Joerg Bohlmann at the University of British Columbia. My research there was on the methyl jasmonate induced chemical defenses of Douglas-fir as well as on forest tent caterpillar herbivory-induced volatiles emissions from poplar. After two years at UBC I began work at the University of California, Davis in Dr. Steven Seybold's (USDA Forest Service) lab. Much of my work there entailed discovery – and research into expression patterns of - cytochromes P450 in the California five-spined ips. I also collaborated with Dr. Seybold and other USDA researchers on various chemical ecology projects related to the foraging and aggregation behavior of other bark beetles. In 2005 I began my current position as Canada Research Chair in Forest Entomology and Chemical Ecology & Assistant Professor in the Ecosystem Science and Management Program at the University of Northern British Columbia. The research in my lab - which currently houses three excellent graduate students, a post-doc, and several eager undergraduates - revolves around various molecular, physiological, and ecological aspects of interactions between trees and forest insects. I have enjoyed my work as an ESBC director for the past four years, and would enjoy working in that position for a further two years.



Tracy Hueppelsheuser

Tracy Hueppelsheuser is a provincial entomologist for the Ministry of Agriculture and Lands, based in Abbotsford. My work centers on biology and pest management of established and invasive insect species that impact B.C. agriculture. This includes insect identification, outreach and extension activities, policy and regulation development, and some surveillance. The Ministry works closely with other organizations with similar mandates and goals, including Canadian Food Inspection Agency, Pest Management Regulatory Agency, other provincial Ministries, and Industry and Grower Associations. I enjoy the people and activities of the BC Entomological Society, and look forward to being more involved in the Society in the role of Director.





Art Stock

I graduated with a B.Sc. in Forestry from the University of New Brunswick in 1978. That's where I picked up my interest in Entomology, working with aquatic insects in beaver ponds, and bees. To make a long story very short, this led to a M.Sc. (1981) and a Ph.D. (1991) in John Borden's lab at Simon Fraser University. Along the way I worked in Forestry, mostly as an Entomologist for the BC Forest Service, which is where I am today as Regional Entomologist for the Southern Interior Region, based in Nelson. It would be an honour to have the opportunity to serve as a Director for ESBC.



Secretary

One candidate is running for the position of ESBC Secretary. Candidate is Leo Rankin.

Leo Rankin

I completed a BSc from University of Victoria in Zoology and a Masters in Pest Management (MPM) from Simon Fraser University. After completing the MPM I began work as a regional entomologist with the Ministry of Forests and Range in the now defunct Cariboo Forest Region in Williams Lake. I continued as the entomologist after the Cariboo Region was rolled into the Southern Interior Forest Region and am still based out of Williams Lake, happily enjoying the wonders of entomology. During the extent of my career I have focused on bark beetle and defoliator management and mitigation of damage from these aggressive forest health critters. The mountain pine beetle has predominated most of my tenure as the significant management issue. Now that the zenith of the catastrophic mountain pine beetle epidemic has been attained and populations are in decline, I have time to rearrange my priorities and focus more time on other entomological conundrums, particularly Douglas-fir beetle and western spruce budworm.





Graduate Student Director

One candidate is running for the position of ESBC Graduate Student Director. Candidate is Chandra Moffat.

Chandra Moffat

My interest in entomology first developed during my undergraduate degree at the University of Victoria. Following this, I completed my first co-op placement with Dr. Bob Vernon at the Pacific Agri-Food Research Centre (PARC) in Agassiz and was encouraged by the Vernon lab to present the results of my co-op project at the ESBC AGM in Richmond in 2006. I did my next co-op with the Ministry of Forests Invasive Alien Plant Program and participated in field releases of weed biocontrol agents. After finishing my bachelor's coursework, I returned to PARC to work with Dr. Dave Gillespie and conducted a project investigating the impacts of plant nitrogen on tri-trophic interactions in a pepper – aphid – parasitoid study system. I presented the preliminary results of this work to the Professional Pest Management Association (PPMA) of BC in 2009, the more completed work at the 2009 ESBC meeting in Kamloops and again at the Entomological Society of Canada (ESC) meeting in Winnipeg. I was fortunate to win presentation awards on all three occasions. In the summer of 2009, I joined the Arthropod Biological Control lab at CABI Europe-Switzerland as a summer research assistant, where I helped investigate potential classical biocontrol agents for three pests of *Brassica* crops (primarily canola) in Canada. I began my

Masters of Science degree in the fall of 2009 at the University of British Columbia Okanagan (UBC O) in Kelowna and have received an NSERC scholarship for these studies. My thesis investigates the ecological host range and host plant selection, in the native European range, of two candidate biocontrol agents, gall inducing wasps in the genus *Aulacidea* (Hymenoptera: Cynipidae), targeting hawkweeds invasive in North America. I am supervised by Dr. Jason Pither and Dr. Bob Lalonde at UBC O, and advised by Dr. Rose De Clerck-Floate at AAFC and Dr. Gitta Grosskopf-Lachat at CABI. I have attended ESBC meetings consecutively since



2006 and have been a member since 2008. I am also a member of the PPMA and the ESC, as well as the Invasive Plant Council of British Columbia. I have been an active volunteer for the upcoming joint meeting of the ESBC and ESC in Vancouver and am enjoying this experience. I look forward to the opportunity to further serve the Society as the Graduate Student Representative if elected.



