

PROCEEDINGS OF THE 60TH ANNUAL MEETING OF THE



Entomological Society of Alberta

November 4th-7th 2012
Edmonton, Alberta

Entomological Society of Alberta Board of Directors 2012	5
Annual Meeting Committees 2012	5
Program of the 60th Annual Meeting of the Entomological Society of Alberta....	6
Oral Presentations	12
Poster Presentations	26
Index to Authors.....	29
Minutes of the Entomological Society of Alberta Executive Meeting	40
DRAFT Minutes of the Entomological Society of Alberta 60th Annual AGM	42
Regional Director's Report.....	45
Northern Director's Report.....	47
Central Director's Report.....	51
Southern Director's Report.....	53
Webmaster's Report.....	55
Secretary's Report.....	56
Treasurer's Report.....	57
Photos	59
List of Members	64

Entomological Society of Alberta Board of Directors for 2012

ESAB officers

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Vice-President.....	Felix Sperling
Secretary.....	Ken Fry
Treasurer.....	Caroline Whitehouse
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Conference Chair.....	Greg Pohl and Lloyd Dosdall
ESA-ESC Joint Meeting Committee.....	Greg Pohl
Local Organizing Committee.....	Andy Keddie and Mike Dolinski
Program Committee.....	Maya Evenden and Felix Sperling
Registration Committee.....	Heather Proctor
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Awards Committee JAM.....	David Walter and Nadir Erbilgin
Treasurers JAM.....	Daryl Williams and Caroline Whitehouse
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Fundraising.....	Lloyd Dosdall
Audio Visual.....	Christina Elliot and Boyd Mori
Announcements.....	Rose DeClerck Floate
Volunteer Coordinators.....	Brock Harper and Chandra Moffat
Graduate Student Symposium.....	Paul Abram, Boyd Mori and Nadir Erbilgin
Photo Competition.....	Adrian Thyse
Logo Design.....	Aaron Paquette
Entertainment.....	Julian Dupuis
Translation.....	Véronique Martel

**Program of the 60th Annual Meeting of the
Entomological Society of Alberta**

SATURDAY NOVEMBER 3

8:30-17:00	ESC GOVERNING BOARD MEETING	ACADIA
9:30-17:00	UA ENTOMOLOGY ALUMNI SYMPOSIUM	ESB327, UA
17:30-19:30	UA ENTOMOLOGY ALUMNI MIXER	UA FACULTY CLUB

SUNDAY NOVEMBER 4

9:00-12:00	PUBLICATION WORKSHOP	DAYTON/TURNER
9:00-17:00	REGISTRATION/INFORMATION DESK OPEN Silent Auction Items on Display	FOYER
9:00-17:30	AV ROOM OPEN	LAKELAND
10:00-20:00	UA ENTOMOLOGY ALUMNI	CRAIG RESIDENCE
10:30-11:00	REFRESHMENT BREAK	FOYER
13:00-13:30	OPENING CEREMONIES	DRAYTON/TURNER
13:30-14:00	GOLD MEDAL ADDRESS Dr. Felix Sperling “Nurturing entomological enthusiasm”	DRAYTON/TURNER
14:00-17:00	PLENARY SYMPOSIUM “Arthropod Biodiversity”	DRAYTON/TURNER
14:00	Dr. Daniel Rubinoff The Evolution of extraordinary biodiversity in Hawaii’s endemic insects.	
14 :45	REFRESHMENT BREAK	FOYER
15 :30	Dr. Jeremy Kerr Detecting and predicting global change impacts on butterflies in Canada.	
16:15	Dr. Wayne Maddison Jumping spider melodies.	

19:00-23:00	WELCOME RECEPTION	GLENORA BALLROOM
19:00-21:00	CUTWORM WORKSHOP	ACADIA

MONDAY NOVEMBER 5 (AM)

8:00-17:00	REGISTRATION/INFORMATION DESK OPEN Silent Auction Items on Display	FOYER
8:00-17:00	AV ROOM OPEN	LAKELAND
8:00-9:00	POSTER SET UP	GLENORA BALLROOM
8:30-12:00	PRESIDENT'S PRIZE 1-BEHAVIOUR & ECOLOGY	DRAYTON
8:30-11:30	PRESIDENT'S PRIZE 2-BIODIVERSITY	TURNER
8:30-11:30	PRESIDENT'S PRIZE 3-FORESTRY	ACADIA
8:30-12:00	SYMPOSIUM 1-INSECTS ON THE WEB	WOOD BUFFALO
9:30-10:30	PRESIDENT'S PRIZE POSTER SESSION	GLENORA BALLROOM
10:00-10:30	REFRESHMENT BREAK	GLENORA BALLROOM
12:00-13:00	LUNCH	

MONDAY NOVEMBER 5 (PM)

12:00-14:00	TCE EDITORIAL BOARD MEETING	VANBEERSCHOTEN (CLUB)
12:00-13:00	ESAB EXECUTIVE MEETING	WOOD BUFFALO
13:00-16:15	PRESIDENT'S PRIZE 4-AGRICULTURE	DRAYTON
13:00-16:15	PRESIDENT'S PRIZE 5-HOST-PARASITE/ PHYSIOL.	WOOD BUFFALO
13:00-16:30	CONTRIBUTED PAPERS-BIODIVERSITY	TURNER
13:00-16:30	CONTRIBUTED PAPERS-FORESTRY	ACADIA
14:30-15:00	REFERESHMENT BREAK	GLENORA BALLROOM

17:00-19:00	ESAB ANNUAL GENERAL MEETING	WOOD BUFFALO
19:00-23:00	STUDENT MIXER	GLENORA BALLROOM
19:00-23:00	ESC PRESIDENT'S RECEPTION-INVITE ONLY	ACADIA
20:00-22:30	BSC CURATION BLITZ	ROYAL ALBERTA MUSEUM

TUESDAY NOVEMBER 6 (AM)

8:00-17:00	REGISTRATION/INFORMATION DESK OPEN	FOYER
10:00-13:00	FINAL BIDS SILENT AUCTION	FOYER
8:00-17:00	AV ROOM OPEN	LAKELAND
8:30-12:00	GRADUATE STUDENT SYMPOSIUM	DRAYTON
8:30-12:15	SYMPOSIUM 2-INSECTS IN AGRICULTURE	TURNER
8:30-12:00	SYMPOSIUM 3-BEHAVIOUR & BIODIVERSITY	ACADIA
8:25-11:45	SYMPOSIUM 4-BUDWORM GENOMICS	WOOD BUFFALO
9:30-10:30	CONTRIBUTED POSTER SESSION	GLENORA BALLROOM
10:00-10:30	REFRESHMENT BREAK	GLENORA BALLROOM
12:00-13:00	LUNCH	

TUESDAY NOVEMBER 6 (PM)

13:00-15:45	CONTRIBUTED PAPERS-ECOLOGY	DRAYTON
13:00-16:00	CONTRIBUTED PAPERS-AGRICULTURE	TURNER
13:00-16:00	CONTRIBUTED PAPERS-BEHAVIOUR	ACADIA
14:30-15:00	REFRESHMENT BREAK	GLENORA BALLROOM
14:30-15:45	SILENT AUCTION ITEM PICK-UP	FOYER

16:00-17:00	HERITAGE LECTURE Dr. John Spence “Understanding and managing Canadian forests: Entomologists made a difference.”	GLENORA BALLROOM
17:00-18:00	ESC AGM/ESC INCOMING BOARD MEETING	GLENORA BALLROOM
18:00-19:00	COCKTAILS	DRAYTON
19:00-20:30	BANQUET	DRAYTON
20:30-21:00	AWARDS	DRAYTON
21:30-22:30	Lymantria Bug Band and “JAM” SESSION	DRAYTON

WEDNESDAY NOVEMBER 7 (AM)

8:00-12:00	REGISTRATION/INFO DESK OPEN	FOYER
8:00-10:30	AV ROOM OPEN	LAKELAND
8:30-11:30	POSTER TAKE-DOWN	GLENORA BALLROOM
8:30-12:00	SYMPOSIUM 5-BIOLOGICAL SURVEY OF CANADA	DRAYTON
8:30-11:00	CONTRIBUTED PAPERS-BIOLOGICAL CONTROL	TURNER
8:30-11:30	CONTRIBUTED PAPERS-PHYSIOLOGY	ACADIA
10:00-10:30	REFRESHMENT BREAK	GLENORA BALLROOM
12:00-14:00	BIOLOGICAL SURVEY OF CANADA MEETING	DRAYTON

Greetings from the President, Entomological Society of Canada

It gives me great pleasure to welcome you all to Edmonton for the 2012 Joint Annual Meeting (JAM) of the Entomological Society of Canada (ESC) and the Entomological Society of Alberta (ESAB). The Local Organizing Committee has spared no effort to put together an intellectually and socially exciting program. The theme of this year's meeting, "arthropod diversity", will be the thread connecting the various plenary lectures and symposia, which feature several distinguished invited speakers. The program also includes a wide variety of oral and poster presentations, with many excellent contributions by students. This year's Heritage Lecture, given by John Spence, "Understanding and managing Canadian forests: Entomologists made a difference", promises to be both informative and entertaining. If you're in town early, don't miss Sunday morning's special workshop entitled "*Perspectives on the Publishing Process*", where you will learn "tricks of the trade" that will help you navigate through the scientific publication system.

Organizing and staging a national meeting requires very significant effort on the part of many dedicated volunteers. On behalf of the ESC, I would like to thank them all for the countless hours they invested in preparing this meeting. Special thanks go to Greg Pohl (Meeting Chair), Lloyd Dosdall (ESAB President), Maya Evenden and Felix Sperling (Scientific Program), Daryl Williams and Caroline Whitehouse (Treasurers), Andy Keddie and Mike Dolinski (Local Arrangements), Heather Proctor and Adam Blake (Registration), and Alec McClay (Webmaster) for their dedication to making this JAM a success.

I wish you all a productive, stimulating and enjoyable meeting in Edmonton.

Michel Cusson, ESC President/Président de la SEC

Greetings from the Entomological Society of Alberta

On behalf of the Entomological Society of Alberta, we are delighted to welcome you to the Joint Annual Meeting of the Entomological Societies of Canada and Alberta. We have had a rich, unbroken tradition of entomological research and outreach in Alberta dating back to the late 1800's. The North West Entomological Society was founded in 1898 by pioneers like Percy Gregson and A.D. Gregson near Red Deer, F.H. Wolley Dod at Priddis, and Norman Sanson in Banff. That society was soon amalgamated with a territorial natural history society but the spirit of entomological enthusiasm remained intact, soon to be bolstered by the arrival in 1913 of E.H. Strickland at the Dominion Agricultural Station in Lethbridge. Strickland went on to found the Department of Entomology in 1922 at the University of Alberta, and alumni of that department are celebrating the 90th anniversary of its formation this year in conjunction with our ESC JAM. The department itself was formally merged with others in 1993, but entomological education continues to thrive in multiple departments and faculties at the University of Alberta, as well as at venerable educational institutions like Olds College, newer ones like the University of Calgary, the University of Lethbridge and most recently MacEwan University. Just as prominently, new generations of entomologists remain active at numerous levels of government and industry across Alberta. We all hope that you will join us in appreciating entomology and Arthropod Diversity at the 2012 ESC JAM in Edmonton!

Lloyd Dosdall, ESAB President and Felix Sperling, ESAB Vice President

Greetings from the Local Organizing Committee Chair

On behalf of the Local Organising Committee, I welcome you to Edmonton and the 2012 JAM. Our committee has been busy for over two years, putting together the conference for you. I won't thank everyone here, as they're mentioned elsewhere in the program; we hope you find the meeting interesting and enjoyable.

Edmonton is a city on the margin of the Boreal Forest and Aspen Parkland, with the beautiful North Saskatchewan River Valley running right through the middle. If you find time for a stroll outside, or need a few minutes of peace to contemplate your upcoming presentation, I encourage you to take a walk in the river valley; the web of trails will accomodate a short stroll or a long hike, and in some spots it's so peaceful you could forget you're in the middle of a bustling city of one million. If you're like me, a little dose of nature will remind you why you entered the field of Entomology in the first place.

Greg Pohl - Conference Chair

Oral Presentations
(Alphabetically by presenting author)

1. Abdelghany, A., D. Suthisut, and P.G. Fields

Cold tolerance of the warehouse beetle, *Trogoderma variabile*.

2. Abram, P.K., T. Haye, P.G. Mason, N. Cappuccino, G. Boivin, and U. Kuhlmann

The biology of *Synopeas myles*, a parasitoid of the swede midge, *Contarinia nasturtii*.

3. Adams, E.M., B. Roitberg, and R.S. Vernon

Permeability of mesh exclusion fencing to ground beetle (Coleoptera: Carabidae) predators.

4. Alzahrani, S., A. Ajlan, and J. Hajjar

Susceptibility and resistance of *Musca domestica* in Riyadh, Saudi Arabia.

5. Ashfaq, M., M. Ali, M. Noor ul Ane, S. Ahmad, P. Fields and S. Whyard

Heavy metal in insect food web: Transportation of chromium (VI) to *Bombyx mori* L. from mulberry plant (*Morus alba* L.) grown at soil irrigated with chromium (VI) containing effluents.

6. Atwood, T.B., E. Hammill, D.S. Srivastava and J.S. Richardson

Predator-predator intimidation alters top-down effects on CO₂ emissions from an experimental bromeliad ecosystem.

