



Volume 21 | Issue 2 | November 30, 2016

Entomological Society of Ontario

FALL NEWSLETTER



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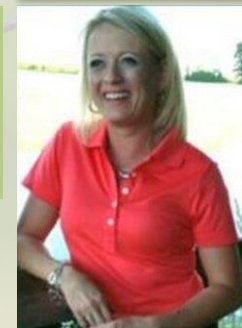
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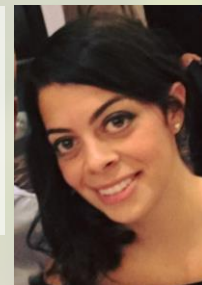
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Officers of the ESO



Fellow Insect Enthusiasts,

It is with pleasure that I assume the role of President of ESO for 2016-17. I look forward to serving our society in every way possible, with my term culminating with the 154th conference (AGM) of the ESO, to be held in Guelph next fall.

I served as ESO president once before, in 2000-2001. At that time we were in the throes of trying to decide what to call our journal. Shortly thereafter, with Volume 133, the PESO (Proceedings of the ESO) became the JESO (Journal of...). We were also debating the pros and cons of how to move the journal into the digital age. Happily both of those transitions, completed some time ago, have been revenue neutral for our society and our journal is secure for the time being. Please consider publishing in the JESO—there are no page charges and articles enjoy open-access on the web.

In my term as president this year, my primary goal is to increase our membership. I will be personally writing, then phoning, Ontarions who work with insects in all imaginable ways, to encourage them to initiate or renew their membership. I ask that you do the same with colleagues and students you interact with. For students this should be an easy sell because student membership is FREE! The ESO—through our AGM, the newsletter, the hugely successful Bug Days in Ottawa and London, and our journal—enable us to connect with our fellow entomophiles both socially and professionally. We all need to support ESO if it is to remain vibrant.

President's address



For those who made the trek to Sault Ste. Marie, the AGM (14-16 October) was a pleasant break from our normal work routines. The facilities were superb, food and beverages excellent, and presentations of exceptional quality. Many thanks go to Amanda Roe and Chris MacQuarrie who shouldered the bulk of the organization of the meeting. They put in a herculean effort on our behalf, and it showed with great organization. The live insect displays of Entomica coupled with our dinner at the Mill Market by the river were particularly entertaining. Amanda and Chris: please pass along our thanks to the volunteers of Entomica who came out on a Saturday evening so we could play with invertebrates!

I must acknowledge all of the officers of the ESO whose invisible work on behalf of the society is the glue that holds everything together. Without exception, our elected officers contribute whatever is required of them so that the ESO functions smoothly. I am particularly happy for Michelle Locke, our secretary for the past three years, for two reasons: (1) she escaped the USA before the election (!) and (2) she is back in Canada (Ottawa). On behalf of everyone in the ESO, I thank the outgoing officers for their contributions to ESO: Ian Scott (Past President), Antonia Guidotti and Wayne Knee (Directors), and Casey Peet-Pare (Student Rep). To the incoming officers, welcome aboard: Antonia Guidotti (staying on the board as President Elect), Amanda Roe and Joel Kits (Directors), and Catherine Scott (Student Rep). While no particularly pressing issues face the ESO at present, there are always things requiring attention to remain abreast of changes in the world around us.

Finally—please mark your calendars for 29 Sep. – 1 October, when the 154th Annual General Meeting of the ESO will be held in Guelph. My colleagues and I are working on developing an exceptional conference. I submitted a proposal for funding (Canada 150 Fund) on behalf of ESO that would enable us to expand the Saturday morning portion of the meeting with invited guest speakers from across the country, and event we could open to the public for free! Keep your fingers crossed! Even if that proposal fails, we will have a vibrant and varied meeting. Please stay tuned for details.