Amendments to the Bylaws of the ESBC

Following are amendments to sections 4 and 7 of the ESBC Bylaws. These amendments have two purposes: (1) to allow the ESBC the flexibility to have one Secretary and one Treasurer, or one person acting as both Secretary and Treasurer; and (2) to introduce the position of Graduate Student Director, who will represent the graduate student measurement.

The Society Act of British Columbia

http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96433_01 allows a society to have either a Secretary and a Treasurer or one Secretary-Treasurer.

The position of Graduate Student Director was approved by a vote at the ESBC Annual General Meeting in October 2010 (Boreus 27(2), page 5, 2007

<http://www.sfu.ca/biology/esbc/publications.html>).

Members are asked to take note of the amendments (in red font, below), and be prepared to vote on approving these amendments at the ESBC AGM in Vancouver on November 3, 2010. The ESBC's current Bylaws can be found at <http://www.sfu.ca/biology/esbc/bylaws.html>

4. Membership, Dues, and Expenditures

- a. Any person may become a Member on application and on payment of an annual fee to the Secretary-Treasurer **or to the Treasurer (see 7a.)**. The fee for full membership, to be levied from each Member annually, shall be determined by the Executive of the Society and set by motion at the Annual General Meeting. Members in good standing shall receive all publications of the Society. Institutions and organizations may purchase publications of the Society but shall not become Members. The fee for full membership shall be fully reviewed, with respect to the costs of operating the Society, by the Executive and recommendations of the fee shall be put forth to the membership at the Annual General Meeting every year.
- b. Students at a recognized institution of education may become Members of the Society on application with proof of studenthood and on payment of an annual fee set at one-half of the full membership fee to the Secretary-Treasurer **or Treasurer (see 7a.)**. They shall have the same privileges as full Members.
- c. Members may withdraw from the Society upon giving notice in writing to the President or Secretary-Treasurer **or Secretary (see 7a.)**.
- d. A Member whose annual fees are two years in arrears automatically loses membership in the Society and the Executive is empowered to expel any Member for unseemly conduct.
- e. Any Member who has made outstanding contributions to the advancement of Entomology in British Columbia may be nominated as an Honorary Member. The nomination must be in



writing, signed by at least five Members in good standing, and must be submitted to the Secretary-Treasurer **or Secretary (see 7a.)** of the Society at least two months before the Annual General Meeting at which the membership is to be awarded. The nomination must receive the approval of two-thirds (2/3) of the Executive of the Society and must be elected by a simple majority of the Members present and in good standing at the Annual General Meeting. Honorary membership shall not exceed 10% of the total membership at the time of the award. The recipient shall be presented with a membership certificate. An Honorary Member shall not pay dues but shall have the privileges of a full membership.

f. Upon retirement from his/her vocation, a member of the Society may make application to the Executive for a Retired Membership. A Retired Member shall be entitled to the Society's Newsletter only (no Journal); otherwise they shall have the same privileges as full Members. The fee for retired membership shall be the cost of printing one volume of the Newsletter plus postage to the next highest dollar.

7. Officers

a. The Officers of the Society shall consist of President, President-Elect, Secretary-Treasurer **(one officer) or Secretary and Treasurer (two officers)**, Editor of the "Journal", Editor of the Newsletter, immediate Past President, Regional Director to the Parent Society and **six Directors. One of the six Directors shall be a graduate student, and the title of that Director position shall be Graduate Student Director.** These officers shall comprise the Executive with full powers to act on behalf of the Society within the bounds of the constitution and to appoint committees as necessary. Elections shall be held once a year at the Annual General Meeting. President, President-Elect, Editor of the "Journal", and Editor of the Newsletter shall be elected and remain in office until the next Annual General Meeting or until a successor has been elected. The office of President shall not be held by the same member for more than two consecutive years. Normally, the President-Elect shall take office as President one year after his/her election. The Secretary-Treasurer **or Secretary and Treasurer** and **six Directors** shall be elected for two-year terms of office; election of the Secretary-Treasurer **or Secretary and Treasurer** and **three Directors** shall alternate in years with election of the three remaining Directors. The Executive shall appoint the Regional Director to the Parent Society. Each shall remain in office for two Annual General Meetings or until a successor has been elected. The Officers shall act without remuneration.

b. Duties of the Officers shall be:

i. The President or designated alternate shall preside at all meetings and act ex-officio on all committees. He/she shall have primary responsibility for the program and arrangements of the Annual General Meeting.

ii. **If the offices of Secretary and Treasurer are held by one person, the Secretary-Treasurer shall maintain a record of all meetings and act as a custodian of all Minute books and correspondence. He/she shall also receive and disburse all funds, prepare the annual financial statement, file a copy of the same with the Registrar of Companies as required under the Societies Act, and submit to the Editor of the "Journal" any changes in dues or page charges that are to be quoted in the "Journal." The Secretary-Treasurer shall have the use and custody of the seal of the Society. If the offices of Secretary and Treasurer are held by two people, their duties shall be as described in the British Columbia Society Act (Part 7, points 42 and 43), as follows. The Secretary shall conduct the correspondence of the society; issue notices of meetings of the society and directors; keep minutes of all meetings of the society and**



directors; have custody of all records and documents of the society except those required to be kept by the treasurer; have custody of the common seal of the society; and maintain the register of members. The Treasurer shall keep the financial records, including books of account, necessary to comply with the Society Act, and render financial statements to the directors, members and others when required. The Treasurer shall file a copy of the annual financial statement with the Registrar of Companies as required under the Society Act, and submit to the Editor of the "Journal" any changes in dues or page charges that are to be quoted in the "Journal."