7. Ayyanath, M-M., C. Scott-Dupree, C. Cutler

Gene regulation in green peach aphid during chemical hormesis.

8. Bahar, M.H., J. Soroka, D. Hegedus, and L. Dosdall

Thermal tolerance and HSP70 gene expression in DBM and *Diadegma insulare*.

9. Barrie, C. and T. A. Wheeler

Effect of urbanization on ground beetle diversity (Coleoptera: Carabidae) in Montreal green spaces.

10. Belland, R.J.

Patterns in the diversity of mosses in Canada.

11. Beres, B.L.

Manipulating agronomic factors for sustainable control of the wheat stem sawfly.

12. Bergeron, C.

Fire history, arthropod diversity, and indicators of sustainable forest management.

13. Bird, H., B. Brunet, and F.A.H. Sperling

Jack pine budworm phylogenomics.

14. Blair, M.S. and T.A. Wheeler

Spatial and temporal diversity of Scathophagidae (Diptera) in northern Canada.

15. Blake, A.J., L.M. Dosdall and J.A. Tansey

Nutritional effects on the glucosinolate composition of canola and its olfactory attractiveness to the cabbage seedpod weevil.

16. Boone, C.K., G. Samarasekera, N.V. Bartell, B.S. Lindgren, J.E. Cooke, C.S. Davis, P.M. James, D.W. Coltman, K.E. Mock, and B.W. Murray

Spatial genetic structure of the mountain pine beetle (*Dendroctonus ponderosae*) in western North America.

17. Boquel, S., M.A. Giguère, C. Clark, C., J. Zhang, and Y. Pelletier

New insights into the effect of mineral oil on the acquisition of PVY.

18. Bourassa, S. and J.R. Spence

Changing climate associated with homogenization of forest assemblages of boreal ground beetles (Coleoptera: Carabidae).

19. Bouchier, R.S., K.D. Floate and L. Lesage

Assessment of the diversity of biocontrol agents at historic leafy spurge release sites in Southern Alberta.

20. Brandao, M., A. Nisole, J. Laroche, B. Boyle, L. Lumley, D. Doucet, F.A.H. Sperling, M. Cusson, and R. Levesque

The *Choristoneura fumiferana* transcriptomic profile.

21. Brodie, B.S., R. Gries, S. VanLaerhoven, and G. Gries

Semiochemical and visual cues attract blowflies to recently deceased rats.

22. Brunet, B., H. Bird, L. Lumley, M. Cusson, B. Boyle, R. Levesque, and F. Sperling

A Genotyping-By-Sequencing approach to the *Choristoneura fumiferana* species complex.

23. Buddle, C.M.

Canada's spider fauna: Benchmarks and opportunities for assessing the biota of Canada.

24. Buddle, C.M.

Everyone's Ivory Tower: perspectives on how social media is changing academia.

25. Byers, K. and H. Proctor

Sexual selection and genitalia in *Trouessartia* feather mites.

26. Cannings, S.G.

The status of *Germaia angustata*, a dune-restricted tachinid fly, in North America.

27. Cárcamo, H.A.

The pea leaf weevil (*Sitona lineatus* L.) - an overview of recent research and knowledge gaps.

28. Chahil, G.S. and G.C. Cutler

Consumption of weed seeds by *Harpalus rufipes*, a common beetle in lowbush blueberry in Atlantic Canada.

29. Chen, X.

Population level effects of the Azatin, on the *Ceriodaphnia dubia*.

30. Cigan, P., J. Karst, J. Cahill, and N. Erbilgin

Influence of mountain pine beetle infestation on litter and soil nutrient status in western Alberta, Canada.

31. Cory, J.S., D.T. Woodward, T. David, E.M. Kemp

Mixed infections in the eastern spruce budworm, *Choristoneura fumiferana*.

32. Costamagna, A.C.

Comparison of predation in annual versus perennial agroecosystems: aphid predation in soybean versus alfalfa in Manitoba.

33. Courtney, G.W. and J.K. VanDyk

BugGuide: the community behind half a million submitted “specimens”.

34. Cumming, J. M., S.E. Brooks and T. Saigusa

Systematics of the *Hesperempis* genus group (Diptera: Empididae).

35. Currie, D.C.

Canada’s black fly fauna: opportunities and challenges for a well-known family of biting flies.

36. Currie, R., D. Suresh, S. Jiang and J. Deonarine

Impact of honey bee comb on the phenology and impact viruses on honey bee colonies.

37. Cusson, M., H. Maaroufi, A. Nisole, B. Boyle, J. Laroche, C. Béliveau, I. Kukavica-Ibrulj, D. Doucet, C. Lucarotti, F. Sperling, L. Lumley, B. Brunet, H. Bird, M. Brandão, R.C. Levesque

Unique features of the spruce budworm genome.

38. Cutler, G.C.

Insects and hormesis: evidence and considerations for study.

39. Danci, A., M. Hrabar, S. Ikoma, P. Schaefer, and G. Gries

Even males can learn- male parasitoids memorize locations of host pupae.

40. Delisle, J. and J. Régnière

Vertical distribution and seasonal changes of SBW mating success.

41. De Silva, E.C.A., P. J. Silk, N.K. Hillier, and G.C. Cutler

Chemical ecology of female blueberry spanworm, *Itame argillacearia*, (Lepidoptera: Geometridae).

42. Dupuis, J.R. and F.A.H. Sperling

Molecular analysis of putative hybridization in the *Papilio machaon* species group in North America.

43. Dupont, J.M., R. Westwood and C. Hamel

Determination of key habitat and best management practices for the conservation of Poweshiek Skipperling, *Oarisma poweshiek* (Parker).

44. Dury, G.J., D.M. Windsor, M. Hersh, and J.C. Bede

Multiple origins of “Cycloaalex” in neotropical leaf beetles inferred from a molecular phylogeny.

45. Ernst, C.M.

Why I spend so much time on the internet: social media as a tool for doing science.

46. Ernst, C.M., B. Hanelt and C.M. Buddle

Parasitism of Arctic ground beetles (Coleoptera: Carabidae) by hairworms (Nematomorpha: Gordiida).

47. Evans, B.G., K.S. Jordan, M. Brownbridge, and R.H. Hallett

Potential soil biological control agents of the swede midge, *Contarinia nasturtii*, in organic agricultural systems.

48. Evans, M.M., R.V. Cartar, and M. Wonneck

Responses of grassland bees and flowers to grazing and landscape.

49. Evenden, M.L., B.A. Mori, and C.M. Whitehouse

Semiochemical-based management of agricultural pests in Alberta: current research and future needs.

50. Fagua, G., J. Duran, E. Gil, J. Robles, N. Ruiz

Resource use of *Mapeta xanthomelas* (Lepidoptera: Pyralidae): an aposematic herbivore of *Aristolochia*.

51. Farhan, J. and J.N. McNeil

The effects of abiotic factors on the number of male western bean cutworms (WBC), *Striacosta albicosta*, captured in pheromone traps.

52. Fields, P.G., A. Abdelghany, W. Taylor and R. Hynes

Small bin trial of pea extract to control stored-product insects.

- 53. Floate, K., W. Blanckenhorn, J-P Lumaret, T. Tixier, J. Lahr, J. Römcke**
An international multi-species ring test to assess the non-target effects of residues in dung of cattle treated with veterinary pharmaceuticals.
- 54. Franklin, M.T., J.H. Myers, and J.S. Cory**
Population structure of the Western Tent Caterpillar and its relation to population cycles.
- 55. Fuentealba, A. and É. Baucé**
Soil drainage class, host tree species and thinning influence host tree resistance to the spruce budworm.
- 56. Galloway, T.D.**
Phthiraptera in Canada: current status, prospects and challenges.
- 57. Gariépy, T.D. and H. Fraser**
Occurrence of brown marmorated stink bug in Ontario and potential for biological control.
- 58. Gibson, G.A.P., G. Marco, B. Umberto**
Cryptic species of the *Necremnus tidius* complex (Hym.: Eulophidae) revealed through molecules.
- 59. Gibson, J.F., S. Shokralla, I.W. King, and M. Hajibabaei**
Assessing terrestrial insect biodiversity using next-generation sequencing.
- 60. Grégoire, D., D. Quiring, and L. Royer**
Host mediated interactions with an exotic homopteran phloem feeder alter the performance and preference of a native hymenopteran defoliator.
- 61. Grossi, A.**
Quantitative analysis of *Anatoecus* spp. (Phthiraptera) on Canada Geese and Mallards in Manitoba.
- 62. Hammond, H.E.J., D. Williams, D. Langor, S. Laplante, Y. Bousquet, and D. McCorquodale**
The Cerambycidae of Canada and Alaska Project (Coleoptera: Cerambycidae).
- 63. Haye, T., L. Hohman, J. Zhang, D. Gillespie, P. Mason, and T. Gariépy**
Egg parasitism of brown marmorated stink bug, *Halyomorpha halys*, in China and Europe and implications for biological control.
- 64. Hébert, R.**
Wild Species 2010: The General Status of Species in Canada.
- 65. Hillier, N.K., S.B. Olsson, E. Grosse-Wilde, A. Reinecke, and B.S. Hansson**
Olfactory physiology of coeloconic sensilla in *Manduca sexta*.

- 66. Hock, V., G. Chouinard, E. Lucas, D. Cormier, T. Leskey, A. Zhang, and S. Wright**
Olfactometric responses of *Plum curculio* to natural and synthetic volatiles.
- 67. Holliday N.J., A.E. Holliday, T.M. Mattingly, E.A. Williams, and K.M. Naccarato**
Chemical parsimony in *Chlaenius cordicollis* (Coleoptera: Carabidae).
- 68. Hrabar, M., A. Danci, S. McCann, P. Schaefer, and G. Gries**
Contributions to the life-history of *Xenos peckii* (Strepsiptera: Stylopidae).
- 69. Huber, D.P.W., C.I. Keeling, J.A. Robert, M. Yuen, T. Bonnet, C. Pitt, S.J.M. Jones, and J. Bohlmann**
Glutathione S-transferases in the mountain pine beetle, *Dendroctonus ponderosae* Hopkins (Coleoptera: Curculionidae).
- 70. Illerbrun, K. and J. Roland**
Spatial variation in an alpine plant-herbivore interaction: behaviour, host attributes, and encroaching habitat edge.
- 71. Jackson, M.D.**
The Community Ecology and Phylogeny of the Insect Blogosphere.
- 72. Jackson, M.D. and S.A. Marshall**
Unlocking insect identifications online.
- 73. James, P., F.A.H. Sperling, and D. Coltman**
Spatial and temporal variation in mountain pine beetle sex ratio in response to forest condition and outbreak stage.
- 74. Janes, J.K. and F.A.H. Sperling**
SNP selective sweeps in the mountain pine beetle (*Dendroctonus ponderosae*).
- 75. Judge, K.A., P.A. De Luca, J.E. Van Eindhoven, A.C. Mason, G.K. Morris**
Evidence for hunger-driven hybridization in *Cyphoderris* spp.
- 76. Keeling, C. I., M. Yuen, A. Nguyen, H. Henderson, M. Li, C. Chiu, D.P.W. Huber, I. Birol, S.J.M. Jones, and J. Bohlmann**
Genome sequence of *Dendroctonus ponderosae* Hopkins and new insights into mountain pine beetle biology.
- 77. Kerr, J.T.**
Detecting and predicting global change impacts on butterflies in Canada.
- 78. Kher, S. V., H.A. Cárcamo, L.M. Dosdall, M. Goettel.**

Laboratory bioassay of *Beauveria bassiana* strain GHA (BotaniGard™) efficacy on cereal leaf beetle (*Oulema melanopus*) and non-target effects on its parasitoid *Tetrastichus julis*.

79. Kher, S. V. L.M. Dosdall, and H.A. Cárcamo

Host-plant nutrients and plant vigor effects on spatio-temporal distribution patterns of cereal leaf beetle, *Oulema melanopus* (Coleoptera: Chrysomelidae).

80. Kher, S. V., L.M. Dosdall, H.A. Cárcamo

Understanding host-finding behaviour of cereal leaf beetle, *Oulema melanopus* (Coleoptera: Chrysomelidae) and its principal parasitoid *Tetrastichus julis* (Hymenoptera: Eulophidae) using olfactory bioassays.

81. Klutsch, J., S. Taft, and N. Erbilgin

Effect of woodboring beetle activity on mountain pine beetle in jack pine mediated by tree pathogen.

82. Knysh, K.M., D.J. Giberson, and M.R. vanden Heuvel

Relationship between nutrient concentrations and aquatic insect diversity and abundance in Prince Edward Island cold springs.

83. Konopka, J.

Effect of cadmium on insect herbivores with different feeding strategies.

84. Kulkarni, S. S., L.M. Dosdall, C. Willenborg, K.N. Harker and J.R. Spence

Spatio-temporal distribution patterns of carabid species in canola agroecosystems.

85. Kwon, J.J., G.J.R. Judd and M.L. Evenden

Development of a combined semiochemical-based attracticide to target the apple clearwing moth (*Synanthedon myopaeformis*) (Lepidoptera: Sesiidae) and the codling moth (*Cydia pomonella*) (Lepidoptera: Tortricidae) in apple orchards in British Columbia.