Gard Otis
ESO President

President's address



Antonia Guidotti

President-elect

I have been with the Royal Ontario Museum since 1994, first as a volunteer, then a student, next as an employee on various contracts until 2000 when I was hired as a fulltime entomology technician. My passion for insects was sparked in university during field courses that examined behaviour and evolution and continued through my early years at the ROM. I love the diversity of insects, their shape, colour, form. I consider myself fortunate in that I truly enjoy my work! My Master's work at the University of Toronto focussed on the review of the systematics of the Rhopalosomatidae, a relatively unknown family of parasitic wasps.

In addition to assisting curators with the preparation of manuscripts and aiding in their research, I respond to general inquiries about insects from members of the public and other museums and institutions by providing identification and information of specimens or images sent to me. Every day I learn more, sometimes with the assistance of entomologists around the province who are experts in a particular group and help me with identifications. In addition to these duties, I often handle requests from the media to comment on the particular insect "story of the day". If I am unable to provide them with the information that they seek, then I am happy to refer them to other colleagues. .

I feel it is important for me to communicate my passion for insects to others. I was a member of the awesome working group that wrote the "Butterflies of Toronto: A Guide to Their Remarkable World", part of the City of Toronto Biodiversity Series. After 5 years of considerable effort, I was thrilled—and relieved— when, in 2014, we published the "ROM Field Guide to Butterflies of Ontario"; this project truly was a labour of love. I have also enjoyed planning and participating in the Ontario Bioblitzes around the GTA in the last 5 years. In my "spare" time, I am the Program Coordinator for the Toronto Entomologists' Association, a fantastic group of dedicated individuals with a passion for insects.

New board members – President-elect



Amando Roe (@docaroe)

Director

I have always loved insects. Right from the beginning. As a child I hated dolls; instead I had a bucket of “squirmies” and these were my prized possessions. My two young daughters have inherited this first collection as well as my passion for bugs, nature, and dirty hands. I grew up on a farm in southern Alberta and only recently moved to Ontario six years ago. While I have always loved bugs I did not fully recognize my passion for insects until I started building my insect collection for my Insect Taxonomy course at the University of Alberta. Upon completion of my undergraduate degree in Environmental Biology (Hons) in 2001, I started a PhD with Dr. Felix Sperling at the University of Alberta. My PhD thesis focused on the molecular ecology of a group of cone and seed pests called coneworms (Lepidoptera: Pyralidae: *Dioryctria*). I defended my PhD in 2006 and started the first of three postdoc positions. Since flexibility is paramount as a postdoc, I have worked in a wide diversity of systems – three different Kingdoms in fact. I have studied higher level systematics in Lepidoptera at the University of Minnesota (2006-2007, NSF ATOL project), mountain pine beetle fungal symbionts at the University of Alberta (2008-2010, Genome Canada TRIA project), and poplar tree hybridization with the Canadian Forest Service (2010-2013). Insects, though, are my true love. Luckily my persistence has paid off and I was recently hired as a research scientist with the Canadian Forest Service (NRCan) at the Great Lakes Forestry Centre this spring. My current focus is on the population genomics and molecular ecology of forest pests. I am currently working on the invasive Asian longhorned beetle and brown spruce longhorned beetle, as well as the spruce budworm.

Education and public outreach have always been an important component of my professional life. I volunteered as a as an outreach educator at the University of Alberta, bringing bugs into classrooms throughout Alberta. My passion for outreach led me to help found Entomica, the smallest insectarium and science centre in Canada where I currently sit on the Board of Directors. Entomica uses insects as a catalyst for public engagement and to encourage lifelong learning. One of our innovative outreach programs called Science for Seniors recently received national recognition from the Canadian Association of Science Centres. Last year I helped organize the public outreach component of the ESO AGM, which was a great success. In addition to my work with Entomica, I have had multiple opportunities to teach as a part time faculty at Algoma University here in Sault Ste. Marie. I look forward to being actively involved with the Entomological Society of Ontario and continuing to promote the wonders of bugs!

