Entomology on the Edge

68th Annual Meeting of the Acadian Entomological Society

June 15-17, 2008
Battery Hotel, St. John's, NL

AGENDA

Sunday, June 15, 2008

1:00 – 4:00 p.m. Coastal Collecting Trip, East Coast Trail
(Note: Meet at 1:00 pm in Battery Hotel lobby)

7:00 – 9:00 p.m. Registration & Reception
Riverhead Room, Battery Hotel

Monday, June 16, 2008 – Riverhead Room, Battery Hotel

8:00 – 9:00 a.m. Registration

9:00 – 9:10 a.m. Welcome – Carolyn Parsons, AES President

9:10 – 9:55 a.m. Keynote address – *The History of Entomology in Newfoundland: Entomological observations from an early naturalist in Newfoundland and observations 175 years later*.
Barry Hicks, College of the North Atlantic

9:55 – 10:00 a.m. Biology at MUN – Paul Marino, Department of Biology, Memorial University

Student papers: Moderator - Paul Marino

10:00 – 10:15 a.m. Agricultural insect pest compromises survival of endemic plants
Susan Squires, Department of Biology, Memorial University

10:15 – 10:30 a.m. Host preference in Hairy Chinch Bug (*Blissus leucopterus hirtus*)
Robyn Auld, Department of Biology, Memorial University / Agriculture & Agri-Food Canada

10:30 – 11:00 a.m. Refreshment Break

Contributed papers: Moderator – Susan Squires

11:00 – 11:15 a.m. Vacuuming as a Treatment for Chinch Bug Infested Lawns
Nancy Hudson, NL Horticulture Producers Council

11:15 – 11:30 a.m. Colony longevity and predation in a native aphid on a woodland wildflower: some data
Bob Lamb and Pat MacKay
Agriculture and Agri-Food Canada, Winnipeg, and Department of Entomology, University of Manitoba

Monday, June 16, 2008 – Riverhead Room, Battery Hotel

Contributed papers: Moderator – Susan Squires

11:30 – 11:45 a.m. Colony longevity and predation in a native aphid on a woodland wildflower: the perpetrators
Pat MacKay and Bob Lamb
Department of Entomology, University of Manitoba, and Agriculture and Agri- Food Canada, Winnipeg

11:45 – 12:15 Forest Insect Research in Newfoundland – An Historical Perspective
Kevin Pardy

12:15 – 1:00 p.m. Lunch

1:00 – 1:30 p.m. **Poster Session**

Herbivore damage and saline stress tolerance in the Gulf of St. Lawrence Aster
J. Ancheta and S.B. Heard

Biology of the intertidal mite *Neomolgus* littoralis (L.) (Acarina: Bdellidae) in the lower Bay of Fundy
Allen Crooker and Kirsten Underwood

What in the world?? A global perspective on *Delia* spp research.
Peggy L. Dixon, Carolyn Parsons, Janet Coombes, and Julie Soroka

Suppression of *Ennomos subsignaria* (Lepidoptera: Geometridae) on *Acer pseudoplatanus* (Aceraceae) in an urban forest using bole-implanted acephate
Heidi R. C. Fry, Krista L. Ryall, Peggy L. Dixon, and Dan T. Quiring

Vacuum Treatment Alternative to Chemical Pesticide for Chinch Bug Control
Nancy Hudson, Susan Knight and Peggy L. Dixon

Changes in the carabid beetle community in response to the use of reflective groundcovers in berry crops
Gaétan Moreau and Jean-Pierre Privé

Monday, June 16, 2008 – "The Rooms"

4:00 – 6:00 p.m. Private tour, Natural History and Archaeology Galleries at The Rooms
(Note: meet 3:30 in hotel lobby or 3:55 at The Rooms)

6:00 – 11:00 p.m. Banquet and Cash Bar, The Rooms Café, Music to follow by the Mahers Bahers. Meal will be served at 6:30 p.m.