iii. The Editor of the "Journal of the Entomological Society of British Columbia" is responsible for the publication of the "Journal" and, on the recommendation of qualified reviewers, shall decide whether or not a manuscript submitted to the "Journal" for publication is suitable. The Editor's decision shall be final.

iv. The Editor of the Newsletter is responsible for the contents and frequency of publication of "Boreus."

v. The Regional Director to the Parent Society is responsible for representing the Society at Executive Meetings of the Parent Society.

vi. The other Officers of the Society shall assist with the conduct of the Society's business as and when called upon. **The Graduate Student Director shall represent the graduate student membership.**

Prepared by Sheila Fitzpatrick
Past-President, ESBC



Jeremy deWaard (UBC) sorts and pins nocturnal Lepidoptera collected with UV light traps at ponderosa pine sites near Kamloops and Okanagan Falls. Photos Stephanie Kirk.



Announcements

COMMUNICATION!

THE JOINT ANNUAL MEETING OF THE ENTOMOLOGICAL SOCIETY OF CANADA AND THE ENTOMOLOGICAL SOCIETY OF BRITISH COLUMBIA

Coast Plaza Hotel, Vancouver, British Columbia
Sunday 31 October – Wednesday 3 November 2010

The Entomological Society of British Columbia invites you to the 2010 Joint Annual Meeting of the Entomological Societies of Canada and British Columbia to be held at the Coast Plaza Hotel and Suites¹ in Vancouver, British Columbia from October 31st to November 3rd, 2010. The room rates are \$149 per night plus taxes; each additional adult is \$25.

¹The Coast Plaza Hotel and Suites
1763 Comox Street, Vancouver BC V6G1P6
604-688-7711

http://www.coasthotels.com/hotels/canada/bc/vancouver/coast_plaza/overview

Important Dates:

July 1st – Deadline for title/abstract submissions
September 1st – Deadline for early registration fees
September 30th – Deadline for hotel room registration

Program Highlights

Our meeting theme is **Communication** – in the widest sense: at the level of insect to insect, insect to entomologist, and entomologist to society.

Plenary symposium theme: Science Communication: What we can learn from Arthropods.

Proposed Symposia*:

- Mountain pine beetle system genomics
- Invasive insects
- Insect community ecology
- Mark Winston research retrospective
- Invertebrate conservation
- Application of molecular techniques to entomology



- Chemical communication in insects
- Arachnology
- Terry Shore Memorial Symposium
- Graduate Student Symposium

Heritage lecture

Student paper and poster competitions

Regular poster and presented papers sessions

* Check ESBC webpage for updated information, on-line registration and important dates.

Committee Representatives & Contact Information

Meeting Chair/Treasurer:	Bill Riel	bill.riel@nrcan-rncan.gc.ca
Science Program:	Ward Strong	ward.strong@gov.bc.ca
Local Arrangements:	Sheila Fitzpatrick	sheila.fitzpatrick@agr.gc.ca
Registration:	Markus Clodius	markus.clodius@agr.gc.ca

P.S. Wear your favorite bug costume to our Opening Reception on Halloween night!

For more information, see: http://www.sfu.ca/biology/esbc/JAM/jam_announce.html



2010 President's Prize Competition

The 2010 ESC President's Prize competition offers awards for the best scientific papers that are presented by students in either oral or poster format at the Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of British Columbia.

Students wishing to compete for the President's Prize must select the appropriate box on their paper submission form.

The following comprise the eligibility criteria for student presenters:

- The student must be enrolled in a graduate degree program or have graduated from the program less than six months previously.
- The student must be registered at the meeting.
- The student must be the principal investigator and principal author of the paper.
- The student does not have to be a member of the ESC.

There will be one prize for each of the oral presentation sessions, and one prize for the poster session. Each prize will be worth \$250.

The awards are provided jointly by the Entomological Society of Canada, the Entomological Society of British Columbia, Contech Enterprises Inc and Valent BioSciences.

Please note:

The James Grant Award and Harold Madsen Award will not be awarded at the 2010 Joint Annual Meeting of the Entomological Society of Canada and the Entomological Society of British Columbia. The funds for these awards have been added to the President's Prize funds for this year only. Students are encouraged to enter the President's Prize Competition for either oral paper or poster presentations by selecting the appropriate box on their paper submission form.



JAM Symposia Announcements

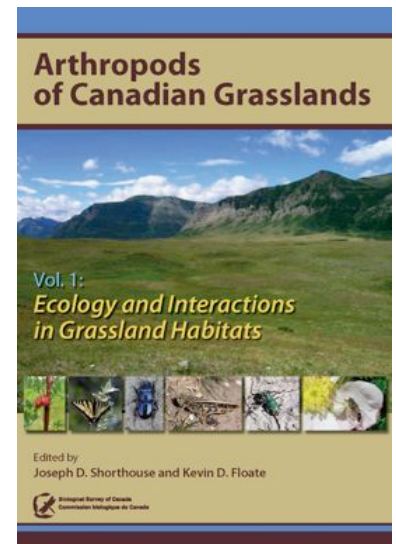
Eight separate symposia are being organized during the 2010 ESBC-ESC JAM, plus the Graduate Student Symposium. If you would like to present at one of these symposia please contact the symposium organizer as soon as possible.