New board members – Director



Joel Kits

Director

My first natural history interest was in birds, which lead to a university summer job conducting breeding bird surveys. I started looking at butterflies during the ornithologically slow afternoons, and have been hooked on insects since. I met Steve Marshall while doing a BSc at the University of Guelph, and went on to do a PhD with him, studying the systematics of a diverse and little-known group of Neotropical dung flies. Later, I moved to Ottawa to do a postdoc at the Canadian National Collection of Insects, doing molecular projects on bee pathogens and plant bugs. I recently started a position as a research scientist at the CNC, with a responsibility for the taxonomy and systematics of Auchenorrhyncha (leafhoppers, planthoppers, and relatives). I am interested in using both traditional morphology as well as modern molecular tools to unravel the amazing diversity of these insects.

I've been a member of ESO for about 10 years. I would be proud to serve as a director of a society with such a rich history, and would do my best to help the society continue its important role in promoting entomology in the province.

New board members – Director



Catherine Scott

Student representative

I'm a PhD student at University of Toronto Scarborough in Maydianne Andrade's lab. I study sexual communication in western black widows (*Latrodectus hesperus*). My MSc work was focused on female pheromones, and now for my PhD I am switching to the other side of the conversation, studying chemical signals and cues produced by males. When I'm not doing research on black widows, I spend time outside looking for spiders, tweet about spiders (I'm [@Cataranea](https://twitter.com/Cataranea) on twitter) and blog about spiders at www.spiderbytes.org.

Strictly speaking I am an arachnologist, but I have found the Canadian entomological community very welcoming despite my study organism's extra pair of legs. I have been an active member of the Canadian Entomological Society since 2010 and a member of the ESBC during my MSc degree at Simon Fraser University. One of the first things I did upon moving to Ontario was to join the ESO and attend the 2015 AGM. As I expected to, I met a fantastic group of fellow insect and spider enthusiasts at the meeting, and I feel lucky to be part of such a vibrant local society.

I feel strongly that students should have opportunities to communicate their research to both other scientists and to the public, learn skills that will serve them as scientists and professionals whether inside or outside academia, and be part of a supportive community of peers. I would love to help make sure that the ESO continues to provide great opportunities to students and to make and maintain connections among entomology students across Ontario and beyond.

New board members - Student rep.



ESO AGM 2016

Great Lakes Forestry Centre
Sault Ste. Marie, ON

October 14th - 16th, 2016

Please keep an eye on the
ESO website for more
information

www.entsocont.ca

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The 153rd ESO Annual General Meeting was held at the Great Lakes Forestry Centre in Sault Ste. Marie. The theme was 'Renewal', and we kicked it off with plenary lectures from Jeremy Allison (on *Sirex noctilio* ecology), Jason Garvon (on using GoPros to monitor shoreline insects), and Fayuan Wen (on establishing EAB cell lines).

The banquet was held at the Mill Market and included a gourmet pizza and waffle bar. Attendees were also treated to a fantastic showcase of live insects from Entomica – that was a huge hit!



2016 AGM

It was a warm weekend and the trees were in full autumn color!

On Sunday after the AGM (and plenty of artisan doughnuts), attendees either attended a tour of the fancy new IPQL (Insect Production and Quarantine Laboratories) at the Great Lakes Forestry Centre, or a tour of Whitefish Island / Soo Locks.



Thanks to everyone for their great talks and posters, the sponsors, and to Amanda Roe and Chris MacQuarrie for organizing a wonderful meeting!

We hope to see everyone at the upcoming 2017 AGM in Guelph!

2016 AGM



ORAL – Matthew Muzzatti

University of Guelph

Wing interference patterns (WIPs) – a potential tool for the identification of Sciomyzidae



POSTER – Kyle Doward

University of Western Ontario

*Where do the army worm come from? Using stable isotopes to study the migration of *Pseudaletia unipuncta**