Tuesday, June 17, 2008 – Riverhead Room, Battery Hotel

Contributed papers: Moderator – Robyn Auld

9:00 – 9:15 a.m. Comparative insect olfaction: mixture detection, processing and output
Kirk Hillier, Department of Biology, Acadia University

9:15 – 9:30 a.m.	Influence of temperature and tree growth rate on incidence of gouting by the balsam woolly adelgid. **Dan Quiring**, Population Ecology Group, Faculty of Forestry and Environmental Management, University of New Brunswick
9:30 – 9:45 a.m.	Vector-borne disease surveillance and research activities **Dr. Laura Rogers**, Veterinary Pathologist, Animal Health Division, Department of Natural Resources, NL
9:45 – 10:00a.m.	Intra-and interspecific interactions between carrion insects at carcasses **Gaétan Moreau, Jessy Phillips, Jean-Philippe Michaud**, Département de Biologie, Université de Moncton
10:00 – 10:30 a.m.	**Refreshment Break**
10:30 – 10:45 a.m.	The impact of native bees on Lowbush Blueberry (*Vaccinium angustifolium*) pollination in managed and un-managed plots in Eastern Newfoundland **Barry Hicks**, College of the North Atlantic
10:45 – 11:00a.m.	The Aquatic Insects of Newfoundland **Murray H. Colbo,** Department of Biology, Memorial University
11:00 – 12:00 a.m.	AES Business Meeting
12:00 – 1:30 p.m.	Lunch – End of meeting
7:00 – 9:00 p.m	Private tour/social, Quidi Vidi Brewery

Abstracts, Oral Presentations

Host preference in Hairy Chinch Bug (*Blissus leucopterus hirtus*)

Robyn Auld
Department of Biology, Memorial University, St. John's, NL, A1B 3X9 and Agriculture and Agri-Food Canada, St. John's, NL, A1E 5Y7.

Blissus leucopterus hirtus (hairy chinch bug) is a destructive turfgrass pest commonly found in Central and Eastern Canada. The host preference of this insect within Newfoundland has not yet been characterized, but is of considerable interest for comparison of host preference across the insect's range. Furthermore, the factors that govern host preference for this bug within the turf environment are currently not well understood. Single tiller and tuft host choice tests were conducted on hairy chinch bug using 12 grass varieties found within Newfoundland. Single tiller tests showed preference by the bug for Timothy and Tall Fescue, with no difference in preference between endophyte and non-endophyte enhanced grasses. Tuft tests, conducted in an area exposed to sunlight, appear to have been influenced by orientation of the tuft to the sun.

The Aquatic Insects of Newfoundland

Murray H. Colbo
Department of Biology, Memorial University, St. John's, NL, A1B 3X9 and 3027 Lovett Rd, Coldbrook, NS, B4R 1A4.

The island of Newfoundland has a depauperate aquatic insect fauna compared to the Maritime Provinces and Maine, despite their northern parts and southern Newfoundland being the same latitude. The current aquatic insect fauna colonized Newfoundland after the last glaciation which ended around 10,000 YBP. The paper characterizes the fauna, with a briefly overview of the taxa present and comparing the richness among certain groups and their ecological traits to the nearby mainland faunas. What this overview shows is in general the fauna is dominated by widely distributed taxa whose range include northern latitudes, although not all such taxa have established populations on the Island. On the other hand the insect communities have a trait composition similar to elsewhere. One interesting aspect of the aquatic insect fauna, compared to the terrestrial fauna, is an almost complete lack of species linked to human introductions.

The History of Entomology in Newfoundland: Entomological observations from an early naturalist in Newfoundland and observations 175 years later

Barry Hicks
College of the North Atlantic, 4 Pike's Lane, Carbonear, NL

The famous British naturalist, Philip Henry Gosse, lived in Carbonear, Newfoundland, between 1827-1835. By making carefully detailed, coloured hand drawings of the insects that he encountered in the area, he made one of the earliest records of insects in Newfoundland. This talk will take us back in time to see what life was like in Newfoundland for this young naturalist and will view some of his amazing drawings. To conclude, I will discuss observations in the same area 175 years later.

The impact of native bees on Lowbush Blueberry (*Vaccinium angustifolium*) pollination in managed and un-managed plots in Eastern Newfoundland

Barry Hicks
College of the North Atlantic, 4 Pike's Lane, Carbonear, NL

While blueberry producers in Newfoundland depend on native bees to pollinate their fields, very little is known about the native bee fauna here. Diversity and abundance of bees was measured by yellow bowl trapping in 2 habitats (managed and un-managed) on the Avalon Peninsula during 2006-2007 and pollination was determined using fruit-set. The results showed that bees in the un-

managed plots pollinated blueberry flowers as good as, or better than, bees in managed plots. This occurred even though the un-managed plots had significantly reduced diversity and abundance of bees. The number of flowers in the managed plots was considerably higher than in the natural plots. While there were higher abundances of bees on the managed plots it is possible that there was insufficient number of bees to pollinate the flowers adequately. The bees mostly nest in the ground, and thus soil moisture may affect the developing larvae. Soil moisture and fruit-set were negative correlated. Soil moisture may have negatively impacted the bee abundances which in turn reduced pollination. Excess moisture can result in fungal growth in the bee cells causing higher mortality.