86. Lachowsky, L.E., and M.R. Reid

Effect of maternal state on investment in daughters and sons by mountain pine beetles.

87. Lamb, B., P. MacKay, and B. Alyokhin

Seasonal dynamics of three coexisting aphid species: implications for estimating population variability.

88. Langor, D.L.

Future direction of the biological survey of Canada.

89. Larrivée, M. and J.T. Kerr

Eastern Canadian butterflies range expansions.

90. Lee, S.-I., J.R. Spence, and D.W. Langor

Proceedings of the 60th Entomological Society of Alberta Annual Meeting

Threshold living tree retention patch size to maintain saproxylic beetle diversity in boreal white spruce stands.

91. Lemmen, J. and M.L. Evenden

Plasticity of response to semiochemical cues in a long-lived moth, *Caloptilia fraxinella* (Lepidoptera: Gracillariidae).

92. Levesque, R.C., H. Maaroufi, A. Nisole, B. Boyle, J. Laroche, C. Béliveau, I. Kukavica-Ibrulj, D. Doucet, C. Lucarotti, F. Sperling, L. Lumley, B. Brunet, H. Bird, V. Nealis, and M. Cusson

The Budworm Genomics Consortium: sequencing the spruce budworm genome.

93. Li, Y., K.D. Floate, P. Fields, and P. Baoping

Methods to cure symbiotic bacteria in insects.

94. Light, M.H.S. and M. MacConaill

In plain sight: Insect herbivores associated with wild orchids in Canada.

95. Lucarotti, C.J., M. Cusson, V.G. Nealis, D.K. Thumbi, C. Béliveau, B. Morin, R. Turnquist, and R. Lapointe

Choristoneura viruses.

96. Lumley, L., B. Boyle, B. Brunet, J. Kruse, J. Laroche, R. Levesque, F.A.H. Sperling, B. Sturtevant, and M. Cusson

Development of molecular markers as tools to monitor spruce budworm (*Choristoneura fumiferana*) dispersal.

97. Ma, C., C. Andres, B. Shan, M. Penzes, I. Lusebrink, M.L. Evenden, N. Erbilgin

The influence of host jack pine and lodgepole pine species on the pheromone emission of mountain pine beetle.

98. MacKay, C., N.K. Hillier, and J. Sweeney

Olfactory physiology of the brown spruce longhorn beetle (BSLB), *Tetropium fuscum* (Fabr.) (Coleoptera: Cerambycidae).

99. MacMillan, H.A., J.F. Staples, and B.J. Sinclair

Why do insects stop moving in the cold?

100. MacQuarrie, C.J.K. and J. Fidgen

Estimating presence and intensity of jack pine budworm defoliation using boosted regression trees.

101. Maddison, W.D.

Jumping spider melodies.

102. Maguire, D.Y., C.M. Buddle, and E.M. Bennett

Landscape structure and the regulation of insect herbivory by predators.

103. Mahood, T. and S. Whyard

Differential innate immunity responses in mosquitoes to West Nile Virus and bacterial infections.

104. Manning, C.G. and M.L. Reid

Tree vs. beetle: impacts of monoterpenes on reproduction by mountain pine beetles.

105. Marinas, M.A. and J.N. McNeil

Reproduction-flight syndrome in the true armyworm, *Pseudaletia unipuncta*.

106. Marshall, K.E. and B.J. Sinclair

Impacts of repeated cold stress on overwintering spruce budworm larvae.

107. Mason, P.G., T. Haye, D.R. Gillespie, J.H. Miall, G.A.P. Gibson, L.M. Dosdall, U. Kuhlmann, and P. Bouchard

Risk assessment of biocontrol agents: the case of cabbage seedpod weevil, *Ceutorhynchus obstrictus*.

108. McCann, S., O. Moeri, T. Jones, R. Gries, G. Khaskin, S. O'Donnell, and G. Gries

Do Red-throated Caracaras (*Ibycter americanus*) have a chemical wasp repellent? Investigating a mystery in the jungle of French Guiana.

109. McCorquodale, D. and D. Giberson

Canada's Beetles: Lessons from history and natural history.

110. McGregor, R.R. and J. Bannerman

Evaluation of the brown lacewing, *Micromus variegatus* for biological control of aphids on greenhouse peppers.

111. McNeil, J.N., G. Chen, and M. Bernards

Does fluctuating asymmetry in male sex pheromones influence mating success?

112. Mori, B.A., C. Yoder, J. Otani and M.L. Evenden

Evaluation of pheromone puffer dispensers for mating disruption of *Coleophora deauratella*.

113. Mosdossy, K. and L. Fedigan

Relative insect abundance in a tropical seasonal environment.

114. Myers, J.H, J. Buchhop, J.S. Cory

Population cycles of forest Lepidoptera: the western tent caterpillar story.

115. Nagalingam, T. and N.J. Holliday

Effect of *Lygus lineolaris* on navy beans in Manitoba.

116. Newton, J.S., and H.C. Proctor

Influence of environmental stresses on soil mite abundance and biomass in an Albertan grassland.

117. Nmor J.C., T. Sunahara, K. Goto, K. Futami , G. Dida, G. Sonye and N. Minakawa

DEM resolution and performance of topographic predictive models: how significant is the impact?

118. Noor ul Ane, M. and M. Ashfaq

Influence of morphological and chemical leaf characters of tomato (*Lycopersicon esculentum*, Miller) foliage on resistance to *Helicoverpa armigera* (Hübner) (Lepidoptera: Nocutidae) larvae.

119. Noronha, C.

Blossom beetle , *Meligethes viridescens* : Is it poised to become a key pest in canola in PEI?

120. Olfert, O., R. Weiss, and T. Haye

Modeling the biological requirements of insects to assess the potential impact of climate change.

121. Owen, R.E. and S.M. Banerjee

The significance of diploid males in natural populations of bumble bees.

122. Peralta-Vazquez, G. H. and M. Reid

Phoretic symbionts of mountain pine beetle and pine engraver from selected sites of British Columbia and Alberta.

123. Pinzon, J., S. Bourassa, and J.R. Spence

Small-scale variation of spider assemblages in an old-growth forest in Alberta.

124. Pohl, G.R. and R. Hébert

A draft list of the Lepidoptera of Canada - how it was built, and lessons learned.

125. Poirier, L.M. and B.W. Murray

Carabid beetle diversity in the ancient Interior Cedar-Hemlock forests of British Columbia.

126. Proctor, H.C. and D.E. Walter

Uncovering the diversity of Canadian mites, one quarter-section at a time.

127. Régnière, J., J. Delisle, D. Pureswaran, and V. Nealis

Recent discoveries in the population dynamics of the spruce budworms.

128. Renkema, J.M. and G.C. Cutler

Ground beetle (Coleoptera: Carabidae) consumption of key pests in two Atlantic region crops.

129. Robert, J.A., S. Luong, R. Montgomery, T. Bonnett, C. Pitt, C.I. Keeling, J. Bohlmann, and D.W. Huber

RNA-seq analysis of mountain pine beetle detoxification identifies candidate cytochromes P450.

130. Rochon, K. and T. Lysyk

Habitat predictors of *Dermacentor andersoni* (Acari: Ixodidae) in Alberta.

131. Roitberg, B.D.

Behaviour: Why so much diversity and why not more?

132. Roland, J. and S.F. Matter

Climate and alpine butterfly dynamics; it's the winters that matter.

133. Royauté, R., C.M. Buddle, and C. Vincent

How does chemical disturbance affect behavioural expression in a jumping spider inhabiting agroecosystems?

134. Rubinoff, D., W. Haines, and A. Kawahara

Evolution of globally rare behaviours in endemic Hawaiian insects.

135. Rubinoff, D., W. Haines, and A. Kawahara

The Evolution of extraordinary biodiversity in Hawaii's endemic insects.

136. Sarfraz, R.M., J.S. Cory and J.H. Myers

Localized plant induction: Impact on insect fitness and disease resistance.

137. Sarfraz, R.M., H.M. Kharouba and J.H. Myers

Later instar western tent caterpillars thrive on tough mature leaves in warm environments.

138. Schwarzfeld, M.D. and F.A.H. Sperling

Life, the Universe and *Ophion*: The answer is 42.

139. Scott, C., R. Gries, G. Khaskin and G. Gries

Identification of a silk-borne pheromone component of the western black widow *Latrodectus hesperus*.

140. Seehausen, L., É. Baucé, J. Régnière and R. Berthiaume

Silviculture in practice: Does partial cutting influence parasitism of two key insect defoliators?

141. Semmler, S.J. and A.C. Worley

The short term effects of fire and climate on plant-insect interactions in Canada's tall grass prairie.

142. Sharanowski, B.J.

To know a species: Ecological taxonomy for Ichneumonoidea.

143. Shikano, I. and J.S. Cory

Dietary costs of genetic resistance to the microbial insecticide *Bacillus thuringiensis*.

144. Silva-Brandão, K.L., K.C. Albernaz, F.D. Domingues, F.L. Cônsoli, C. Omoto

Population genetics support for IPM strategies to control pest species of Lepidoptera in Brazil.

145. Sim, K.A., C.M. Buddle, and T.A. Wheeler

Status of the *Pardosa lapponica* group (Lycosidae) in Canada based on morphological and genetic analysis.

146. Smith, A., and W. R. Kaufman

Characterization of vitellogenesis in the bont tick *Amblyomma hebraeum*.

147. Smith, M.A., E.S. Eveleigh, K.S. McCann, T. Eagalle, and C. Lucarotti

The spruce budworm food web.

148. Soroka, J., J. Otani, J. Gavloski, and B. Elliott

The Biology and control of flea beetles in western Canadian canola crops: Is a species shift in progress?

149. Spence, J.R.

Understanding and managing Canadian forests: Entomologists made a difference

150. Sperling, F.A.H.

Speciation within the *C. fumiferana* species complex.

151. Srivastava, D. and E. Hammill

Behavioural cascades can impact food web structure and function.

152. Stanton, D., L. Dosdall, and R.C. Yang

Evaluation of associational resistance in mixed stand crucifers for breeding canola resistant to *Delia* spp.

153. Sturtevant, B.R., B. Brunet, B.J. Cooke, M.-J. Fortin, P. James, L. Lumley and F. Sperling

Budworm dispersal and population structure in the Border Lakes region.

154. Tabacaru, C.A., J. Park, and N. Erbilgin

Mountain pine beetles in post-burn lodgepole pine forests.

155. Tansey, J.A.

Mechanisms and strategies associated with insect-resistant canola.

156. Tatarnic, N.J.

Sexual mimicry and paragenital divergence between sympatric species of traumatically inseminating plant bug.

157. Teasdale, C., G.J.R. Judd, R. Gries, and G. Gries

Strategies for early detection and management of raspberry crown borer populations.

158. Terzin, T., I. Lumawig, and L. McLeod

World largest complex of Coleopteran mimicry revealed through eBay listings.

159. Therrien (Ariss), J., A. Adams, C. Currie, B. Aukema, K. Raffa, and N. Erbilgin

Impact of bacteria-fungus-host tree interactions on mountain pine beetle reproduction.

160. Thyse, A.

Insect Photography on the Web.

161. Timms, L.L., A.B. Bennett, C.M. Buddle, and T.A. Wheeler

Abiotic and biotic determinants of ichneumonid diversity in northern Canada.

162. Uddin, M. M. and K. Tsuchida

Genetic diversity of a Paper Wasp, *Polistes olivaceus* in Bangladesh.

163. Van Hezewijk, B.

Parasitoid dispersal can create sharp boundaries in the spatial synchrony of a forest defoliator.

164. Vandervalk, L.P., M. Nasr, and L. Dosdall

LD50 of miticides for *Varroa destructor*, an ectoparasitic mite of honeybees.

165. Vankosky, M.A. and S. VanLaerhoven

Optimal oviposition and omnivores: The effects of plant quality on omnivore oviposition behaviour.

166. Vibert, S., C. Scott and G. Gries

A meal or a male? The ‘whispers’ of black widow males do not trigger a predatory response in females.

167. Waite, M.O., C.D. Scott-Dupree, M. Brownbridge, R. Buitenhuis, G. Murphy

The effect of honeybee-collected pollen and other diets on *Orius insidiosus*.

168. Walter, D.E.

Old dogs and new tricks: An aging acarologist’s view of bugs on the web.

169. Wen, F., P.J. Krell, and D. Doucet

Genomic basis of cold hardiness in the spruce budworm.

170. Wheeler, T.A.

Diptera of Canada: recent progress, key gaps and new paths.

171. Wheeler, T.A. and C.M. Buddle

Canada is really big: challenges to completing a National Biota.

172. Whitehouse, C.M., N. Erbilgin and M.L. Evenden

Does pine host species affect mountain pine beetle flight activity?

173. Wick, A.A., S. Pruss, J. Spence, and N. Erbilgin

Beyond the host plant: Habitat characteristics of the Mormon metalmark at two spatial scales.

174. Wist, T.J. and M.L. Evenden

Semiochemically-mediated interactions in a tritrophic system: *Fraxinus*, *Caloptilia fraxinella*, and *Apanteles polychrosidis*.

175. Yunik, M.E.M.

Anaplasma and Rickettsiae in the tick *Dermacentor variabilis* in Manitoba.

176. Zink, L., R.V. Cartar, and M. Wonneck

Effects of managed bees and landscape on wild bee abundance and diversity.