AGM highlights – President's prizes

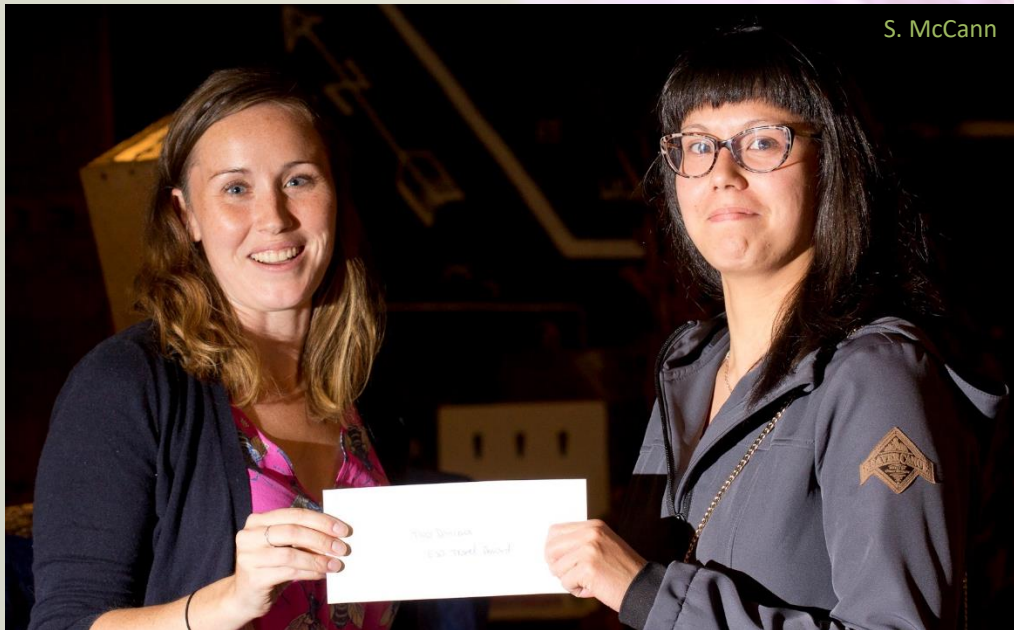


S. McCann

Travel Award – Sarah Dolson

University of Guelph

Staphylinid community structure across a neotropical elevation gradient



S. McCann

Travel Award – Tina Dancau

Carlton University

*Is competition superior to parasitism for biological control? The case of spotted-wing drosophila (*Drosophila suzukii*), *Drosophila melanogaster*, and *Pachycrepoideus vindemmiae**

AGM highlights – Travel awards

Congratulations to the 2016 BugEye photo contest winners!



Best Overall & People's choice
Michael Battenberg



Best Ontario Insect
Marion Buccella

BugEye Photo Contest



1st place junior entomologist
Colin Walton



3rd place junior entomologist
Jakob Anderson



2nd place junior entomologist
Mason Walton

BugEye Photo Contest



Bug Day Ottawa 2016 was a huge success!!

The event was held at the Ottawa Research and Development Center (a.k.a the Canadian National Collection) and attracted over 2,000 visitors.

Event-goers had the opportunity to engage and learn with 20 different activities and displays, including baking with insects, cockroach races, live and pinned insects, pests and aquatic insects, as well as some arts and crafts.



Outreach – Ottawa Bug Day



We would like to thank all of our visitors, our 70+ volunteers, the Ottawa Field-Naturalists' Club, and Agriculture and Agri-Food Canada who helped make this event possible!



Outreach – Ottawa Bug Day

London Bug Day was held again at the wonderful London Children's Museum on September 13th. Our 2016 event attracted 700 visitors; 200 more than in 2015, and 400 more than in 2014! The event was made possible by the hard work and enthusiasm of 31 terrific volunteers, including graduate students and faculty from the University of Western Ontario (UWO). The event was funded by the ESO as well as the UWO Faculty of Science and UWO Zoological Collections.

Bug Day attendees were greeted by beautiful pinned insect displays from the UWO Zoological Collections (run by Nina Zitani). As always we gave event goers the chance to sample some seasoned roasted mealworms and chocolate-covered ants (which sold like hotcakes at the museum afterwards!). Craft and face painting stations were busy non-stop.