Comparative insect olfaction: mixture detection, processing and output

Kirk Hillier
Dept. of Biology, Acadia University, 24 University Avenue, Wolfville, NS, B4P 2R6

Insect behaviour is strongly linked to neurophysiology, such that reliable relationships may be inferred from a combined behavioral-neurophysiological research approach. In particular, the olfactory system provides a model for a simple neural network which is easily accessed and manipulated to investigate signal integration, synergy and inhibition of neural signals. Knowledge of host odor processing and insect behaviour can be used to investigate olfactory preference by insects, and to address long-standing ecological theories on host choice, chemical legacy, and mechanisms of odor memory. How are different mixtures of odorants encoded within the insect brain and what degree of variation is evident in physiology, coding and morphology between divergent species? Phylogeny (evolutionary lineage) and habitat (plant preference) are expected to influence representation of odours within the brains of different species, however how are these factors balanced, and what dictates behavioural choice: peripheral sensitivity, antennal lobe processing or higher order behavioural controls?

Vacuuming as a Treatment for Chinch Bug Infested Lawns

Nancy Hudson NL
Horticulture Producers Council, St. John's, NL Canada, A1N 2C3

Vacuum suction effectively removes chinch bugs from grass, which is great news for those seeking alternatives to chemical pesticides. However, problems with equipment must be resolved before vacuuming, as a non-chemical pesticide treatment, can be adopted by the lawn care industry. The extent of both urban lawn-scape and chinch bug habitation warrant the quest for perfecting this technology. Throughout history, vacuums have proven useful for all sorts of functions and with each purpose came an evolution of design. Well, if "what's old is new again", then it is time to resurrect vacuums and put a modern technological spin on them.

Funding is provided by the Newfoundland and Labrador Agri-Adapt Council Inc., in partnership with the Nova Scotia Agri-Futures Council and the New Brunswick Agricultural Council, through the Advancing Canadian Agriculture and Agri-Food (ACAAF) Program; and administered by the NL Horticulture Producers Council. Technical support is provided by Janet Coombes AAFC entomology technician, and Andy Fisher, P.Eng., Faculty of Engineering Memorial University of Newfoundland; industry support is provided by Don Barry, Service Master Lawn Care.

Colony longevity and predation in a native aphid on a woodland wildflower: some data

Bob Lamb and Pat MacKay
Agriculture and Agri-Food Canada, 195 Dafoe Road, Winnipeg, MB, R3T 2M9, and Department of Entomology, University of Manitoba, Winnipeg, MB, R3T 2N2.

Populations of the aphid *Uroleucon rudbeckiae* (Fitch) on its host *Rudbeckia laciniata* are persistent, but individual colonies are short lived. In four populations in Riding Mountain National Park, 90% of colonies survived less than 14 days. In a population in a Winnipeg garden, average colony longevity was similar but individual colonies have been observed to last as long as two months. Nevertheless, colonies rarely, if ever, lasted the whole season. Predation of aphids was heavy and hypothesized

as the cause of low longevity. The role of predation in colony longevity was tested by comparing control colonies with colonies where predators were removed. Colonies where predators were removed increased more rapidly and reached a higher peak, but still collapsed at about the same time as control colonies. Some predators could not be reliably removed. Predation probably determines colony longevity, but a definitive test of the hypothesis has not yet been completed.

Colony longevity and predation in a native aphid on a woodland wildflower: the perpetrators

Pat MacKay and Bob Lamb
Department of Entomology, University of Manitoba, Winnipeg, MB, R3T 2N2, and Agriculture and Agri Food Canada, 195 Dafoe Road, Winnipeg, MB, R3T 2M9.