Poster Presentations
(Alphabetically by presenting author)

- 177. Cárcamo, H., C. Herle, B. Broadbent, T. Gariepy, and L. Gualtieri**
Neo-classical biocontrol of *Lygus* in canola in the Canadian Prairies - treading lightly.
- 178. Cárcamo, H.A., V. Hervet, L. Dosdall, S. Kher, and C. Chelle**
Host range assays of *Tetrastichus julis* - an effective biocontrol agent of cereal leaf beetle.
- 179. Chahil, G.S., K. Mandal, S.K. Sahoo, R.S. Battu, and S. Balwinder**
Environmental fate of spirotetramat and imidacloprid on chilli fruits.
- 180. Cumming, H.J., and T.A. Wheeler**
Taxonomic problems in Nearctic *Callomyia* (Diptera: Platypezidae).
- 181. De Clerck-Floate, R. and J. Dyck**
Developing a biological control strategy for hawkweeds in Canada.
- 182. Ferris, K., S. Busch, C. Teasdale, and R. Prasad**
Impact of invasive species on endemic arthropods of berries in south western B.C.
- 183. Fitzpatrick, S.M., M.A. Cook, S. Mathur, B.J. Sinclair, B.D. Roitberg, and G. Gries**
Evidence suggests cryptic speciation in *Dasineura oxycoccana* on cranberry and blueberry.
- 184. Floate, K., J. Broatch, M. Erlandson, M. Evenden, J. Gavloski, S. Hartley, J. Hummel, R. Laird, S. Meers, C. Olivier, J. Otani, B. Sharanowski**
New projects for control of cutworms (Lepidoptera: Noctuidae) affecting canola crops on the prairies.
- 185. Floate, K.D. and N. Kadiri**
Seasonal activity of dung beetles (Coleoptera: Scarabaeidae) on native grasslands in southern Alberta.
- 186. Franklin, M.T and D.E. Henderson**
Development of viral biopesticides for the control of lepidopteran pests.
- 187. Gaul, S.O. and G.T. Pitcher**
Towards the identification of a pheromone for the green pug moth, *Chloroclystis rectangulata*, [Lepidoptera: Geometridae].
- 188. Gillespie, D. and B.I. Gillespie**
Location of non-target species in an arthropod biocontrol programme.
- 189. Hervet, V.A.D. and J. Gavlovski**

Natural enemies of army cutworm, redbacked cutworm and darksided cutworm (Lepidoptera: Noctuidae) in North America.

190. Hervet, V.A.D., R.A. Laird, and K.D. Floate

Cotesia 'vanessae' (Hymenoptera: Braconidae): a potential biological control agent of cutworms (Lepidoptera: Noctuidae).

191. Hewitt, L., C. Scott-Dupree, L. Shipp and R. Buitenhuis

Determining the better thrips predator: effect of season on predatory mites.

192. Hoemsen, B., I. Phillips, D. Parker, A. Bell, J. Bergsveinson, and D. Chivers

Extended Family: New family of caddisfly (Trichoptera: Uenoidae) to Saskatchewan with notes on life history.

193. Hueppelsheuser, T., M. Sweeney, C. Teasdale, K. Ferris, K. Sakalauskas, T. Krishnaaj, A. Stjernberg, and K. Wuensche

Spotted Wing Drosophila: Three years in British Columbia; What have we learned so far?

194. Illerbrun, K. and J. Roland

Haphazard? Butterfly oviposition in relation to larval and adult resources.

195. Kulkarni, S.S., L.M. Dosdall, C. Willenborg, K.N. Harker and J. Spence

The effect of temperature on weed seed predation by ground beetles (Coleoptera: Carabidae).

196. Liu, Q., K.M. Knysh and D.J. Giberson

Non-biting midge (Diptera: Chironomidae) diversity in Prince Edward Island
Limnocythere Springs.

197. McLeod, L. and T. Terzin

Co-evolutionary race of mimicking beetles – Philippines as a new Galapagos.

198. Mlynarek, J.J. and J. Acorn

Testing enemy release in a damselfly with an expanding range.

199. Moffat, C.E. and S.B. Heard

Does intraspecific variation in host plant traits drive the ecological speciation of phytophagous insects?

200. Munir, S., L. Dosdall, J. Soroka, and O. Olfert

Impact of water-stressed host plant on oviposition choices of diamondback moth, *Plutella xylostella*.

201. O'Neil, D. and C. Cutler

Pesticides in honey bee hives in the Maritime provinces: residue levels and interactions with *Varroa* mites and *Nosema* in colony stress.

202. Phillips, I.D., A. Matichuk, A. Schweitzer

The secondary production, life history, and diversity of aquatic insects supporting bigmouth buffalo fish in the Qu'Appelle River, Saskatchewan.

203. Pinzon, J., J.R. Spence, and D.W. Langor

Diversity, species richness and abundance of spiders in different strata of boreal white spruce stands in Alberta.

204. Proctor, H.C. and A. Kense

Fur mites of the genus *Schizocarpus* on beavers from central Alberta, Canada.

205. Rempel, C., R. Quik, A.F. Janmaat, and T.Kabaluk

Does *Agriotes obscurus* avoid the fungal entomopathogen, *Metarhizium brunneum*?

206. Shikano, I. and J.S. Cory

Dietary nutrients alters performance of both host and pathogen in an insect-baculovirus system.

207. Singh, G., G.S. Chahil, R. Takkar, Gaganjyot, R.S. Battu and B. Singh

Dissipation kinetics of trifloxystrobin and tebuconazole on onion (*Allium cepa* L.).

208. Solecki, A.M., A. Grégoire Taillefer, M.S. Blair, S. Rochefort, É. Vajda and T.A. Wheeler

Trophic structure in an Arctic terrestrial Diptera assemblage.

209. Steele, T. and S. Bjørnson

The effects of two microsporidian pathogens on the two-spotted ladybeetle, *Adalia bipunctata* L. (Coleoptera: Coccinellidae).

210. Swann, J.E., R.W. Longair and W.D. Fitch

An untapped well of biodiversity information.

211. Timms, L.L., J.J. Bowden, K.S. Summerville and C.M. Buddle

Does species-level resolution matter? Taxonomic sufficiency in terrestrial arthropod biodiversity studies.

212. Toth, T., P. James, and D. Kneeshaw

Patterns of Spruce Budworm Dispersal in Quebec's North Shore Region.

213. Vy, J., A. Kostyniuk, A. Biswas, and T. Terzin

Wing scale vs. pixel – evolution of visual information in butterflies.

214. Wingsanoi, A., N. Siri, and J. N. McNeil

Assessment of infestation of different pepper species by *Bactrocera latifrons* (Hendel) in

Index to Authors
(**Bold page number indicates first author**)

Author	Number
Abdelghany, A.	1 , 52
Abrahm, P.K.	2
Acorn, J.	198
Adams, A.	159
Adams, E.M.	3
Ahmad, S.	5
Ajlan, A.	4
Albernaz, K.C.	144
Ali, M.	5
Alyokhin, B.	87
Alzahrani, S.	4
Andres, C.	97
Ashfaq, M.	5 , 118
Atwood, T.B.	6
Aukema, B.	159
Ayyanath, M.M.	7
Bahar, M.H.	8
Balwinder, S.	179
Banerjee, S.M.	121
Bannerman, J.	110
Baoping, P.	93
Barrie, C.	9
Bartell, N.V.	16
Battu, R.S.	179, 207
Bauce, E.	140, 55
Bede, J.C.	131
Beliveau, C.	95, 92, 37
Bell, A.	192
Belland, R.J.	10
Bennett, A.B.	161
Bennett, E.M.	102
Beres, B.L.	11
Bergeron, C.	12
Bergsveinson, J.	192
Bernards, M.	111
Berthiaume, R.	140
Biornson, S.	209
Bird, H.	13 , 92, 37, 22
Birol, I.	76
Biswas, A.	213

Blair, M.S.	14, 208
Blake, A.J.	15
Blanckenhorn, W.	53
Bohlmann, J.	76, 69, 129
Boivin, G.	2
Bonnet, T.	69, 129
Boone, C.K.	16
Boquel, S.	17
Bouchard, P.	107
Bourassa, S.	18, 23
Bourchier, R.S.	19
Bousquet, Y.	62
Bowden, J.J.	211
Boyle, B.	22, 96, 92, 20, 37
Brandao, M.	20, 37
Broadbent, B.	177
Broatch, J.	184
Brodie, B.S.	21
Brooks, S.E.	34
Brownbridge, M.	47, 167
Brunet, B.	22, 153, 96, 13, 92, 37
Buchhop, J.	114
Buddle, C.M.	161
Buddle, C.M.	171, 23, 211, 24, 133, 102, 45, 145
Buitenhuis, R.	191, 167
Busch, S.	182
Byers, K.	25
Cahill, J.	30
Cannings, S.G.	26
Cappuccino, N.	2
Carcamo, H.A.	178, 79, 78, 177, 27, 80
Cartar, R.V.	176, 48
Chahil, G.S.	28, 207, 179
Chelle, C.	178
Chen, G.	111
Chen, X	29
Chiu, C.	76
Chivers, D.	192
Chouinard, G.	66
Cigan, P.	30
Clark, C.	17
Coltman, D.W.	73, 16
Consoli, F.L.	144

Cook, M.A.	183
Cooke, B.J.	153
Cooke, J.E.	16
Cormier, D.	66
Cory, J.S.	143, 206, 136, 31 , 114, 54
Costamagna, A.C.	32
Courtney, G.W.	33
Cumming, H.J.	180
Cumming, J.M.	34
Currie, C.	159
Currie, D.C.	35
Currie, R.	36
Cusson, M.	22, 95, 96, 92, 20, 37
Cutler, C.	83, 201
Cutler, G.C.	40, 28, 128, 38
Danci, A.	68, 39
David, T.	31
Davis, C.S.	16
De Clerck-Floate, R.	181
De Luca, P.A.	75
De Silva, E.C.A.	40
Delisle, J.	127, 41
Deonarine, J.	36
Dida, G.	117
Domingues, F.D.	144
Dosdall, L.M.	152, 178, 79, 200, 78, 164, 15, 107, 84, 195, 8, 80
Doucet, D.	169, 92, 20, 37
Dupont, J.M.	42
Dupuis, J.R.	43
Duran, J.	50
Dury, G.J.	44
Dyck, J.	181
Eagalle, T.	147
Elliot, B.	148
Erbilgin, N.	173, 172, 81, 159, 30, 154, 97
Erlandson, M.	184
Ernst, C.M.	45, 46
Evans, B.G.	47
Evans, M.M.	48
Eveleigh, E.S.	147
Evenden, M.L.	85, 172, 112, 184, 91, 49 , 174, 97
Fagua, G.	50
Farhan, J.	51

Fedigan, L.	113
Ferris, K.	182 , 193
Fidgen, J.	100
Fields, P.G.	1, 5, 52
Fields, R.	93
Fitch, W.D.	210
Fitzpatrick, S.M.	183
Floate, K.D.	53 , 19, 190, 93, 184 , 185
Fortin, M.-J.	153
Franklin, M.T.	54 , 186
Fuentealba, A.	55
Futami, K.	117
Gaganjyot	207
Galloway, T.D.	56
Gariepy, T.	63, 177, 57
Gaul, S.O.	187
Gavloski, J.	189, 184, 148
Giberson, D.	109
Giberson, D.J.	196, 82
Gibson, G.A.P.	58 , 107
Gibson, J.F.	59
Giguere, M.A.	17
Gil, E.	50
Gillepsie, B.I.	188
Gillespie, D.	63, 188 , 107
Goettle, M.	78
Goto, K.	117
Gregoire Taillefer, A.	208
Gregoire, D.	60
Gries, G.	166, 68, 108, 39, 183, 139, 21, 157
Gries, R.	108, 21, 157
Grosse-Wilde, E.	65
Grossi, A.	61
Gualtieri, L.	177
Haijar, J.	4
Haines, W.	134, 135
Hajibabaei, M.	59
Hallett, R.H.	47
Hamel, C.	42
Hammill, E.	151, 6
Hammond, H.E.J.	62
Hanelt, B.	45

Hansson, B.S.	65
Harker, K.N.	84, 195
Hartley, S.	184
Haye, T.	63 , 120, 107, 2
Heard, S.B.	199
Hebert, R.	124, 64
Hegedus, D.	8
Henderson, D.E.	186
Henderson, H.	76
Herle, C.	177
Hersh, M.	131
Hervet, V.A.D.	190 , 178, 189
Hewitt, L.	191
Hillier, N.K.	40, 65 , 98
Hock, V.	66
Hoemsen, B.	192
Hohman, L.	63
Holliday, A.E.	67
Holliday, N.J.	67 , 115
Hrabar, M.	68
Hrabar, M.	39
Huber, D. P.W.	129, 76, 69
Hueppelsheuser, T.M.	193
Hummel, J.	184
Hynes, R.	52
Ikoma, S.	39
Illerbrun, K.	194 , 70
Jackson, M.D.	71 , 72
James, P.	153, 212, 73
James, P.M.	16
Janes, J.K.	74
Janmaat, A.F.	205
Jiang, S.	36
Jones, S.J.M.	76, 69
Jones, T.	108
Jordan, K.S.	47
Judd, G.J.R.	85
Judge, K.A.	75
Kabaluk, T.	205
Kadiri, N.	185
Karst, J.	30
Kaufman, W.R.	146