Arthropods of Canadian Grasslands

Symposium Organizer: Kevin Floate; Email: Kevin.Floate@agr.gc.ca

This symposium will highlight topics in Volumes I and II of the Biological Survey of Canada's *Arthropods of Canadian Grasslands* series (<http://www.biology.ualberta.ca/bsc/english/grasslands.htm>).

Targeting a broad audience, chapters in these volumes review the biotic and abiotic attributes of different types of grasslands in Canada, and select grassland habitats and their associated arthropods. Publication of the series is intended to increase awareness of Canada's vanishing grasslands, the rich diversity of arthropods that they support, and to provide a baseline reference for future studies



Insect Community Ecology

Symposium Organizer: Rob McGregor; Email: mgregorr@douglas.bc.ca

This symposium will examine basic and applied issues in insect community ecology. Topics will range from theoretical perspectives to anthropogenic influences on insect communities. Research on the relationship between biological diversity and ecosystem function in natural systems will be presented. Speakers will also examine the influences of climate change, invasive species and genetically-modified agricultural crops on insect community structure in managed systems.



Arachnid Communication

Symposium Organizer: Robb Bennett; Email: Robb.Bennett@gov.bc.ca

An arachnology symposium, the third in the “CCCP Symposium Series”, will be held during the November 2010 ESC/ESBC Joint Annual Meeting in Vancouver, BC. The JAM theme of “communication – in the widest sense” will anchor the symposium. Featured speakers (and tentative topics) are Leticia Avilés (University of British Columbia – spider sociality), Chris Buddle & Raphael Royaute (McGill University – spider behaviour syndromes), Rosemary Gillespie (University of California, Berkeley – spider evolutionary ecology), Andrew Mason (University of Toronto, Scarborough – sensory processes underlying lycosid and salticid communication), Heather Proctor (University of Alberta – sexual conflict and evolution of sperm transfer in mites), and George Uetz (University of Cincinnati – spider sociality). Come early – the CCCP symposia are always well-attended!

The Terry Shore Memorial Symposium

Symposium Organizer: Bill Riel, Email: Bill.Riel@nrca.gc.ca



Photo Bill Riel

At the 2010 Joint Annual Meeting of the Entomological Societies of BC and Canada we are organizing a symposium to honour recently deceased member Terry Shore. Topics for the symposium can range from technical presentations covering areas of research Terry was involved in to personal anecdotes and remembrances. Length of presentations yet to be decided.

Please send proposed titles and authors to Bill Riel bill.riel@nrca.gc.ca as soon as possible.

Mark Winston Retrospective

Symposium Organizer: Kenna MacKenzie; Email: Kenna.MacKenzie@agr.gc.ca

Mark Winston is recognized as one of the world’s leading experts on bees and pollination. This symposium will reflect some of the current work in this field of science.



Mountain Pine Beetle System Genomics

Symposium Organizer: Dezene Huber Email: huber@unbc.ca

The mountain pine beetle outbreak sweeping across large parts of British Columbia, and other regions of North America, is really the result of an interaction between numerous organisms. The main interactions in the mountain pine beetle system are between the beetles, the various species of host pines, and the symbiotic fungi that the beetles carry into new host trees. During the past several years, comprehensive genomic resources have been generated for these organisms. The genomics data are now actively being used in an endeavor to better understand the physiology and ecology of the organisms on their own, as well as when interacting with the other important species in the system. This symposium will highlight ongoing genomics-based research in this system that ranges from the level of the gene; through physiology and ecology; to population and landscape ecology; and further, into the realm of economics.

Invertebrate Conservation

Symposium Organizer: Jennifer Heron; Email: Jennifer.Heron@gov.bc.ca

Invertebrate conservation is a significant challenge facing land managers, governments and those working in conservation biology. This symposium will provide an update on invertebrate conservation topics in Canada, including a few case studies. Ideas and suggestions for topics or talks (or if you would like to present) are still being considered. Please contact the symposium organizer, Jennifer Heron.

Dealing with Invasive Insects

Symposium Organizer: Tom Lowery; Email: loweryt@agr.gc.ca

New insect introductions are recorded each year, and some of these species have the potential to impact Canada's native ecosystems. This symposium brings together current topics in this field of entomology.



Entomological Society of Canada Graduate Student Symposium 2010: Call for Abstracts

Graduate students are invited to present their research at the 2010 Graduate Student Symposium (GSS). The symposium will be held during the Joint Annual Meeting of the Entomological Societies of Canada and British Columbia, in Vancouver, BC on from October 31st to November 4th, 2010. The purpose of this symposium is to provide an opportunity for graduate students nearing the end of their degrees to present an overview of their thesis research. Presenters are given more time to talk and answer questions about their research compared to the President's Prize Competition (30 minutes: 25 for presentation, 5 for questions; regular President's Prize presentations are 15 minutes: 12 for presentation and 3 for questions). **Please note:** this symposium is completely separate from the regular President's Prize competition and students wishing to present in both must submit different abstracts and papers to both in order to be eligible. (Abstracts received for the Graduate Student Symposium are not automatically submitted for the President's Prize and vice versa).