Predation pressure on colonies of *Uroleucon rudbeckiae* on *Rudbeckia laciniata* is high. Predators include at least 20 species of invertebrates and several vertebrates including a number of species of songbirds. Data will be presented on the frequency of occurrence or prevalence of the commonly seen predators, along with a photographic record of these. The most common and possibly most important insect predators are in the Diptera, including several species in the Syrphidae and one in the Cecidomyiidae. The Hymenoptera are represented by a number of parasitoid wasps in the family Braconidae and a number of predatory wasps, probably in the family Crabronidae. Possibly of lesser importance are the Neuroptera, with at least one species in each of the Chrysopidae and the Hemerobiidae. Occasionally present, but uncommon, are several species of Coleoptera in the family Coccinellidae. Within the arachnids, two species of mites and several species of spiders have been recorded predating aphids, with the spiders probably being important predators.

Intra-and interspecific interactions between carrion insects at carcasses

Gaétan Moreau, Jessy Phillips, Jean-Philippe Michaud
Département de Biologie, Université de Moncton, Moncton, NB, E1A 3E9

The repeated sampling of dipteral larvae is commonly used in forensic entomology to document community composition at carcasses along the decomposition process. In this study, we investigated how different sampling intensities would affect the decomposition process, species abundance, species behaviour, and the composition of carrion insect communities.

Influence of temperature and tree growth rate on incidence of gouting by the balsam woolly adelgid.

Dan Quiring
Population Ecology Group, Faculty of Forestry and Environmental Management, University of New Brunswick, Fredericton, NB, E3B 6C2. quiring@unb.ca

The balsam woolly adelgid, *Adelges picea*, was introduced into Canada from Europe early in the last century and now occurs on both coasts. Feeding by the adelgid renders trees unsuitable for lumber, due to uneven shrinkage causing warping and splitting, and pulp is of inferior quality to that of non-attacked trees. Chronic crown attack by the adelgid can slowly kill a tree over 10 to 20 years. Surveys were carried out in stands in Newfoundland and New Brunswick to determine the influence of overwintering temperature and shoot size on the incidence of gouting by balsam woolly adelgid. I tested the hypothesis that the incidence of gouting, which is the occurrence of swollen tissue at the base of shoots, is parabolically related to shoot size. This prediction, which emanates from the optimal module size hypothesis developed for gall insects, assumes that gouting is similar to gall formation, and that female balsam woolly adelgids would not be able to survive on large shoots on fast-growing trees. Mean January temperature and shoot length explained more than 50% of annual variations in the incidence of gouting. Due to lower winter temperatures, temperature had a much stronger effect on the incidence of gouting in New Brunswick than Newfoundland. These data suggest that site quality and climatic zone can be used to develop a hazard rating for this insect.

Vector-borne disease surveillance and research activities

Dr. Laura Rogers, Veterinary Pathologist
Animal Health Division, Department of Natural Resources, NL

Discussion will focus on investigations conducted in the past by the Animal Health Division of the NL Department of Natural Resources, that had some cross over with entomology. These include West Nile Virus, Lyme disease and some pending work on California serogroup viruses. Future collaboration possibilities will also be discussed.

Agricultural insect pest compromises survival of endemic plants

Squires, Susan
Department of Biology, Memorial University, St. John's, NL, A1B 3X9

Agro-ecosystems support an enormous biomass of non-native insects, but the potential of these insects to invade and degrade natural ecosystems is largely unknown. *Plutella xylostella* L. (diamondback moth) is a problematic global agricultural pest that is not native to North America. It feeds on members of the Brassicaceae family, including the endangered *Braya longii* (Fernald) (Long's braya) and threatened *B. fernaldii* (Abbe) (Fernald's braya) which are endemic to the limestone barrens of Newfoundland. The immigration of *P. xylostella* from overwintering sites in the United States to this rare natural ecosystem was monitored with pheromone traps between 2003 and 2005. After their mass immigration in early summer, females lay eggs on an average of 30% of the *B. longii* and 16% of the *B. fernaldii* population. Larval feeding reduces mean seed output by 60%, from 10.8 to 4.3 seeds/fruit, and damages 26% of leaves. There are residual and long-term effects as many dead braya had higher numbers of eggs, and subsequent leaf and fruit damage one, two and/or three years before they died. High summer air temperatures and low precipitation allowed this pest to become multivoltine, resulting in additive damage to braya individuals. Presently, insufficient attention is directed to the impacts of agricultural pests on native ecosystems and rare host plants; hence, there is an urgent need for the conservation and agricultural communities to cooperate in mitigating the impacts of these pests on native biodiversity.