Kawahara, A.	134, 135
Keeling, C.I.	76 , 69, 129
Kemp, E.M.	31
Kense, A.	204
Kerr, J.T.	77 , 89
Kharouba, H.M.	137
Khaskin, G.	108, 139
Kher, S.V.	178, 79 , 78 , 80 , 59
King, I.W.	59
Klutsch, J.	81
Kneeshaw, D.	212
Knysh, K.M.	196, 82
Konopka, J.	83
Kostyniuk, A.	213
Krell, P.J.	169
Krishnaaj, T.	193
Kruse, J.	96
Kuhlmann, U.	107, 2
Kukavica-Ibrulj, I.	92, 37
Kulkarni, S.S.	84 , 195
Kwon, J.J.	85
Lachowsky, L.E.	86
Lahr, J.	53
Laird, R.A.	184, 190
Lamb, B.	87
Langor, D.	62
Langor, D.L.	88
Langor, D.W.	203, 90
Laplane, S.	62
Lapointe, R.	95
Laroche, J.	96, 92, 20, 37
Larrivee, M.	89
Lee, S.-I.	90
Lemmen, J.	91
Lesage, L.	19
Leskey, T.	66
Levesque, R.C.	22, 96, 92 , 20, 37
Li, M.	76
Li, Y.	93
Light, M.H.S.	94
Lindgren, B.S.	16
Liu, Q.	196
Lloyd, V.	80

Longair, R.W.	210
Lucarotti, C.J.	92, 147, 37, 95
Lucas, E.	66
Lumaret, J.-P.	53
Lumawig, I.	158
Lumley, L.	22, 153, 96 , 92, 20, 37
Luong, S.	129
Lusebrink, I.	97
Lysyk, T.	130
Ma, C.	97
Maaroufi, H.	92, 37
MacConaill, M.	94
MacKay, C.	98
MacKay, P.	87
MacMillan, H.A.	99
MacQuarrie, C.J.K.	100
Maddison, W.D.	101
Maguire, D.Y.	102
Mahood, T.	103
Mandal, K.	179
Manning, C.G.	104
Marco, G.	58
Marinas, M.A.	105
Marshall, K.E.	106
Marshall, S.A.	72
Mason, A.C.	75
Mason, P.G.	63, 107 , 2
Mathur, S.	183
Matichuk, A.	202
Matter, S.F.	132
Mattingly, T.M.	67
McCann, K.S.	147
McCann, S.	68, 108
McCorquodale, D.	109 , 62
McGregor, R.R.	110
McLeod, L.	197 , 158
McNeil, J.N.	214, 111 , 105, 51
Meers, S.	184
Miall, J.H.	107
Minakawa, N.	117
Mlynarek, J.J.	198
Mock, K.E.	16
Moeri, O.	108

Moffat, C.E.	199
Montgomery, R.	129
Mori, B.A.	112 , 49
Morin, B.	95
Morris, G.K.	75
Mosdossy, K.	113
Munir, S.	200
Murphy, G.	167
Murray, B.W.	125, 16
Myers, J.H.	137, 136, 114 , 54
Naccarato, K.M.	67
Nagalingam, T.	115
Nasr, M.	164
Nealis, V.G	127, 92, 95
Newton, J.S.	116
Nguyen, A.	76
Nisole, A.	92, 20, 37
Nmor, J.C.	117
Noor ul Ane, M.	5, 118
Noronha, C.	119
O'Donnell, S.	108
O'Neail, D.	201
Olfert, O.	200, 120
Olivier, C.	184
Olsson, S.B.	65
Omoto, C.	144
Otani, J.	112, 184, 148
Owen, R.E.	121
Park, J.	154
Parker, D.	192
Pelletier, Y.	17
Penzes, M.	97
Peralta-Vazquez, G.H.	122
Phillips, I.D.	192, 202
Pinzon, J.	203 , 123
Pitcher, G.T.	187
Pitt, C.	69, 129
Pohl, G.R.	124
Poirier, L.M.	125
Prasad, R.	182
Proctor, H.C.	204 , 116, 25, 126
Pruss, S.	173
Pureswaran, D.	127

Quik, R.	205
Quiring, D.	60
Raffa, K.	159
Regniere, J.	127 , 140, 41
Reid, M.L.	86, 122, 104
Reinecke, A.	65
Rempel, C.	205
Renkema, J.M.	128
Richardson, J.S.	6
Robert, J.A.	69, 129
Robles, J.	50
Rochefort, S.	208
Rochon, K.	130
Roitberg, B.D.	131 , 183, 3
Roland, J.	132 , 194, 70
Rombke, J.	53
Royaute, R.	133
Royer, L.	60
Rubinoff, D.	134 , 135
Rudd, G.J.R.	157
Ruiz, N.	50
Sahoo, S.K.	179
Saigusa, T.	34
Sakalauskas, K.	193
Samarasekerara, G.	16
Sarfraz, R.M.	137 , 137
Schaefer, P.	68, 39
Schwarzfeld, M.D.	138
Schweitzer, A.	202
Scott-Dupree, C.D.	191, 83, 167
Scott, C.	166, 139
Seehausen, L.	140
Semmler, S.J.	141
Shan, B.	97
Sharanowski, B.	184, 142
Shikano, I.	143 , 206
Shipp, L.	191
Shokralla, S.	59
Silk, P.J.	40
Silva-Brandao, K.L.	144
Sim, K.A.	145
Sinclair, B.J.	183, 106, 99
Singh, B.	207

Singh, G.	207
Siri, N.	214
Smith, A.	146
Smith, M.A.	147
Solecki, A.M.	208
Sonye, G.	117
Soroka, J.	200, 148 , 8
Spence, J.	173, 195
Spence, J.R.	18, 203, 123, 84, 90, 149
Sperling, F.A.H.	22, 153, 96, 13, 138, 43, 74, 73, 150 , 92, 20, 37
Srivastava, D.S.	151 , 6
Stanton, D.	152
Staples, J.F.	99
Steele, T.	209
Sternberg, A.	193
Sturtevant, B.	153 , 96
Summerville, K.S.	211
Sunahara, t.	117
Suresh, D.	36
Suthisut, D.	1
Swann, J.E.	210
Sweeney, J.	98
Sweeney, M.	193
Tabacaru, C.A.	154
Taft, S.	81
Takkar, R.	207
Tansey, J.A.	155 , 15
Tatarnic, N.J.	156
Taylor, W.	52
Teasdale, C.	182, 193, 157
Terzin, T.	197, 213, 158
Therrien (Ariss), J.	159
Thumbi, D.K.	95
Thysse, A.	160
Timms, L.L.	161 , 211
Tixier, T.	53
Toth, T.P.	212
Tsuchida, K.	162
Turnquist, R.	95
Uddin, M.M.	162
Umberto, B.	58
Vajda, E.	208
Van Eindhoven, J.E.	75

Van Hezewijk, B.	163
vanden Heuvel, M.R.	82
Vandervalk, L.P.	164
VanDyk, J.K.	33
Vankosky, M.A.	165
VanLaerhoven, S.	165, 21
Vernon, R.S.	3
Vibert, S.	166
Vincent, C.	133
Vy, J.	213
Waite, M.O.	167
Walter, D.E.	168 , 126
Weiss, R.	120
Wen, F.	169
Westwood, R.	42
Wheeler, T.A.	161, 171 , 170 , 9, 14, 145, 180, 208
Whitehouse, C.M.	172 , 49
Whyard, S.	5, 103
Wick, A.A.	173
Willenborg, C.	84, 195
Williams, D.	62
Williams, E.A.	67
Windsor, D.M.	131
Wingsanoi, A.	214
Wist, T.	174
Wonneck, M.	176, 48
Woodward, D.T.	31
Worley, A.C.	141
Wright, S.	66
Wuensche, K.	193
Yang, R.C.	152
Yoder, C.	112
Yuen, M.	76, 69
Yunik, M.E.M.	175
Zhang, A	66
Zhang, J.	63, 17
Zink, L.	176

**Minutes of the Entomological Society of Alberta
Executive/Board of Directors Fall Meeting
Edmonton, November 5, 2012**

Meeting called to order at 12:17

Chair: Felix Sperling (Vice-President)

In Attendance: Rob Longair (Past-President), Ken Fry (Secretary), Stephane Bourassa (Northern Director), Caroline Whitehouse (Treasurer), Megan Evans (Proceedings Editor), Alec McClay (Webmaster)

Regrets: Lloyd Dosdall, Tonya Mousseau (Central Director), Vincent Hervet (Southern Director), Kevin Floate (Regional Director to ESC)

1. Additions to Agenda and approval

MOVED by Rob, Seconded by Alec that the agenda, as amended be approved; Carried

2. Approval of April Executive Meeting Minutes

MOVED by Ken, Seconded by Caroline that the minutes as amended be approved; Carried

3. Introductions

4. Report from the Treasurer (Caroline Whitehouse)

- a) Increase in student members
- b) Use Paypal
- c) Send out reminders
- d) Charges will increase but offset by more members
- e) Awards included in meeting budget, not out of general revenue, therefore appears meeting has a loss (potentially)
 - I. Need to get revenue to keep society solvent to support awards
 - II. Formally note that awards to be included in meeting budget

MOVED by Caroline, Seconded by Rob that the Treasurer's report be received; Carried

5. Report from Secretary (Ken Fry)

- See attached report

MOVED by Ken, Seconded by Alec that the Secretary's report be accepted; Carried

6. Report from Northern Director (Stephane Bourassa)

- Grande Prairie bee research focusing on CCD
- Kevin Judge at Grant MacEwan is developing a first year course in entomology
- See attached report

7. Report from Central Director (Tonya Mousseau, delivered by Megan)
 - Insect collection still growing
 - Mount Royal becoming more active
 - See attached report
 8. Report from Southern Director (Vincent Hervet, delivered by Felix)
 - Staff relocations
 - Discovery day at bird of prey centre
 - See attached report
 9. Regional Director to the ESC (Kevin Floate)
 - ESC contacted royal Canadian mint about coins and inaccuracies
 - Blog has been successful
- MOVED** by Ken, seconded by Caroline, to accept the reports as submitted; Carried
10. Report from Webmaster (Alec McClay)
 - Developing website for JAM
 - Action item is to update and reconcile awards form and notification
 - Action item update travel awards recipients - Action item (Felix) update honorary member biographies
 - See attached report
- MOVED** by Rob, Seconded by Mary to accept the Webmaster's report; Carried
11. Update from Proceedings Editor (Megan Evans) - Only 20 printed
 - New policy to not print material, instead just electronic version available
 12. JAM update 13. Nominations
 - Meeting doing well
 - Heather proctor asked to serve on committee - Have two potential candidates for northern director
 14. Travel grant criteria - Leave it to the discretion of the awards committee
 - Ensure awards prioritize first time recipients
- Adjournment **MOVED** by Megan, Adjourn the meeting at 12:58

**DRAFT Minutes of the Entomological Society of Alberta
60th Annual General Meeting**

Coast Edmonton Plaza, Edmonton, Alberta November 5, 2012

Minutes prepared by Ken Fry, ESA Secretary

Attendees:

Adam Blake	Scott Meers
Stephane Bourassa	Heather Proctor
Hector Carcamo	Mary Reid
Michael Dolinski	Alexander Smith
Nadir Erbilgin	Felix Sperling
Meghan Evans	John Swann
Kevin Floate	Adrian Thyse
Ken Fry	Meghan Vankosky
Vincent Hervet	David Walter
Kevin Judge	Caroline Whitehouse
Jennifer Klutsch	Tyler Wist
Jessica Kwan	Lindsay Zink
Rob Longair	

Meeting called to order at 5:12 by Felix Sperling (Vice President)

Approval of agenda

MOVED to accept, Leanna Lachowski; seconded, Adam Blake: Carried

Approval of minutes from the 2011 AGM

MOVED to accept, Mary Reid; seconded, Rob Longair; Carried

Webmaster's Report (Ken Fry for Alec McClay)

- see attached report
- Solicited members to submit errors or omissions observed on website

MOVED to accept, Adam Blake; seconded, Caroline Whitehouse; Carried

Secretary's Report (Ken Fry)

- see attached report

MOVED to accept, Kevin Floate; seconded, Heather Proctor; Carried

Report from Regional Director to Entomological Society of Canada (Kevin Floate)

- ESC provides \$600 over three years for public education
- Not many students applying for awards
- ESAmerica approached ESC to hold 2016 in Fort Lauderdale Florida
- ESAmerica will hold their meeting in Vancouver in 2018 and 2022
- Ontario, Saskatoon, Quebec, Florida is the proposed order
- Rose De Clerck-Floate to be new national president

MOVED to accept, Kevin Floate; seconded, Rob Longair; Carried

Treasurer's Report (Caroline Whitehouse)

Discussion around future funding of student awards, needs to be added to executive to deal with

Ask regional directors to include leaving grad student names to treasurer to take off email roll

See attached report

MOVED to accept, Mary Reid; seconded, Adam Blake; Carried

Nominations (Felix Sperling): nominations were presented as follows:

President – Felix Sperling

Past President – Lloyd Dosdall

Vice President – Mike Dolinski

Treasurer – Caroline Whitehouse

Secretary – Ken Fry

Southern Director – Vincent Hervet

Central Director – Tonya Mousseau

Northern Director - Kevin Judge

Proceedings Editor – Meghan Evans

Webmaster – Alec McClay

MOVED that all nominations for Secretary, Web Master, and Treasurer cease, Alexander Smith; seconded, Heather Proctor; Carried.