As the goal of the symposium is to give a higher profile to graduate students finishing up their thesis, students must have either defended their thesis within one year or be planning to defend within one year of the meeting. Eligible candidates that would like to be considered for the Graduate Student Symposium should submit the following information **by June 25th, 2010:**

- 1) **an expanded abstract** (250 words) describing the proposed presentation,
- 2) **a letter of support** from the principal supervisor that confirms that anticipated or actual date of graduation, and comments on your proposed presentation, and
- 3) **a CV** that includes a list of previous conference presentations

Submission of abstracts, letters of support, and CVs for the Graduate Student Symposium should be sent by email to:

Chandra Moffat: gsscommittee@gmail.com

Unlike the abstracts for papers presented in the President's Prize Competition, abstracts for papers presented at the Grad Student Symposium are published in the ESC Bulletin, an open access publication, received by all ESC members and by over 300 libraries around the world.

We encourage all eligible students to apply for the Graduate Student Symposium this year. Supervisors, please encourage your students to apply as well. And please help us to spread the word! If you know of anyone who might be eligible that might be without the Bulletin or internet access, please see if you can contact them to let them know about the GSS and the **June 25th deadline** for abstracts. Students who have been selected to speak will be contacted by July 1st, 2010.

We are looking forward to helping this year's symposium be a success and would appreciate any comments or suggestions you may have regarding the Graduate Student Symposium. Please send your emails to the gsscommittee@gmail.com and we will get back to you as soon as we can.



On behalf of the Graduate Student Symposium Committee,
Chandra Moffat

Graduate Student Symposium Committee

Chandra Moffat, Chair
Leah Flaherty
Tamara Richardson

Biological Survey of Canada Curation Blitz

Spencer Entomological Collection, Beaty Biodiversity Museum

The fourth annual BSC Curation Blitz will be held the evening of Monday 01 November 2010 at the Spencer Entomological Collection, Beaty Biodiversity Museum, 2212 Main Mall, UBC in Vancouver during the Entomological Society of Canada meetings. These gatherings encourage awareness of holdings of the collection, and provide assistance with curation and networking for entomologists interested in faunistics and systematics.

An attraction this year will be the venue, the recently established Beaty Biodiversity Museum (www.biodiversity.ubc.ca/museum), at the University of British Columbia.

If you are interested in attending please contact David McCorquodale (david_mccorquodale@cbu.ca) or Karen Needham (needham@zoology.ubc.ca). Details about time and transportation will be available at the ESC meeting.



Limnephilus caddisfly larva collected at Larson Creek Wetlands in May 2009. Photo Pamela Zevit.



Grasslands Celebration 2010

Reminder to Register for the Grasslands Celebration in Kamloops, Saturday, June 12, 2010

UPDATE: Some field trips are filling up rapidly, so register now to secure spaces on your favourite tours. Also, for dinner, we now have a vegetarian option of quiche, as well as beef and trout.



VOLUNTEERS: Help show off the beauty and richness of BC's grasslands. We're looking for people to help for 2 to 3 hours on June 12th with registrations, set up and take down, directing traffic and helping the tour leaders. Please contact Catrina at 250-374-5787 Ext. 203 to sign up.

INVITATION FROM THE GCC

Our province's grasslands and their extraordinary beauty have a special place in our culture, ecology and economy, as well as in British Columbian's hearts. Since 1999, the GCC has worked with dedicated people and organizations from all over BC to conserve these unique landscapes. Now is the perfect time to come together to celebrate the beautiful and rare grasslands we all work and care for!

Please join us in our celebration on Saturday, June 12th. Explore and experience the grasslands around Kamloops on a full day of fun, discovery and great food!

Full schedule and registration packages are attached, but for further information and to see a slide show of children's grassland art, please visit www.bcgrasslands.org <<http://www.bcgrasslands.org/>> .



FESTIVAL IN THE GRASS

Daytime, Lac du Bois Grasslands

A free community event in the Lac du Bois grasslands with

- * Fun and informative field trips
- * Children's entertainment
- * Interactive exhibits

... and more for the whole family



10TH ANNIVERSARY BBQ DINNER

Evening, Knutsford Grasslands

The evening celebration will feature

- * Guest speaker Trevor Herriot, writer, naturalist and broadcaster
- * A BBQ highlighting locally produced food, including grass-fed beef
- * Art exhibit
- * Silent auction

CHILDREN'S ART SHOW - KAMLOOPS ART GALLERY

From June 12th to July 18th, enjoy children's delightful interpretations of grasslands at the Kamloops Art Gallery. For a preview, see the slideshow at <http://bcgrasslands.org/anniversary2010childrensart.htm>.



Looking forward to seeing you on June 12th!

Submitted by Catrina Crowe, Communications and Outreach Coordinator, Grasslands Conservation Council of British Columbia

Images from the BC grasslands website: <http://www.bcgrasslands.org/>



Fourth Annual Whistler BioBlitz

Alpha Lake Park
July 24-25th, 2010

Whistler BioBlitz is fast approaching and the Whistler Naturalists hope you will consider including it in your summer plans, either to return as a veteran or to participate for the first time. This year's BioBlitz has extra relevance since 2010 is the United Nations' "International Year of Biodiversity."