17



Outreach – London Bug Day

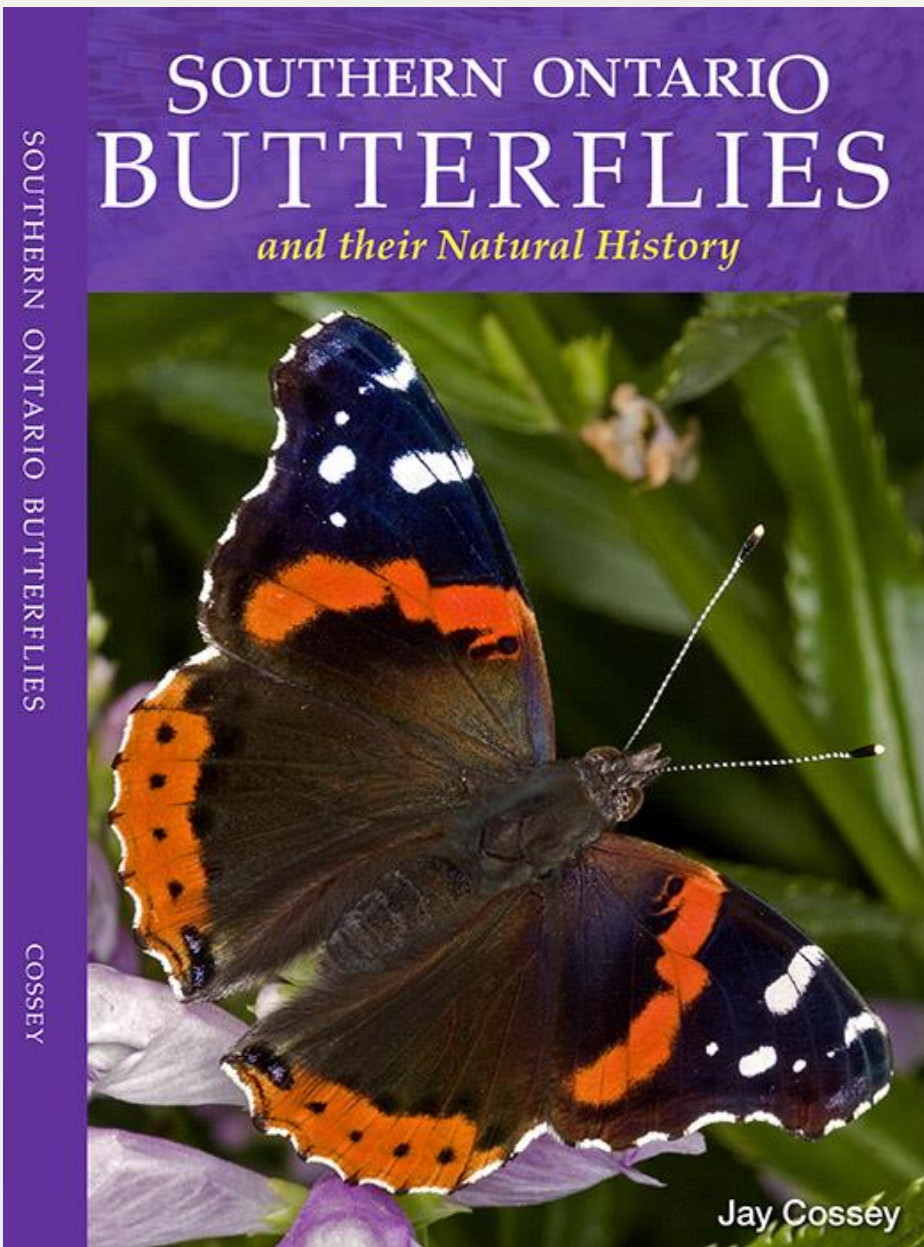


Our live critters on display included a honey bee observation hive (care of Bob Crowhurst of the Ontario Beekeeper's Association), a bumble bee colony (care of graduate student Jordan Phelps), walking sticks and Madagascar hissing cockroaches (from UWO), a plethora of tarantulas and scorpions (care of graduate students Kyle Doward and Susan Anthony), hornworms, jungle nymphs, and an array of butterflies (from the Cambridge Butterfly Conservatory), and locally-collected katydids, praying mantids, banded garden spiders, and grasshoppers.