MOVED that nominations cease, Tyler Wist; seconded, David Walters; Carried.

Nominated slate Acclaimed. Kevin Judge won by election conducted by secret ballot

MOVED that ballots be destroyed, Adam Blake; seconded, Tyler Wist; Carried.

Ballots destroyed.

Appointment of society financial auditors

- David Walter and Jennifer Klutsch accepted.

Resolutions: the following resolution was prepared and read by Megan Evans;

Be it resolved that we would like to thank everyone for attending as well as the providers of great food, drink, and merriment. The Edmonton Coast Plaza Hotel has provided an excellent venue for our meetings, mingling, and meals, and the free Internet. Additionally, we'd particularly like to thank the planning committee including Greg, Maya, Chandra, Megan, Haydee, Tonya, and Adam.

Old Business

10.1. Archiving (Felix Sperling)

- Ken to follow-up with ERA at U of A for possible storage
- Hector Carcamo appointed Archivist for the society
- Archivist position to be debated for inclusion on executive

New Business

11.1 2013 meeting: 100th anniversary of arrival of Strickland at Lethbridge and 100th anniversary of Olds College

- If hosted at Olds, have a Strickland Symposium and make it all about Strickland

MOVED Kevin Floate, seconded by Stephane Bourassa, that the 2013 meeting be in Olds and that Hector be the scientific programme committee chair

11.2 Website

- Site needs updating and Kevin Floate has agreed to provide input and all other members are encouraged to provide input
- Secretary to send out note (email and Facebook) to encourage members to provide input to webmaster

11.3 Proceedings

- Megan to continue with proceedings

12. President's Address

- To be provided by Felix as acting President
- Felix said a few words about what Lloyd has done and wished him well
- Thanks to Ken to host the spring meeting, to the membership for its gracious dealing with the new meeting selection
- Thanks to the local organizing committee, especially Greg Pohl, Maya Evenden, Heather Proctor, Mike Dolinski, Daryl Williams, Andy Keddie, and others

Adjournment

MOVED to adjourn, Heather Proctor

- meeting adjourned at 6:50PM

2012
Entomological Society of Alberta
Regional Director's Report
to the Entomological Society of Canada

1. Current Membership of the ESC. The total membership for 2012 is 479, slightly up from the 440 total memberships for 2011. As of November, membership of the ESC is as follows: Regular (328), Student (85), Emeritus (62). ESC regular members are encouraged to have their students and colleagues become members of the Society. Applications forms are available online at <http://www.esc-sec.ca/ee/index.php/members/registration/>. Membership dues are \$80-100 (Regular) and \$25-55 (Student).

Membership includes free access to current and past issues of *The Canadian Entomologist* and reduced registration fees at ESC Joint Annual Meetings. Student members can apply for numerous scholarships and awards, stay current on job and research postings, and become part of an active national entomological community (<http://www.esc-sec.ca/studenthome.php>).

2. ESC Executive (2013). President – Rosemarie De Clerck-Floate; Vice President – Rebecca Hallett; Past President – Michel Cusson; Second-Vice President – Staffan Lindgren. The Student Representative is Chandra Moffat. The ESC Web master is Rick West. The ESC Secretary is Alec McClay. A complete list of Governing Board and Trustee members is available on the ESC website.

3. Joint Annual Meetings. The JAM of the Entomological Societies of Canada and Ontario will be held in Guelph in 2013. This will mark the 150th Anniversary of the ESC. Closer to the meeting date, further details will be posted on the internet at <http://www.entsocont.ca/index.php>. The tentative location of future JAMS is as follows: 2014 (Saskatchewan), 2015 (Quebec), 2017 (Manitoba).

The ESC has been approached by the Entomological Society of America to hold joint meetings in 2016 (in conjunction with the International Congress of Entomology, Orlando, FL – September 25-30), in 2018 (Vancouver, BC) and in 2022 (Vancouver, BC). No decisions have yet been made.

4. Other.

- *The Canadian Entomologist*. Starting in January of this year, *TCE* is being printed and distributed by Cambridge University Press. Submission to the journal is online, there are no page charges for text or colour plates, and copy-edited papers are now posted as 'First View' prior to publication. Submissions to *TCE* have increased significantly with rapid turnaround times. Details are available at <http://journals.cambridge.org/action/displayJournal?jid=tce>.

Also new this year is the TCE Twitter account (<http://twitter.com/CanEntomologist>).

- *ESC Website.* The ESC website has been redesigned to improve navigation and content. Members are encouraged to view the new site at <http://www.esc-sec.ca/>.
- New this year is the ESC Blog, which is enjoying tremendous success and provides enhanced online visibility to the ESC. ESC bloggers can share results of recent research and stay abreast of current events in the entomosphere. Members are encouraged to view the blog at (<http://escsecblog.com/>).
- Student members of the ESC are reminded to apply for ESC travel awards and scholarships, which occasionally are undersubscribed. Information on student awards is online at <http://www.esc-sec.ca/studentawards.php>
- The ESC reminds provincial societies that \$200 is available yearly from the ESC to promote regional entomological activities. Requests for this funding are rarely received.
- A reminder that the *Canadian Journal of Arthropod Identification* is now a core journal of the ESC. Initiated and maintained as a project of the Biological Survey of Canada, *CJAI* is a fully refereed journal dedicated to the publication of expert-authored taxonomic reviews and associated digital identification tools. Current and past issues can be freely accessed online at <http://www.biology.ualberta.ca/bsc/ejournal/ejournal.html>.

Respectfully submitted,

November 6th, 2012

Kevin Floate

Regional Director to the ESC

2012
Northern Director's Report
Stephane Bourassa
Edmonton 5, November 2012

Entomological Events:

National Bee Diagnostic Center opened September 5 in Beaverlodge. This facility "will address the current crisis in bee health, as well as offer comprehensive honeybee diagnostic services and surveillance data to industry and government/regulatory bodies"

New intro to entomology course taught by Kevin Judge at MacEwan University.

On March 15th, Nadir Erbilgin presented on the invasion dynamics of the Mountain pine beetle in the Renewable Resources Seminar Series

On March 23, Adam Chippendale from Queen's University talked about the "The evolutionary battle of the sexes: arms race or tug-of-war?" during the annual Strickland Lecture hosted this year by Heather Proctor.

Students currently enrolled in Entomology at U of A:

Maya Evenden: 6 students

Tyler Wist, PhD. Chemically-mediated tritrophic interactions among *Caloptilia fraxinella* its ash hosts (*Fraxinus*) and parasitoid *Apanteles polychrosidis*.

Joelle Lemmen, PhD. Mechanisms of pheromone response plasticity in the long-lived moth *Caloptilia fraxinella* (Lepidoptera: Gracillariidae).

Boyd Mori, PhD. Pheromone-based management of the red clover casebearer (*Coleophora deauratella*).

Chaminda De Silva, PhD. Oviposition behaviour of the bertha armyworm, *Mamestra configurata*.

Jessica Kwon, MSc. Development of a semiochemical-based attracticide to attract and kill two invasive pests of apple in British Columbia.

Ronald Batallas, MSc. Preference and performance of generalist cutworms on prairie crops.

Jens Roland: 3 students

Kurt Illerbrun, PhD. Effect of herbivory by alpine *Parnassius* butterfly larvae on the spatial dynamics of its host plant, *Sedum lanceolatum* the lance-leaved stonecrop.

Jennifer Waller, MSc. dynamics of the parasitoid community of the forest tent caterpillar at the front of a host population 'traveling wave'.

Kristine Teichman, MSc. Trophic cascades in the Aspen Parkland: Effects of ungulate density on shrub-dependent bird and butterfly species

Heather Proctor: 4 students

Jeffrey Newton, PhD. Effects of climate change and grazing intensity on diversity and food-web structure of rangeland microarthropods.

Kaylee Byers, MSc. Sexual coevolution of feather mite genitalia.

Lindsey Wilson, MSc. Effects of iron treatment for eutrophication on freshwater invertebrates.

Qi Liu, M.Sc. Diversity of Chironomidae in Alberta and their potential as indicators of anthropogenic impacts.

Graduated:

Bronwyn Willams, PhD. Population genetic to determine the points of origin of both the crayfish *Orconectes virilis* and its symbiotic branchiobdellidan worms.

Felix Sperling: 6 students and 3 postdoctoral fellow

Jasmine Janes, postdoctoral fellow. Population genomic of mountain pine beetle.

Karina da Silva Brandao, postdoc/ academic visitor. Population genetics and molecular diagnostics of tortricid moths and ticks.

Marcelo Brandao, postdoctoral fellow. Bioinformatics of the spruce budworm transcriptome.

Julien Dupius, PhD. Speciation and hybridization in swallowtail butterfly species complexes.

Marla Schwarzfeld, PhD. Diversity and taxonomy of parasitic ichneumon wasps in Alberta (Hymenoptera: Ichneumonidae), with special reference to *Ophion* species.

Bryan Brunet, PhD. Genomic architecture of species differences between spruce budworm of the *Choristoneura fumiferana* group in western Canada (Lepidoptera: Tortricidae).

Giovanny Fagua , PhD: Speciation in western spruce budworms.

Heather Bird, MSc. Genetic relationships between the species of the *Choristoneura* complex.

Graduated:

Sarah Leo, MSc. Population genetics of winter ticks (*Dermacentor albipictus*) in Alberta.

Andrew Keddle: 2 students

Jennifer Biliske, PhD. Investigating the role of insulin signalling in *Wolbachia* - insect host interactions.

Philip Batista, PhD. Investigating the association of *Wolbachia* with cabbage seedpod weevil and its parasitoids.

Lloyd Dosdall: 6 students

Sharavari Kulkarni, PhD. The role of seed-feeding carabid beetles in canola agroecosystems.

Sadia Munir, PhD. The biology of natural enemies of the diamondback moth.

Lynae Vandervalk MSc. Integrated management of Varroa mite parasites of honeybees.

Dan Stanton The genetics and mechanism of resistance to root maggots in resistant canola germplasm.

Swaroop Kher: The biology and control of the cereal leaf beetle.

John Spence: 5 students, 1 PDF

Seung-II Lee, PhD. Saproxylic beetle conservation in relation to partial harvest and retention patch size.

Jared Amos, MSc. Impact of forestry on insect pollinators.

Graduated:

Colin Bergeron, PhD. Boreal forest ecology and biodiversity of carabid beetles in relation with forest history revealed by dendrochronology.

Esther Kamunya, PhD. Insect ecology, biological diversity and conservation of moth in relation to partial harvest in the boreal forest (Lepidoptera).

Charlene Wood, MSc. Investigation of saproxylic beetle habitat associations from dead trembling aspen (*Populus tremuloides*) snags (standing deadwood) and logs (fallen deadwood).

Evan Esch, MSc. Investigation of the life history traits of the mountain pine beetle, *Dendroctonus ponderosae* (MPB), in whitebark pines, *Pinus albicaulis*.

John Acorn: 1 student

Christianne McDonald, MSc. Systematics and cognitive taxonomy of anglewing butterflies.

Graduated:

James Glassier: MSc, 2nd year. Ecology of ants in jackpine sandhill ecosystems. Co-supervised with Scott Neilsen. Has ACA Biodiversity Grant.

Nadir Erbilgin: 7 students

Devin Goodsman, PhD. Reducing mountain pine beetle (*Dendroctonus ponderosae*) impact by managing stand vigor to increase tree defenses and resistance.

Ashley-Anne Wick, MSc. Conservation of the metalmark butterfly (*Apodemia mormo*).

Jessica Klutsh, PhD. *Dynamic of the interaction between Mountain Pine Beetle and Jackpine.*

Crisia Tabacaru, PhD. Reproductive success of mountain pine beetle (*Dendroctonus ponderosa*) in burned and unburned stands to determine whether beetles preferentially locate and breed in fire-injured trees.

Paul Cigan, MSc. Conifer seedling regeneration in mountain pine beetle-killed forests: The role of ectomycorrhizal fungi.

Guncha Ishangulyyeva, MSc. How host tree fatty acid contents affect fat content of Mountain Pine Beetle?

Ahmed Najarr, PhD. Interaction between hybrid poplar trees and *Septoria musiva* canker.

Graduated:

Janet Ariss, MSc. Effects of interactions between bacteria and fungi on mountain pine beetle (*Dendroctonus ponderosae*) reproduction in three host tree species.

Ahmed Najar, MSc. Role of plant growth and biomass intolerance and resistance of aspen to forest tent caterpillar (*Malacosoma disstria*) in western Canada.

Jenny Lazebnik, MSc. Importance of plant volatiles for the induction of resistance to mountain pine beetle (*Dendroctonus ponderosae*) in neighbouring trees.

Jocelyn Hall: 1 student

Monica Higuera, MSc. Pollination ecology and pollination genetics in *Cleome serrulata* and *Polanisia dodecandra*.

Respectfully submitted,

Stephane Bourassa

**2012
Central Director's Report
Tonya Mousseau
Edmonton, 5 November 2012**

I. University of Calgary

Insect Collection

The University of Calgary Insect Collection is still growing at 5-7% year under the care of John Swann. There have been four new donations of collections this year (similar to previous years). The collection is still sending out between 12-18 loans/year. They have started to send out all their BC spiders to Robb Bennett and Claudia Copley for their work on BC spider fauna. John Swann will be presenting a poster at the 2012 ESC/ESA JAM to promote the collection.