Abstracts - Posters

Herbivore damage and saline stress tolerance in the Gulf of St. Lawrence Aster

Ancheta, J., Heard, S.B.[1]
1. University of New Brunswick, Biology Department, P.O. Box 4400, Fredericton, N.B., Canada E3B 5A3

The Gulf of St. Lawrence Aster, *Symphotricum laurentianum* (Fernald) Nesom (Asteraceae), is a rare annual halophyte endemic to the southern Gulf of St. Lawrence. Natively, it grows close to related species experiencing insect herbivore attack, making spill-over herbivory on this species likely. However, the impact of herbivore damage on plant fitness is unknown, as is the potential interaction of herbivore damage with costs of salinity tolerance. We used growth chamber experiments with simulated herbivory to examine interacting effects of salinity and leaf area removal on plant fitness. We subjected 300 individual plants to eight treatments, with two levels of simulated herbivory (leaf area removal) and four levels of salinity. We predicted that leaf area removal and salinity would have a synergistically negative effect on plant fitness. A negative effect of salinity on filled seed count was observed, however, there was no detectable effect of damage on filled seed count. Detectable but subtle differences in mean plant height were also observed between undamaged and damaged plants at 5 g/L (13% increase) and 10 g/L (9% decrease) salinity. These results may inform potential management strategies for this and other rare halophytic plants through the inclusion of the effects of insect herbivores. Keywords: salinity, herbivores, tolerance, rare plants Topical Presentations: stress tolerance

Biology of the intertidal mite *Neomolgus littoralis* (L.) (Acarina: Bdellidae) in the lower Bay of Fundy

Crooker, Allen and Underwood, Kirsten
Biology Department, Hartwick College, Oneonta, NY 13815, USA

Neomolgus littoralis is a large, bright-red bdellid mite found on intertidal rock outcrops and algae in the eulittoral zone and littoral fringe along the east and west coasts of North America. The food habits, reproductive biology, and life history of this mite were examined in the Fundy Isles, Oak Bay and St. Andrews, New Brunswick, and in Eastport and Lubec, Maine during the summer of 2007. *N. littoralis* preyed on kelp flies, midges, and springtails, but also occasionally scavenged dead insects. When the tide was out, males deposited stalked spermatophores on rock surfaces during a process that lasted two to four minutes; these spermatophores were later picked up by females during the same intertidal period. Few larvae were observed; however, protonymphs, deutonymphs, tritonymphs and adults were present.

What in the world?? A global perspective on *Delia* spp research

Peggy L. Dixon[1], Carolyn Parsons[1,2], Janet Coombes[1], Julie Soroka[3]
[1]Agriculture and Agri-Food Canada Research Centre,
[2]St. John's, NL, Memorial University of Newfoundland,
[3]Agriculture and Agri-Food Canada, Saskatoon, SK

Root maggots (*Delia* spp (Diptera: Anthomyiidae)) have the potential to cause extensive damage and yield losses in canola and vegetable brassicas like broccoli, cabbage, cauliflower and rutabaga. The main species of concern are *Delia radicum*, the cabbage maggot, *Delia floralis*, the turnip maggot and, to a lesser extent, *Delia platura*, the seed corn maggot. Each of these flies has a cosmopolitan distribution and has been the subject of considerable research internationally. The purpose of our project was to find existing strategies for managing *Delia* spp. elsewhere in the world, which might be relevant to Canadian farmers. We conducted a worldwide literature review and personally interviewed scientists and extension officials in all countries where we could find contacts. A summary of findings is presented.

Funded by the Pesticide Risk-Reduction Program of the Pest Management Centre, Agriculture and Agri-Food Canada, Ottawa (www.agr.gc.ca/prrmup)

Suppression of *Ennomos subsignaria* (Lepidoptera: Geometridae) on *Acer pseudoplatanus* (Aceraceae) in an urban forest using bole-implanted acephate

Heidi R. C. Fry, [1] Krista L. Ryall, [2,4] Peggy L. Dixon, [3,4] and Dan T. Quiring [1,4]
[1]Population Ecology Group, Department of Biology, University of New Brunswick, Fredericton, NB, E3B 5P7
[2]Natural Resources Canada, Atlantic Forestry Centre, P.O. Box 960, Corner Brook, NL, Canada, A2H 6J3
[3]Agriculture and Agri-Food Canada, Atlantic Cool Climate Crop Research Centre, Box 39088, St. John's, NL, A1E 5Y7
[4]Population Ecology Group, Faculty of Forestry and Environmental Management, University of New Brunswick, Fredericton, NB, E3B 5P7