BioBlitzes have a key role to play in biodiversity. In just three events – scientists have identified almost 400 species previously undocumented which shows how much is left to learn about the diversity that surrounds us.



time. This year's BioBlitz has uncovering and communicating only 72 hours in total - BioBlitz species previously undocumented which shows how much is left to



Last year's event was particularly satisfying because of the great public events held at Alpha Lake Park. Kids and adults alike had the opportunity to touch snakes and bats, gawk at frogs and fish, and interact with fun, informative, and snappily-dressed scientists.



Fun is the organizing principle of the Whistler BioBlitz. The overall format will be similar to past years but we've made a couple of adjustments to give scientists more opportunities to interact with each other. In particular, we'll be switching to the Legends Hotel at the Creekside (south) base of Whistler Mountain, within easy walking distance of our main venue at Alpha Lake Park. As in past years, the event includes:



- . Arrival Friday night with beer and pizza reception
- . Official BioBlitz count from noon to noon Saturday/Sunday
- . Surveys in wetland, forested, and alpine areas
- . Public event Saturday evening, outside if weather permits
- . Announcement of final tally at noon on Sunday, followed by more pizza



We want you to come and will do everything possible to make it happen. We supply accommodation at the Legends Hotel, some meals (not just pizza), and a snappy t-shirt. We should also have some funds to offset travel for people traveling a long way. We hope you can join us! Please RSVP to: Bob Brett (bob@snowlineresearch.ca; 604-932-8900). Thanks from the BioBlitz organizing team. All photos Bob Brett.

**SFU**DEPARTMENT OF
BIOLOGICAL SCIENCES

Graduate Studentship in Pest Management (MPM)

Applications are invited for a graduate studentship to investigate the potential of insect pathogens and nematodes to control cutworms in vineyards. The project will involve field studies in vineyards (based at the AAFC station in Summerland, BC) and laboratory work, which will include molecular characterization of pathogens and assessment of pathogen efficacy (based primarily at Simon Fraser University). The project is fully-funded for two years by the BC Wine Grape Council and Agriculture and Agri-Food Canada through the Developing Innovative Agri-Products (DIAP) program, subject to final confirmation of funding.

We are looking for a suitably qualified student (GPA 3.0 or higher) to start in September 2010. The student will work with Dr. Jenny Cory, Biological Sciences, SFU and Dr. Tom Lowery, AAFC, Summerland, BC. The student will be expected to register for an MPM (M.Sc. in Pest Management) at SFU. Interested applicants should write to Jenny Cory at jsc21@sfu.ca and include a CV and statement of research interests.



In Memory

Terence Leckie Shore

April 21st 1951 – March 17th 2010

Terry was born and raised in Vancouver, British Columbia where he eventually attended the University of British Columbia and completed a B. Sc. (Hons) thesis in biology under the guidance of Dr. John Mclean in 1978. This seemed to cement his future, and he followed Dr. McLean to the faculty of forestry at UBC to complete a PhD in which he explored a mass-trapping program for ambrosia beetles in a commercial sawmill. After successfully defending his thesis in 1982, Terry joined the Canadian Forest Service in Victoria where he began a prolific career in applied bark beetle research.



Throughout his career, Terry made numerous contributions to bark beetle management, publishing more than 100 scientific papers, technical reports and proceedings. His most famous contribution came through his development of a mountain pine beetle risk rating system which is in use today throughout western Canada.

On three occasions Terry received awards for excellence in research from the Canadian federal government. In addition, Terry was a registered professional forester, and a substantial contributor to several professional entomological societies. Terry was incredibly active in the Entomological Society of Canada, The Entomological Society of British Columbia and the Western Forest Insect Work Conference: he held numerous leadership positions with each of these organizations, organized conferences for each society and contributed much to the professional community.

Terry's professional accomplishments are particularly impressive in light of the health problems he faced for most of his adult life: many of his friends and colleagues were completely unaware that Terry had received a kidney transplant in the mid 1980s and suffered many life-threatening illnesses and complications as a result.

People were unaware of this because Terry had an incredibly positive attitude, always maintained a great sense of humour and refused to complain or make excuses. While Terry's years with us were low in number, they were exceptionally high in quality. Terry lived life to the



full, made friends wherever he went and earned respect throughout the world for his personal and professional contributions.

Terry is remembered as a father, a husband, a friend, a respected scientist and a mentor – while his passing has been a painful shock for many of us, we are richer for the wonderful times we've had with him. The good times we shared and his professional contributions are a lasting legacy, and Terry would have liked nothing more than for us to remember him by living our lives the way he did: making the most of what we've got, always finding the ability to laugh, and fearlessly pursuing what we love.