This year we added an insect-themed raffle, which bug-shaped pasta and gummies, stickers, a pair of costume insect wings, and donated/in-kind items including the new butterfly guide from Jay Cossey, an insect net from the UWO Zoological Collections (Nina Zitani), a t-shirt from Apidae Apparel, and resin-embedded insects and beetle elytra earrings from Lauren Des Marteaux. Nature Conservancy Canada, Nature London, and the Middlesex London Health Unit joined Bug Day to educate the public about local insects, and Jay Cossey showcased his new butterfly identification guide. Staff from the Butterfly Cambridge Conservatory and the London Children's Museum were a big help!

To all participants and attendees - thank you for making London Bug Day a successful and growing event! See you in 2017!

Outreach – London Bug Day



Butterflies for the Masses! *Southern Ontario Butterflies* is an outreach to the non-entomologists in our region. 19

In my experience, many people think the words “butterfly” and “Monarch” are synonymous. While I’ve been encouraged by the exceptions that prove the rule, the vast majority of the random people I’ve talked with cannot name any butterfly beyond the Monarch.

It wasn’t until after I published *Southern Ontario Butterflies* that I realized just how much a book like this was needed. When I explain that I carefully selected *only 31 species* common to southern Ontario (for the species accounts), the typical response is, “Thirty-one? I didn’t know there were that many kinds of butterflies here.”

Like most who read the ESO newsletter, who’ve studied insects much of our lives, it’s disappointing to discover how wide-spread the general public’s lack of understanding actually is when it comes to invertebrates—even butterflies. Everybody loves butterflies, right? It’s not a controversial subject. When a local journalist asked what my book’s target market was, I answered: “Well, it would be easier to list who it *wouldn’t* be targeted for”. Honestly, I was stumped. Anyone with even the slightest interest in nature should find *Southern Ontario Butterflies and their Natural History* worthwhile—especially beginners overwhelmed by comprehensive field guides. It features numerous life cycle images (including eggs), larval hostplants and the usual species account details in an easy to navigate package.

My hope is that gardeners and birders will keep the book next to their bird guides, and hikers will keep a copy in their backpacks so they can learn to recognize the butterflies they see, and learn more about their fascinating natural history. Home-schoolers will appreciate it too.

Publications- Southern Ontario Butterflies

American Copper



American Copper	<i>Lycæna phlaeas</i>
Adult size	Small
Several flight periods	March to October
Butterfly food	Flower nectar
Caterpillar food	Sheep Sorrel, Curly Dock
Overwintering stage	Egg

American Coppers are locally abundant in their ideal habitat. Consider yourself fortunate if there's a colony where you live. They're very small but incredibly beautiful, as you can see. American Coppers are found in northern regions around the world. In Europe they're known as the Small Copper. There are several other Copper family butterflies in Ontario, but this is the one you're most likely to encounter. Bronze Copper butterflies are similar-looking, but considerably larger.

Harvester



Harvester	<i>Feniseca tarquinius</i>
Adult size	Small
One flight period	June-July
Butterfly food	Mud, scat, carrion
Caterpillar food	Woolly Aphids
Overwintering stage	Chrysalis