Courses

British Virgin Islands Field Course (R. Longair)

“Ecology and Biogeography of the Carribean” field course (with major insect components). This is a proposed course expected to run May-June 2012.

Graduate and other research

Ralph Cartar Lab

Megan Evans, MSc. Cattle grazing and pollination communities in the rough fescue grassland. (co-supervisor: Mark Wonneck, Agriculture Canada)

Alexandria Farmer, MSc. Logging and invasive plant-pollinator interactions in foothills forest. (co-supervisor: Robin Owen, Mount Royal University)

Lindsay Zink, MSc. Pollination of canola by wild bees (co-supervisor: Mark Wonneck)

Greg Earle (UVic): The influence of wing-wear on foraging in a bumblebee community.

Jeremy Fox Lab (community ecology)

Colin Olito, MSc. Alpine plant-pollinator networks

Lee Jackson Lab (aquatic ecosystems)

Madison Kobryn, MSc, Macroinvertebrate response to nutrient enrichment in rivers.

Mary Reid Lab (behavioural ecology of bark beetles and others)

Leanna Lachowsky, PhD. Sex ratio variation in mountain pine beetles.

Haydee Peralta-Vazquez, PhD candidate. Ecology of mite parasitism on bark beetles

Mathias Kaiser, MSc Candidate. Acoustic ecology of mountain pine beetles.

Jana Vamosi Lab (plant-pollinator interactions)

Some of the members of Canpolin (Canadian Pollen Initiative) recently published a meta-analysis and review of whether increased pollinator diversity affects the pollination of plant species and found there was little effect:

Davila YC*, E Elle, JC Vamosi, L Hermanutz, JT Kerr, CJ Lortie, AR

Westwood, TS Woodcock, & A Worley. 2012. Ecosystem services of pollinator

diversity: a review of the relationship with pollen limitation of plant reproduction, *Botany* 90:535-543.

Jennifer Muir, MSc. Plant invasions, pollinators, and phylogenetic community structure

Jennifer has found that the presence of an invasive broom, *Cytisus scoparius*, has idiosyncratic effects on the pollination of native species, seemingly facilitating the pollination of some and hindering the pollination of others.

Ezgi Ogutcen, PhD candidate. Pollinator change over altitudinal gradients in Alberta. Ezgi is in the beginning of her program and does not have results to report yet. She is currently reconstructing the evolution of bird pollination in the family Plantaginaceae.

Steven Vamosi Lab (evolutionary biology)

Stephen Hausch (MSc student, co-supervised with J. Fox). Trait evolution and species coexistence in bruchine seed beetles

Chandra Venables (PhD student). Phylogenetics and phylogeography of predaceous diving beetles in the Tribe Agabini

Rob Longair

Rob Longair will be supervising an undergraduate research project (student: Patrick Peikarski) on the molecular phylogeny of vespid wasps.

II. Mount Royal University

The Evolutionary Biology course (Biol-3106) is running this term (Fall 2012) with 18 students. Robin Owen has been developing research projects for undergraduate students. This term he has two students doing Independent Studies courses (Biol-5201) and will have four next semester. They are and will be working on various aspect of hymenopteran biology, mainly bumble bees, including using geometric morphometrics of wing shape to examine various problems such as allometry and fluctuating asymmetry. Mount Royal University now has dedicated research space for faculty and their students and has provided funding for a dissecting microscope, camera and computer dedicated for entomological research.

III. Olds College

Ken Fry continues to work with STOpDED (Society to Prevent Dutch Elm Disease) on elm bark beetle monitoring and processing trap residues for the alien invasive species surveillance e-program with STOpDED and the CFIA (Canadian Food Inspection Agency).

IV. Education and Outreach

Mary Reid, Ralph Carter, Ken Fry, and others participated in the Bug Jamboree at the Ellis Bird Farm in Lacombe in August 2012

Respectfully submitted,
Tonya Mousseau
Central Director

2012
Southern Director's Report
Vincent Hervet
Edmonton, 5 November 2012

People

Dr. Shelley Hoover, a “bee” research scientist, started her new position on October 1st 2012 at the Lethbridge Research Centre with Alberta Agriculture and Rural Development. Dr. Hoover is currently working on pollination of canola.

Event

Members of the Entomological Society of Alberta in Lethbridge, in collaboration with the Birds of Prey Centre in Coaldale, AB, and volunteers, worked together to set up a second Insect Discovery Day that took place on August 25th 2012 at the Birds of Prey Centre. Luckily, nice weather lasted throughout the day. The children caught many insects with sweep nets, hoop nets or sometimes bare hands and asked numerous questions, which kept them, as well as us, busy and happy. The public attendance was higher than last year's event, with roughly twice the number of visitors. Participating entomologists and the Birds of Prey Centre's Director Colin Weir are keen to continue the Insect Discovery Day as yearly event. The Birds of Prey Centre is considering purchasing its own entomological equipment, such as glass jars and nets. A few days before the event, Kevin Floate and Colin Weir (and a male Madagascar hissing cockroach) were interviewed by a reporter from Global News. Unfortunately, due to a technical problem the interview was not aired on TV but was available online. Colin Weir is considering hiring a professional to better advertise this event for next year. Following the Insect Discovery Day, an article was published in the Lethbridge Herald (see page 2).



Respectfully submitted,
Vincent Hervet



Herald photo by David Rossiter

Lethbridge Research Centre bug specialist Kevin Floate instructs Kennedy Jones, 10, on catching bugs during Insect Discovery Day at the Alberta Birds of Prey Centre in Coaldale.

Kids go bug-eyed over insects

CUTWORM RESEARCHER SAYS KNOWLEDGE KEY TO CONTROLLING DAMAGE

Conor Beagan
Lethbridge Herald

Whether it swam, crawled or flew, kids and adults alike learned about all of their favourite insect on Saturday afternoon at Insect Discovery Day.

Members of the Entomological Society of Alberta invited the public to the Alberta Birds of Prey Centre in Coaldale to learn about resident insects and have up-close encounters with insects used in scientific research.

Three stations were open where patrons could look, learn and participate.

At the pond station, kids caught insects in the water, later examining their finds in a terrarium and learning about them. The field station attracted those keen on butterflies, dragonflies and other flying insects. The indoor station provided a showcase of preserved

insects from all over the world.

Jeremy Hummel, an Agriculture instructor at Lethbridge College said that he and his fellow volunteers enjoy donating their time to help people of all ages learn about insects. Hummel was manning the field exhibit, coaching kids with butterfly nets and answering all of their questions. Hummel's exhibit included several specimens of an insect synonymous with crop damage, the cutworm.

Cutworms are moth larvae that live under the soil and emerge at night to feed on plants. Previously thought of as three different species that only affected cereal crops, these insects are quickly becoming a farmer's worst nightmare as they move onto canola, peas, lentils and others.

Hummel said researching and learning about insects is not only interesting, but integral in solving modern pest-control problems. "There are about a dozen different species (of cutworms) that all do slightly different things. They are becoming a bigger concern, and we don't know enough about them to have really targeted controls," said Hummel. "If we can target

controls, we can save farmers money and save the environment."

Vice President of the Entomological Society of Alberta, Rosemarie De Clerck-Floate Ph.D., said there are some studies going on examining possible cutworm controls at the Agriculture and Agri-Food Canada Research Centre, where she works as a research scientist. De Clerck-Floate hosted the indoor exhibit, and emphasized how important specimens, both live and preserved, are to learning about the insect world.

Members of the Entomological Society began Insect Discovery Day last year after meeting with Alberta Birds of Prey Centre Director Colin Weir at a conference. After realizing there were so many experts available to lend their knowledge, Insect Discovery Day became a reality in 2011.

"We wanted to expose people to all parts of nature, not just birds of prey," said Weir. "We are absolutely thrilled that they are here because the Centre is not just about hawks, eagles and owls. These people bring in a whole area of expertise that we don't have, and we are very grateful."

**2012
Webmaster's Report
Alec McClay
Fall 2012**

The main activity in 2012, and a time-consuming one, has been the development of the website for the Joint Annual Meeting with the Entomological Society of Canada in Edmonton in November. The site was developed using the 2011 Halifax JAM site as a template, with assistance from Rick West (ESC Webmaster), who developed the Halifax site, and Véronique Martel, Chair of the ESC Bilingualism Committee, who provided French translations. The site at <http://www.entsocalberta.ca/JAM2012/> went live on May 23. Thanks to all the members of the Local Organizing Committee who provided information for the site. The purchase of Dreamweaver by the Society has greatly facilitated the development and maintenance of the site.

The main Society pages have been updated with details of the 2012 Board of Directors and other minor edits and updates have been made as they were pointed out by members.

I appreciate the help of Board members who from time to time have pointed out information on the site that needs to be updated. As always, please let me know if there are any questions or concerns about the site.

Respectfully submitted

Alec McClay
Webmaster

November 1, 2012

**2012
Secretary's Report
Ken Fry**

Report for the Period May 16 – October 31 2012

I received/tracked four (4) items in my capacity as ESA Secretary:

1. JAM Committee Actions (48 documents, 131 emails)
2. University of Alberta Entomology Department Reunion (8 documents, 12 emails)
3. Travel Grant Award Applications
4. Undergraduate Award Applications

I retained discussions and correspondence conducted via email totaling one hundred three (103) messages.

As Secretary I issued eight (8) email notices to the membership (all member notices also posted to the ESA FaceBook group):

- | | |
|--|-------------|
| 1. ESC/ESA JAM Announcement | May 23 2012 |
| 2. Petition Request (Executive only) | May 25 2012 |
| 3. JAM Hotel Notice | Sep 10 2012 |
| 4. ESA Awards Notice | Sep 14 2012 |
| 5. M.Sc. Opportunity | Sep 14 2012 |
| 6. COSEWIC Notice | Sep 20 2012 |
| 7. ESC/ESA JAM Program | Sep 26 2012 |
| 8. ESA AGM Announcement | Oct 6 2012 |

Letters/items retained

1. First Data Account Statements (5)
2. Society's Annual Return to the Province
3. Entomology Outreach Newspaper Articles (2)

Caretaking items:

The FaceBook has 71 members on FaceBook.

The Membership email list was updated based on the 2011/12 membership list

**2012
Treasurer's Report
Caroline Whitehouse
Edmonton, 5 November 2012**

Memberships:

Total Memberships (on the books / in good standing)	
Regular	98 / 36
Student	50 / 23
Honourary	6
Free Library	20
Subscription Library	3 / 2

Opening Balance January 2011

Assets

Cash (bank account)	\$4,753.33
Term deposits	\$15,000.00
Common shares (Credit Union shares)	\$628.52
Total Assets	<u>\$20,356.40</u>

Liabilities & Equity

Total Liabilities	\$0.00
Equity	<u>\$20,356.40</u>
Liabilities plus Equity	<u>\$20,356.40</u>

Kananaskis Field Station, AB -- ESA Annual Meeting 2011

<u>Costs</u>	\$4,722.60	Kananaskis Field Station
	\$1,500.00	Student Awards
	\$ 225.07	Abstracts Printing
	\$ 235.11	Misc. Expenses
	\$ 250.00	Speaker Gift
Total Meeting Costs		- \$6932.78

Revenues

Registration Revenues	+ \$5475.00
Total	<u>- \$1457.78</u>

Other Transactions

Credits:

Investment Interest	\$ 206.70
Balance from 2010 Joint Meeting	\$ 340.32
Membership renewals	\$ 865.46
AB Canola Prod. Comm. JAM Contrib.	\$1,500.00

Debits:

Proceedings & Mailout	\$ 59.02
Dreamweaver Purchase	\$ 446.85
Exec. Mtg. Food – Brian VanHezewik	\$ 61.20
Bank Fees	\$ 31.00
MC/VISA Transaction Charges	\$ 6.00
Misc	\$ 14.00

Closing Balance December 31, 2011:

Assets

Cash (bank account)	\$5814.96
Term deposits	\$15,000.00
Common shares (Credit Union shares)	\$628.53
Total Assets	<u>\$21,443.11</u>

Liabilities & Equity

Total Liabilities	\$0.00
Equity	<u>\$21,443.11</u>
Liabilities plus Equity	<u>\$21,443.11</u>

Photos



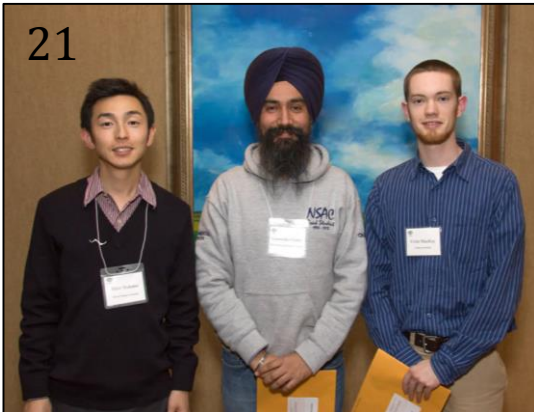
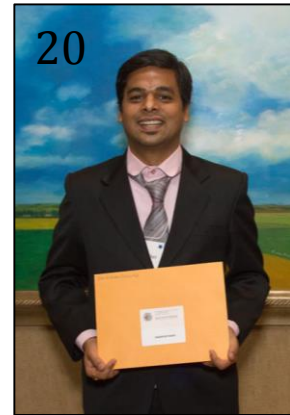
1. Rose De Clerck-Floate and Robb Bennett. 2. Rose and Neil Holliday. 3. Rose and Felix Sperling. 4. Rose and Gary Gibson. 5. Robb Bennett, Gary Gibson and Neil Holliday who were made Fellows of the Entomological Society of Canada and Felix Sperling received the Entomological Society of Canada Gold Medal.