Trees in an urban forest are highly valued because they have aesthetic appeal, provide shade, and improve air quality. During the past 5 years (2002-2006) in St. John's, Newfoundland and Labrador, the elm spanworm, *Ennomos subsignaria* (Hübner) (Lepidoptera: Geometridae), has reached outbreak densities. Each year hundreds of trees have been completely defoliated, and many more trees have been partially defoliated. Adding to this problem, the larvae, their silk strands, and their frass are a considerable nuisance to property owners in areas of high larval densities. In this study, we evaluated the efficacy of three doses of bole-implanted acephate (AceCap® 97) for reducing densities and associated defoliation of *E. subsignaria* on sycamore maple, *Acer pseudoplatanus* L. (Aceraceae). During the treatment year (2005), all three doses significantly reduced *E. subsignaria* density; treatments 1 and 2 significantly reduced defoliation compared with control trees. During the post-treatment year (2006), bole-implanted acephate did not affect *E. subsignaria* mortality or defoliation. Bole-implanted acephate is an effective and practical way of suppressing *E. subsignaria* densities and herbivory in an urban forest where the protection of high-value trees and the reduction of environmental contamination is of utmost importance.

Vacuum Treatment Alternative to Chemical Pesticide for Chinch Bug Control

Nancy Hudson[1] , Susan Knight[1] and Peggy Dixon
[1] NL Horticulture Producers Council, St. John's, NL Canada, A1N 2C3.
[2]Atlantic Cool Climate Crop Research Centre, Agriculture & Agri-Food Canada, St. John's, NL.

The hairy chinch bug (*Blissus leucopterus hirtus* Montandon) is part of a complex of *Blissus* spp. which damage grasses across vast regions in Canada, the USA, and Mexico. Chinch bugs have caused severe economic losses and are costly to control. Damage is mitigated primary by the use of chemical pesticides. In recent years Canadian regulatory bodies and legislators have played a substantial role in diminishing the use of chemical pesticides through restrictions on products, and service areas. Consequently industry is encumbered by economic losses, reductions in market share, and a lack of viable alternatives. Preliminary results from studies in Newfoundland showed that vacuums were effective at reducing chinch bug populations in lawns; unfortunately the vacuum equipment proved incompatible with most lawn environments. An APV (Minuteman-Parker) debris removal vacuum was modified and tested on lawns in 2007. Hairy chinch bug (HCB) counts obtained before and after treatment were used to compare the effectiveness of vacuuming vs. chemical pesticide spray. Although the modified vacuum provided effective treatment results, it still lacked maneuverability. It is doubtful that industry will adopt vacuum technology as an alternative to chemical pesticide sprays unless issues of poor handling are resolved. Our vacuum treatment study will continue in 2008, concurrent with another study aimed at improving vacuum mobility in lawn environments.

Funding is provided by the Newfoundland and Labrador Agri-Adapt Council Inc., in partnership with the Nova Scotia Agri-Futures Council and the New Brunswick Agricultural Council, through the Advancing Canadian Agriculture and Agri-Food (ACAAF) Program; and administered by the NL Horticulture Producers Council. Technical support is provided by Dr. Peggy Dixon AAFC entomologist, Janet Coombes AAFC entomology technician, and Andy Fisher, P.Eng., Faculty of Engineering Memorial University of Newfoundland; industry support is provided by Don Barry, Service Master Lawn Care.

Changes in the carabid beetle community in response to the use of reflective groundcovers in berry crops

Gaétan Moreau [1], Jean-Pierre Privé [2]
[1] Département de Biologie, Université de Moncton, Moncton, NB, E1A 3E9; [2] Centre de recherches de l'Atlantique sur les aliments et l'horticulture, C.P. 2069, Bouctouche, NB, E4S 2J2.

Mulches or groundcovers made of reflective materials are a management tool used to enhance plant microclimate so as to favour crop production. However, groundcover is a physical barrier that may influence the movement and survival of insects within the agroecosystem. To document the effects of groundcovers on higher trophic organisms, carabid beetles were collected in raspberry plantations using a pitfall trap that were emptied every three days. A total of 8723 carabid beetles were collected in the raspberry plantations of two study sites over the experimental periods of 2006 and 2007. Species rarefaction, correspondence analysis and the analysis of temporal trends indicated that reflective groundcovers may increase the stability of the carabid beetle community.