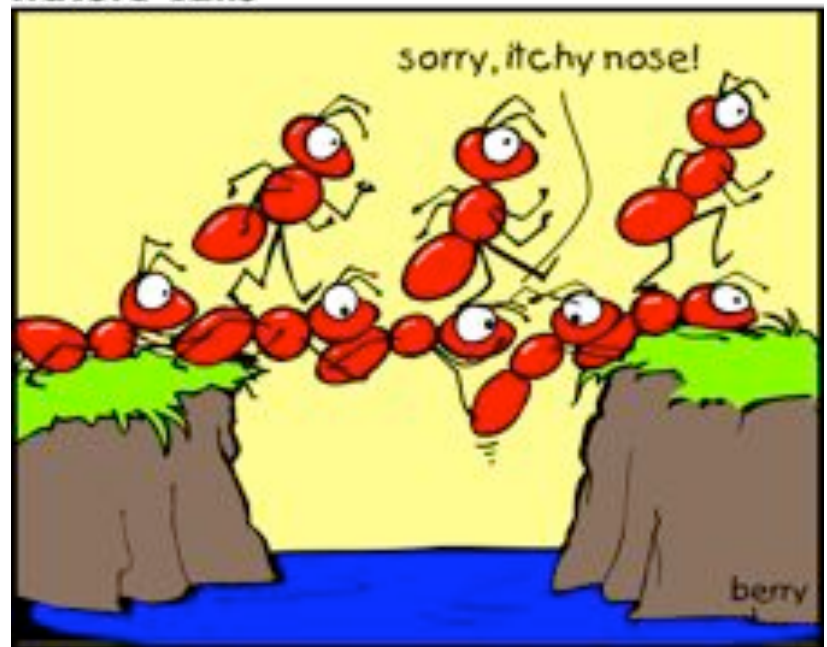




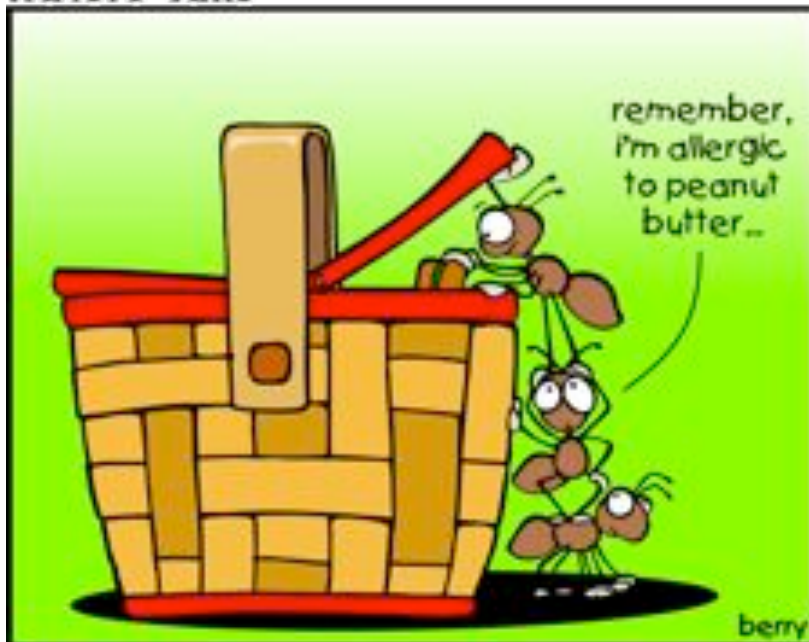
Entomological Humour

Berry Wijdeven is a Species At Risk Biologist for the B.C. Ministry of Environment in Queen Charlotte/Haida Gwaii. Berry's work has been published in *Maclean's*, 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 by sending him an email at Berry.Wijdeven@gov.bc.ca

nature calls



nature calls





Sweep of the Net

A miscellany of recent entomological media caught on the internet.

Photos of the very rare pink katydid:

http://www.treehugger.com/files/2010/05/pretty_in_pink_one_very_rare_katydid.php

Podcast on the vital role termites play in building ecosystems (see 'Termites rule'):

<http://www.cbc.ca/quirks/archives/09-10/qq-2010-05-29.html>

Blog post on how the world appears to an insect:

http://scienceblogs.com/dotphysics/2010/05/ask_a_science_blogger_insect_v.php

Video and article on Canadian insect collector Georges Brossard:

<http://news.bbc.co.uk/2/hi/americas/8596627.stm>

Article on the world's strongest insect, the dung beetle *Onthophagus taurus*:

<http://www.livescience.com/animals/worlds-strongest-insect-100323.html>

And a podcast too (see 'Dung Beetles Test of Strength'):

<http://www.cbc.ca/quirks/archives/09-10/qq-2010-03-27.html>

Article on insect flight behaviours and long-distance migrations:

<http://www.sciencedaily.com/releases/2010/02/100204144416.htm>

Podcast of an interview with Dr. Mark Moffett and his book 'Adventures Among Ants':

<http://www.cbc.ca/quirks/archives/09-10/qq-2010-05-15.html>

Video on the resurgence of the bed bug:

<http://news.discovery.com/videos/animals-bed-bugs-on-the-rise.html>

Article on selfless social behaviour of aphids:

<http://www.physorg.com/news184397809.html>

Video and podcast on amphibious Hawaiian caterpillars:

<http://www.sciencefriday.com/program/archives/201003265>

Article on carotenoid production in aphids:

<http://www.sciencedaily.com/releases/2010/04/100429141417.htm>

As well as a podcast (see 'Aphids' Stolen Finery'):

<http://www.cbc.ca/quirks/archives/09-10/qq-2010-05-08.html>



Podcast on noises during cricket fights (see 'Silent means Deadly'):

<http://www.cbc.ca/quirks/archives/09-10/qq-2010-04-17.html>

Article on how beewolves coat their offspring with an antibiotic cocktail:

<http://www.sciencefriday.com/newsbriefs/read/196>

Podcast on the evolution of warning signals in caterpillars (see 'Caterpillars Walk the Talk'):

<http://www.cbc.ca/quirks/archives/09-10/qq-2010-04-17.html>

High-resolution butterfly images captured with a new high-tech camera system:

<http://news.discovery.com/tech/gigapan-super-hi-res-photography-science-interactive.html>

Podcast on our relationships with insects and the new book 'Insectopedia':

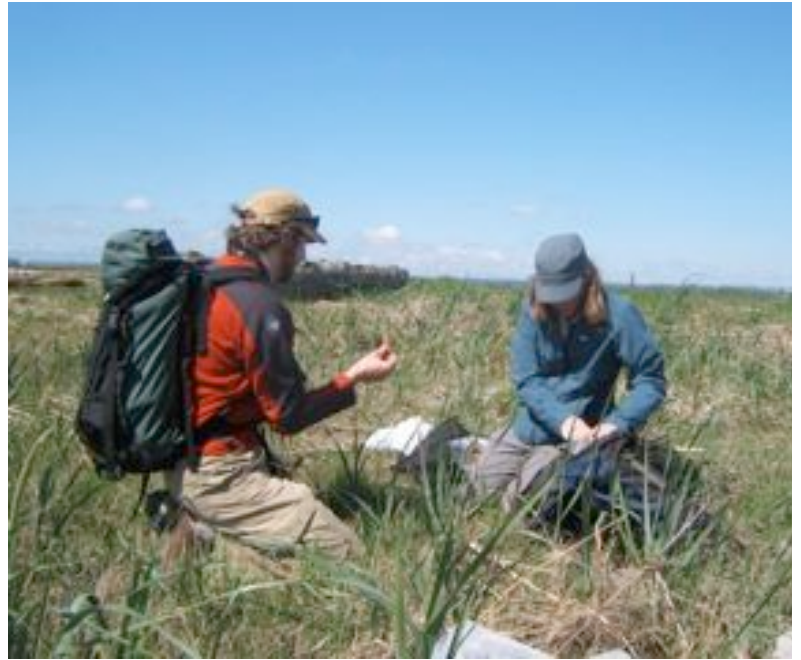
<http://www.sciencefriday.com/program/archives/201004025>



Two of BC's most spectacular moths: the rose hooktip moth (*Oreta rosea*) is one of only four species of hooktip moths (Drepanidae: Drepaninae) in BC and Canada; the sagebrush girdle (*Plataea trilinearia*) is one of the few looper moths (Geometridae) restricted to prairie habitats. Photos Jeremy deWard.



Synanthedon novaroensis [Lepidoptera: Sesiidae], May 18, 2010 at the Vernon Seed Orchard Company in Vernon B.C. This is a final-instar larva, in the act of being removed from the bole of an Interior hybrid spruce. Photo Jim Corrigan.



Andy Teucher (B.C. MoE Zoologist) and Laura Parkinson (BCCF Invertebrate Species At Risk Technician) set pitfall traps at Boundary Bay, in search of the elusive Audouin's Night-stalking Tiger Beetle, *Omus audouini*. Photo May 2010. Photo Lea Gelling.



Entomology brunch, December 2010. Michelle Connolly, Gail Kenner and Rex Kenner enjoying the company of fellow entomologists. Photo Jennifer Heron.



Biologists learn about gastropods at an identification and training workshop, Pacific Forestry Centre, March 2010. Photo Jennifer Heron.



Calendar of events

Please send future events or announcements to Jeremy deWaard (Boreus Co-editor) for posting in the ESBC Calendar of Events.

JUNE 2010						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

June 12 – Grasslands Celebration in Kamloops on Saturday

June 25 – Abstract submission deadline for the Graduate Student Symposium at the 2010 Joint Annual Meeting of the Entomological Societies of Canada and British Columbia (JAM)

JULY 2010						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

July 1 – Deadline for title/abstract submissions for the 2010 JAM

July 24-25 – The 4th Whistler BioBlitz

AUGUST 2010						
S	M	T	W	T	F	S
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22	23	24	25	26	27	28
29	30	31				



Sept 1 – Deadline for submissions to be included in the 2010 issue of the JESBC

Sept 1 – Deadline for early registration fees for the 2010 JAM

Sept 30 – Deadline for hotel room registration for the 2010 JAM

SEPTEMBER 2010						
S	M	T	W	T	F	S
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OCTOBER 2010						
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31						

Oct 31 to Nov 3 – The 2010 Joint Annual Meeting of the Entomological Societies of Canada and British Columbia

Nov 1 -- fourth annual BSC Curation Blitz

Nov 15 -- Deadline for submissions to be included in the Dec issue of Boreus

NOVEMBER 2010						
S	M	T	W	T	F	S
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



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COSEWIC members Dave Fraser, Robert Forsyth, Laurence Packer, Erich Haber and Suzanne Carrier visiting a one of four Canadian locations with Sand-verbena Moth (Endangered) at Island View Beach, Victoria, April 2010. Photo Jennifer Heron.



Leo Rankin and Bill Riel in deep entomological discussion at the recent ESBC Executive meeting in Abbotsford, April 2010. Photo Jennifer Heron.