6. Charles Bird being awarded the Norman Criddle Award and Kevin Floate. 7. Rose De Clerck-Floate and Brent Sinclair who received the ESC C. Gordon Hewitt Award. 8. Rose and Michael Cusson receiving an ESC Service Award. 9. Ann Bird, Charles Bird and Heather Bird. 10. Felix Sperling.



11. Jeremy Kerr. 12. Dan Rubinoff. 13. John Acorn. 14. Dan Rubinoff, Jeremy Kerr and Wayne Maddison. 15. Wayne Maddison. 16. John Spence. 17. Greg Pohl.



18. Crystal Ernst and Anna Solecki who received ESC Scholarships. 19. Julia Mlynarek who received an ESC Travel Award. 20. Swaroop Kher who received the John Borden award. 21. Ikkei Shikano, Gurminder Singh Chahil and Colin MacKay who received Ed Becker Travel Awards. 22. Krisztina Modossy, Yan-Yan Li, Vincent Hervet, Leanna Lachowsky and Haydee-Peralta-Vazquez who received ESC Travel Grants.



23. President's Prize Winners: Paul Abram, Crystal Ernst, Julian Dupuis, Kurt Illerbrun, Ashley Wick and Leanna Lachowsky. 24. Graduate Student Symposium Speakers: Sara Semmler, Colin Bergeron, Kurt Illerbrun, Tyler Wist, Lukas Seehausen and Krisztina Modossy. 25. Banquet music featuring John Acorn, Julian Dupuis, Lisa Lumley, Colin Bergeron and Stephane Bourassa.

Entomological Society of Alberta List of Members

Last	First	Organization/Address	City
Honorary Members			
Ball	George	Dept. of Biological Sciences	Edmonton, AB
Byers	Bob	AAFC Research Centre	Lethbridge, AB
Gurba	Joe		
Gushul	Evan		
Shemanchuk	Joseph		
Regular Members			
Acorn	John		
Bahar	MD Habibullah	AAFC Saskatoon Research Centre	Saskatoon, SK
Ball	Kay		
Barkley	Shelley	Alberta Agriculture	
Barr	William	City of Edmonton	
Bercha	Robert		
Bird	Charley		
Bourassa	Stéphane	University of Alberta	
Bourchier	Rob	AAFC Research Centre, Crop Sciences Section	Lethbridge, AB
Brandao	Karina Silva	Sao Paulo University	
Brandao	Marcelo Mendez	Sao Paulo University	
Brons	Gloria	Butterfly Wings n' Wishes	Edmonton, AB
Byrtus	Gary		
Cárcamo	Héctor	AAFC Research Centre, Crop Sciences Section	Lethbridge, AB
Cartar	Ralph	University of Calgary	Calgary, AB
Cheema	Jagdish		
Cooke	Barry		
Crowe	Michael	Lakeland College	
Cuny	Robert	Lakeland College	Lloydminster, AB
Davies	Milton		Edmonton, Ab
DeClerck-Floate	Rosemarie	AAFC Research Centre	Lethbridge, AB

Dergoussoff	Shaun	Agriculture and Agri-Food Canada	
Dosdall	Lloyd	University of Alberta	Edmonton, AB
Erb	Stephanie	AAFC Research Centre	Lethbridge, AB
Erbilgin	Nadir	University of Alberta	
Evenden	Maya	University of Alberta	Edmonton, AB
Floate	Kevin	AAFC Research Centre	Lethbridge, AB
Fry	Ken	Olds College	Olds, AB
Heming	Bruce	University of Alberta	Edmonton, AB
Herle	Carolyn	AAFC Lethbridge	Lethbridge, AB
Hilchie	Gerald	University of Alberta	Edmonton, AB
Hindmarch	Trevor		
Holmberg	Robert	Centre for Science	Athabasca, AB
Honsameddin	Elkrwe		Edmonton
Hundsdoerfer	Anina	Alberta Sustainable Resource Development	Edmonton, AB
Johnson	Elaine	City of Red Deer	
Judge	Kevin	Grant MacEwan University	Edmonton, AB
Kanashiro	Derrick	AAFC Research Centre	Lethbridge, AB
Katzell	Susan	City of Red Deer	
Laird	Robert	University of Lethbridge	Lethbridge, AB
Larson	David	Augustana University College	Camrose, AB
Larson	Tracy	AAFC Research Centre	Lethbridge, AB
Leggett	Fran	AAFC Research Centre	Lethbridge, AB
Lehman	Ken	City of Red Deer	Red Deer, AB
Linowski	Ron	Medicine Hat College	Medicine Hat, AB
Longair	Robert	Dept. of Biological Sciences	Calgary, AB
Luong	Lien	University of Alberta	Edmonton Alberta
Lvie	Tyler		
Mark	Michelle	University of Alberta	
Maximchuk	Mike	Alberta Sustainable Resource Development	Peace River, AB
McClay	Alec	McClay Ecoscience	Sherwood Park, AB
McKellar	Ryan	Department of Earth and Atmospheric Science	Edmonton, AB
Milligan	Patricia		
Moir	Grant	City of Red Deer	
Mousseau	Tonya	Mount Royal University	
Oliver	Mark		
Otani	Jennifer	AAFC	Beaverlodge, AB

Owen	Robin	Department of Biological Sciences	Calgary, AB
Oxbrough	Anne	University of Alberta	Edmonton, AB
Peterson	Jason	4023 Hamilton Hall, 8888 University Drive	Burnaby, BC
Phillips	Iain	Saskatchewan Watershed Authority	Saskatoon, SK
Pohl	Greg	Department of Natural Resources, Canadian Forest Service, Northwest Region	Edmonton, AB
Pritchard	Gordon	Dept. of Biological Sciences	Calgary, AB
Proctor	Heather	Dept. of Biological Sciences	Edmonton, AB
Qamar	Muhammad	Alberta Health Services	
Rajput	Sunil	Alberta Innovates Technology Futures	Vegreville, AB
Ranasinghe	Sunil	Alberta Sustainable Resource Development	Edmonton, AB
Reid	Mary	Dept. of Biological Sciences	Calgary, AB
Rochon	Kateryn	Agriculture and Agri-Food Canada	Lethbridge, AB
Rondeau	Kimberly		
Sarafraz	Rana	University of British Columbia	Vancouver, BC
Sexsmith-West	Maureen		
Sharpe	Andrea		
Smith	Alexander	University of Alberta	Edmonton, AB
Spence	John	Department of Renewable Resources	Edmonton, AB
Sperling	Felix	University of Alberta	Edmonton, AB
Sperling	Janet		
Stevenson	Margaret	City of Red Deer	
Sturtevant	Brian	USDA Forest Service	
Swann	John	University of Calgary	Calgary, AB
Tansey	James	University of Alberta	Edmonton, AB
Thysse	Adrian		
Van Hezewijk	Brian	Agriculture and Agri-Food Canada	Lethbridge, AB
Waelchli	Fred		
Walgama	Ravindra		
Walsh	Peter	Lakeland College	Vermilion, AB
Walter	Dave	University of Alberta	
Whitehouse	Caroline	University of Alberta	Edmonton, AB
Williams	Daryl		

Student Members

Barnewall	Emily	University of Lethbridge, AAFC	Lethbridge, AB
Batista	Philip	University of Alberta	Edmonton, AB
Bird	Heather	University of Alberta	
Blair	Leah	AAFC	Lethbridge, AB
Blake	Adam	University of Alberta	Edmonton, AB
Brunet	Bryan	University of Alberta	Edmonton, AB
Byers	Kaylee	University of Alberta	
Cigan	Paul	University of Alberta	
Dombroskie	Jason	Dept. of Biological Sciences	Edmonton, AB
Dupont	Jaimee	University of Winnipeg and NCC	
Dupuis	Julian Rowe		
Esch	Evan	University of Alberta	
Evans	Megan	University of Calgary	
Farmer	Alexandria	University of Calgary	
Fox	Jennette	Carleton University	
Glasier	James	University of Alberta	Edmonton, AB
Hervet	Vincent	University of Lethbridge	
Hummel	Jeremy	University of Alberta	Edmonton, AB
Jaeger	Christi	University of Alberta	
Kher	Swaroop	University of Alberta	Edmonton, AB
Klutsch	Jennifer	University of Alberta	Edmonton
Kulkarni	Sharavari	University of Alberta	
Kwon	Jessica	University of Alberta	
Lachowsky	Leanna	University of Calgary	Calgary, AB
Lecourtois	Caroline		
Lee	Seung-Il	University of Alberta	Edmonton, AB
Lemmen	Joelle	University of Alberta	Edmonton, AB
Leo	Sarah	University of Alberta	
Li	Yanyan	Agriculture and Agri-food Canada	Lethbridge, AB
Lumley	Lisa	University of Alberta	Edmonton Alberta
McDonald	Christianne	University of Alberta	
McLeod	Lauren	University of Alberta	Camrose, AB
Mori	Boyd	University of Alberta	
Mosdosy	Krisztina	University of Calgary	Calgary, AB

Newton	Jeffrey	University of Alberta	Edmonton Alberta
Oatway	W. Keenan	University of Alberta	
Odsen	Sonya		
Oliver	Tom		
Peralta Vazquez	Haydee	University of Calgary	
Pinzon	Jaime	Dept. of Renewable Resources	Edmonton, AB
Proshek	Benjamin	University of Alberta	Edmonton, AB
Ritter	Scott		
Schwarzfeld	Marla	University of Alberta	Edmonton
St. Onge	Amanda	University of Alberta	
Subra	Ravi		
Subramaniam	Ravindran	University of Alberta	
Van Haga	Amanda	University of British Columbia	
Vandervalk	Lynae	University of Alberta	
Vankosky	Meghan	University of Windsor	
Wist	Tyler	University of Alberta	Edmonton, AB
Wood	Charlene	University of Alberta	
Wu	Xiuhua		
Zink	Lindsay	University of Calgary	

Library Subscriptions

Archives, Entomological Society of Alberta	Agriculture and Agri-Food Canada, Lethbridge Research Station	Lethbridge, AB
Athabasca University College Library	Athabasca University College	Athabasca, AB
Augustana University College Library	Augustana University College	Camrose, AB
Cameron Library, University of Alberta	Cameron Library, 5th floor, Periodicals, University of Alberta	Edmonton, AB
Concordia University College Library	Concordia University College	Edmonton, AB
Glenbow Alberta Institute	Glenbow Alberta Institute	Calgary, AB
Grande Prairie Regional College Library	Grande Prairie Regional College	Grande Prairie, AB
Lakeland College Library	Lakeland College	Vermilion, AB
Lethbridge Research Centre	Agriculture and Agri-Food Canada, Lethbridge Research Station	Lethbridge, AB
Medicine Hat College Library	Medicine Hat College	Medicine Hat, AB
N.A.I.T. Library	N.A.I.T.	Edmonton, AB
National Library of Canada	National Library of Canada, Serials Records Section, Acquisitions and Bibliographical Services	Ottawa, ON
Northern Forestry Centre Library	Canadian Forest Service, Northern Forestry Centre	Edmonton, AB
Olds College Library	Olds College	Olds, AB

Provincial Museum and Archives
Red Deer College Library
S.A.I.T. Library
Strickland Library
University of Calgary Library
University of Lethbridge Library
Albert R. Mann Library
Colorado State University Libraries

Universitaetsbibliothek

Provincial Museum and Archives
Red Deer College
S.A.I.T.
University of Alberta
University of Calgary
University of Lethbridge
Albert R. Mann Library, Cornell University
Colorado State University Libraries

Senckenberg // Zeitschriftenabteilung/DFG

Edmonton, AB
Red Deer, AB
Calgary, AB
Edmonton, AB
Calgary, AB
Lethbridge, AB
Ithaca, NY
Fort Collins, CO
FRANKFURT AM
MAIN

The Entomological Society of Alberta

The Entomological Society of Alberta was organized November 27, 1952, at a meeting held in Lethbridge, Alberta, as an affiliate of the Entomological Society of Canada. A certificate of incorporation was obtained under the Societies Act of Alberta on February 19, 1953.

The membership of about 70 paid-up members at that time consisted mainly of Dominion (Federal) entomologists at the Science Service Laboratories in Lethbridge (now an Agriculture and Agri-Food Canada Research Station), the Suffield Research Station, the Forest Zoology Laboratory in Calgary, and students and staff from the University of Alberta.

The objective of the Entomological Society of Alberta (ESAB) shall be to foster the advancement, exchange, and dissemination of the knowledge of insects in relation to their importance in agriculture, horticulture, forestry, public health, industry, the environment, and for its own sake, among the people of the province of Alberta.

Membership is open to anyone interested in Entomology. Annual dues are \$20.00 (\$10.00 for students). Contact the Treasurer via the society website:

<http://www.entsocalberta.ca/esa.htm>