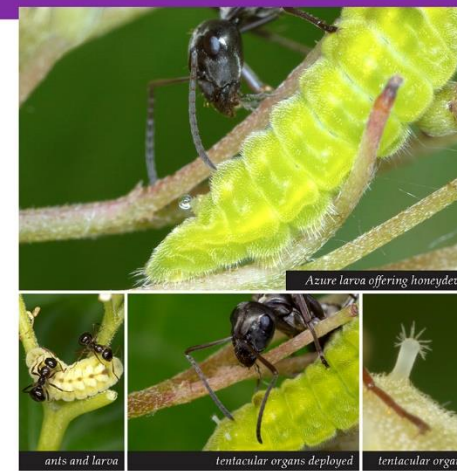
The Harvester is our only carnivorous butterfly. Instead of eating plant material, Harvester caterpillars eat Woolly Aphids. While this might not be one of our most common butterflies, you have to admit that it is one of our most fascinating, and worth including in this book. Harvesters are truly unique. Butterflies that puddle are constantly filtering fluids through their digestive tract, absorbing minerals and other nutrients. What goes in, must also go out... (top image)

Azure Butterflies



Azures (complex)	<i>Celastrina</i> sp.
Adult size	Small to Very small
Flight period (various spp.)	March to October
Butterfly food	Flower nectar, mud
Caterpillar food	Dogwood flowers, seed pods
Overwintering stage	Chrysalis

Azure butterflies continue to perplex even the experts. The current consensus is that there are several nearly identical but distinct species. This guide will group them as the Azure "complex" rather than attempt to describe all of the possibilities. Male Azures lack the grey wing margins of the females. One of the most interesting aspects about Azures (and other Gossamer-wing butterflies) is the caterpillar's mutually-beneficial relationship with ants (next page).



Azure and other Gossamer-wing caterpillars are tended by ants (above). Like aphids, Azure larvae produce a sweet, nutritious liquid called honeydew, which ants covet. In return, the ants guard their caterpillar against predators and parasites. Azure caterpillars produce this elixir from their dorsal nectary organ (DNO, a tiny pore on their back). Even more curious are the tentacular organs the caterpillar evert and withdraw at will. The precise function of tentacular organs is not fully understood, but it is likely that these organs release chemicals that ants receive as a signal. Most ants respond quickly when the tentacular organs are deployed. Azure caterpillars seem to tease the ants, deploying then withdrawing them before the ant is within reach. It's fascinating to watch this cat and mouse game. Ants frequently "tickle" Azure caterpillars with their antennae, in hopes of stimulating them to offer another drop of honeydew.

Because butterflies and moths are easily confused, there's a conspicuous moth and moth caterpillar thumbnail gallery. There's also an extensive glossary to explain entomological "buzz words" and concepts. And while it's a simple introduction, you'll also find detailed images of carnivorous Harvester butterfly caterpillars eating Woolly Aphids, close-ups of Azure larvae offering honeydew to ants, and the caterpillar's bizarre tentacular organs.

I hope *Southern Ontario Butterflies and their Natural History* helps educate the general public—and helps entomologists pass their passion on to friends, relatives and the next generation. This guide is currently available at 15 locations from Point Pelee National Park to Wild Birds Unlimited in Guelph, and directly from the author: Jay@PhotographsFromNature.com. Other retailers are being added constantly, so contact me at the email address above for the most up-to-date list.

ISBN: 978-0-9952854-0-8



Photo source: Eagle Hill
(<https://www.eaglehill.us/programs/nhs/nhs-calendar.shtml>)

Eagle Hill Institute Seminar Series on Insect, Spider, and Arthropod Photography on the Coast of Maine

Multiple Seminars Starting May 28, 2017 – July 29, 2017.

Coast of Eastern Maine, East of Acadia National Park

Eagle Hill Institute is a scientific and literary non-profit organization dedicated to the pursuit of scholarly knowledge from a natural history perspective. They have several seminars focused on insect identification, collection, and ecology. Information about individual seminars can be found on their [website](#).