Acadian Entomological Society
68th Annual Business Meeting

Minutes

Tuesday, June 17, 2008 Battery Hotel, St. John's, NL

1. Call to order.

   The 68th Annual Business meeting of the Acadian Entomological Society was called to order by President, Carolyn Parsons at 11:00 on Tuesday, June 17th. Approximately 15 members were present.

2. Approval of the Agenda.

   The agenda was amended to include an interim Treasurer's Report. Moved by Janet Coombes, seconded by Rick West.

3. Approval of the Minutes from 2007.

   The minutes from 2007 were approved. Moved by Carolyn Parsons, seconded by Rick West.

4. Business arising from the Minutes:

   a. Sponsorship of Student awards: Peggy Dixon addressed this issue. Kenna was intending to check into this but this was not done this year. Left on table.

   b. "Checklist of Maritime Insects": Carolyn Parsons contacted David McCorquodale to see what progress has been made with this. This was not pursued in 2007 and was left on the table.

   c. AES organization:

      i) AES structure/executive: Kenna MacKenzie and Donna Giberson had wanted to look at structure to see if it could be improved. However, no action was taken in 2007-2008.

      ii) Committee of Meeting locations: There was discussion concerning where and when meetings must be held. However, according to Bylaw 9, a meeting must be held in an election year (which will be 2009). The meeting does not have to be in the same location as the current executive. Location of next meeting will be discussed by the executive.

5. President's Report:

   Carolyn thanked the organizing committee, sponsors, and Rick West and the Mahers Bahers for their contribution to a successful meeting. During the year, the website was revamped and Carolyn thanked Rick West for this. The Journal is doing well. The President encourages members to use this journal as a vehicle for articles. Kirk Hillier asked about Society pins and whether any were still available. Carolyn will look into this matter.

6. Journal Editor's Report:

   Don Ostaff reported through Rick West that there are 8 articles on the website; 4 papers and 4 notes, plus 5 more in the review process. Dan Quiring mentioned Don's commitment to the journal and what a good job he has done with it.

7. Treasurer's Report:

   Janet Coombes gave an interim Report on finances and suggested increasing the amount of money held in GICs rather than holding a lot of money in the chequing account. It was decided to just go ahead and move $5000 from chequing into a high interest saving account.

8. New Business:

   a) There was a motion to make changes to the Bylaws to make the Journal Editor and Webmaster trustees of the society. Rick West mentioned that these positions are essential to the running of the society but they are not mentioned at present. Moved by Rick West, seconded by Dan Quiring.

   b) Appointment of these persons to these positions is to be determined by the executive. Moved by Rick West, seconded by Carolyn Parsons.

   c. There should be Honoraria for both of these positions, to be determined by the executive. Moved by Rick West, seconded by Murray Colbo.

   c. 2009 Annual Meeting: There was some discussion about whether it should be a different location next year. This was because of concerns about the timing and distance to attend the current meeting. The time of year was poor for attending. Peggy wondered if we should change to a different time and wondered about the possibility of New Brunswick. Murray wondered about asking Fiona Cuthbert, director of the Bonne Bay Marine Station, whether there is a lecture theatre there. Carolyn mentioned that Tom Chapman, Entomologist at MUN, is willing to help next year. Dan Quiring commented that

the AES often doubles as a family vacation. **Action item:** Investigate Bonne Bay Marine Station for next year's meeting.

d) Joint meeting in 2011: Peggy Dixon gave Kenna MacKenzie's Report on this. Regarding JAM 2011, Kirk Hillier thinks there is enough critical mass for this proposal. Gaétan Moreau moved that this proposal be approved, Kirk seconded.

9. Report from the ESC:

Regarding electronic journals, they are scanning back issues. This uses Aggregator at a cost of $60,000. Paul Fields is doing this (See link in member's area). Regarding the covers for *The Canadian Entomologist* and for the Bulletin, they are looking for varied photo content from members. Kenna encourages all members to submit photos for these covers. Dan Quiring commended Journal Editor Rob Bennett for his efforts with *The Canadian Entomologist*. Kenna MacKenzie is willing to remain for one more year as the ESC rep but bylaws require this be limited to 3 years. We will have to look for a new ESC rep throughout the coming year.

9. Dan Quiring thanked the organizing committee and moved to adjourn at 12:10.