- **May 28, 2017 – June 3, 2017:** *Microlepidoptera: Collection, Preparation, Dissection, Identification, and Natural History.*
Hosted by: Jason Dombroskie
- **June 11, 2017 – June 17, 2017:** *Systematics, Biology, and Ecology of Important Lotic and Lentic Aquatic Insects: Mayflies, Stoneflies, Caddisflies, Odonata, and Coleoptera.*
Hosted by: Steven Burian
- **June 25, 2017 – July 1, 2017:** *Moths and Butterflies: Identification, Specimen Preparation, and Taxonomy.*
Hosted by: Hugh McGuinness and Bryan Pfeiffer
- **July 2, 2017 – July 8, 2017:** *Dragonflies and Damselflies: Field Techniques and Identification.*
Hosted by: Bryan Pfeiffer
- **July 9, 2017 – July 16, 2017:** *Native Bees as Pollinators: Diversity, Ecology, Conservation, and Habitat Enhancement.*
Hosted by: Sara Bushmann and Kalyn Bickerman-Martens
- **July 23, 2017 – July 29, 2017:** *Spiders: Identification, Biology, and Ecology.*
Hosted by: Kefyn Catley
- **July 30, 2017 – August 5, 2017:** *Art and Science of Photographing Insects and their Kin.*
Hosted by: Kefyn Catley

Upcoming events



Animal Behaviour Society, 54th Annual Conference

Monday, June 12, 2017 – Friday, June 16, 2017.

University of Toronto, Scarborough Campus (1265 Military Trail, Toronto, ON)

Pre-meeting workshops include 'Conservation Behavior: Merging Science and Application', and conference highlights include 6 plenaries, 4 symposia, and contributed talks and posters from hundreds of Animal Behaviourists and Behavioural Ecologists.

Presented research will span the invertebrates and vertebrates, both in field and laboratory studies, and include experimental psychology, behavioral ecology, neuroscience, zoology, applied ethology, and human ethology.

Registration, early deadline: January 31, 2017

Deadline for receipt of abstracts: February 28, 2017

More information can be found on their abs2017.org.



2017 Ontario Bioblitz at Rouge Park

Saturday, June 24, 2017 – Sunday, June 25, 2017

Rouge Park (1749 Meadowvale Road, Toronto, ON)

We are returning to Rouge Park for the 2017 Ontario Bioblitz. Everyone is welcome and encouraged to help out! Once again, we will have teams taking inventories of the area's biodiversity. Check the [website](#) for details to come!

Upcoming events



Graduate Student Positions

PhD position, Effect of postbloom insecticide on bees in blueberries

Dalhousie University, Truro, Nova Scotia

Application Deadline: As soon as possible, until suitable candidate found [here](#)

Job postings

Within Canada

See the ESC-SEC jobs page, [here](#)

International (mostly USA)

See the ESA jobs page, [here](#)

Source: www.esc-sec.ca/jobs



PUBLISH IN JESO!

The Journal of the Entomological Society (JESO) is the second oldest entomological journal in North America.

Papers on any aspect of entomology are accepted, and do not need to be restricted to Ontario! Both French and English manuscripts are welcome. At least one author must be a member of the ESO. To submit, please see the [Instructions for Authors](#) page.



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ESO membership

THE ENTOMOLOGICAL SOCIETY OF ONTARIO

MEMBERSHIP FORM

Just fill out this form (+ cheque or money order if required) and send to:

Michelle Locke
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Society of Ontario

Vista Centre, 1830 Bank St.
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Type of membership requested

- | | |
|---|---|
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| <input type="checkbox"/> Regular (\$30) | <input type="checkbox"/> Student / Amateur |
| <input type="checkbox"/> Regular 5-year (\$150) | (International) (\$10) |

Name _____

Affiliation _____

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Postal Code/Zip Code _____ Telephone Number _____

Email Address _____

(Optional) Background Information

Employment (Location/Subject area) _____

Entomological Interest _____

- ☐ Check if you would like to get more involved with ESO activities
If so, how?
- _____
- _____

JOIN THE ESO!

For ESO membership, complete the [Membership form](#) (also available on the ESO website)

Canadian student, amateur, and retiree memberships are FREE! Email Michelle for membership renewal (must be done each year): entsocont.membership@gmail.com

Regular members: NEW - A one-time payment of \$150 secures you a 5 year membership! For payment options, including PayPal, please visit www.entsocont.ca, or mail your invoice and payment to:



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ESO membership