

# The Maine Entomologist

A forum for students, professionals and amateurs  
in the Pine Tree State

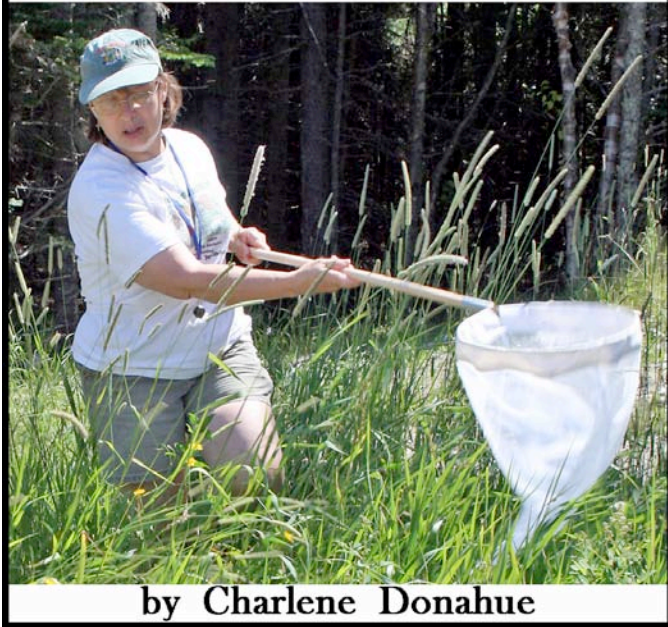
The Official Newsletter of the Maine Entomological Society

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## PRESIDENT'S CORNER



by Charlene Donahue

Last summer I was fortunate to attend the "HYM" (Hymenoptera – wasps, bees, ants and sawflies) course given at the Eagle Hill Institute in Steuben. This course is given every year somewhere in North America, and in the off years somewhere else in the world. Maine was very fortunate to host this high-caliber educational opportunity.

The 33 students hailed from all across the U.S. and Canada, with one person attending from Israel. There were graduate students, naturalists, working entomologists and a person with a parasitoid business. The six instructors all are at the top of their field in different taxonomic groups of Hymenoptera. Wasps were the primary focus, with ants, bees and sawflies briefly covered.

Although taxonomy was the primary focus of the course, natural history was brought into coverage of each group, plus Dr. John Lill lectured on parasitoid wasp ecology for an afternoon.

For those who have not taken a course at Eagle Hill it is a full-immersion experience for six days. Courses start Sunday evening and each day starts as early as you can get to lab, with many people staying until after midnight pinning and keying out insects or out collecting by light. Meals are family style at long tables, allowing a continuation of lab and lecture discussions plus getting to know fellow students and instructors.

I took along an iPad and the institute's WiFi connection allowed me to access references and keys online, freeing up paper copies for other students. The only problem with my new technology was that I was still learning how to use it and ended up taking notes electronically some of the time, in a notebook, and also scribbled on PowerPoint handouts!

Most of Eagle Hill's offerings are very tightly focused, and wasps are a huge group to cover in just six days. The week was definitely like standing in front of a fire hose of information – and the taxonomy only went down to the subfamily level. But I came away with a better understanding of these diverse, complex, beautiful and incredibly important insects that we still know so little about.

I talked with Dr. Michael Gates, who heads up the HYM course, about the Bioblitz in Acadia National Park and he expressed interest in being part of a hymenoptera blitz and thought the other instructors would be interested as well. And this year the ANP Bioblitz is going to be Hymenoptera headed up by Dr. Robert Kula, another of the HYM course instructors.

Having these systematists visit Maine and see for themselves that there are insects here that they have not seen before helped to get them here for the blitz. Should be a great one, and I hope to see many of you at Acadia in July.

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### Inside:

- Nothing in the Digital Age (p. 2)
- Eagle Hill Institute offers Summer Buggin' (p. 3)
- Acadia Bioblitz Will Double Your Fun! (p. 3)
- Canada Issues New \$3 Coin With Monarch Caterpillar (p. 4)
- Eurasian Peacock Butterflies are in Canada and NJ (p. 4)
- Book Review: Planet of the Bugs (p. 4)
- Book Review: ROM Field Guide to Butterflies (p. 5)
- Bugs for Dinner! (p. 6)
- Coming M.E.S. Events (p. 6)

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### IMPORTANT DUES REMINDER!

M.E.S. dues are payable on a calendar-year basis. If you haven't already done so, please renew now for 2015; Treasurer Dana Michaud's name and mailing address are at the bottom of the back page for your convenience. Dues are \$10 per year, and may be paid up to two years in advance. If the year on your mailing label is "2014", please contact Dana to renew for 2015 or correct the record.

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### Volunteers Wanted

MES is looking to start an events committee that will put together exhibits and attend various events such as the Common Ground Fair to increase membership. If you are interested please call Diane Boretos at 564-2966.

## Nothing in the Digital Era by Marnie Reed Crowell

Last summer an Internet search took me to Charlene Donahue, Forest Entomologist, a.k.a. President of MES. I quote my message to her:

"I am a retired natural history writer down here on Deer Isle. Daughter of an entomologist, I recently got a Sony Cybershot point-and-shoot camera that takes what Sony calls "magnifying glass" close-ups. (That means about as close as you can get without actually squashing the subject!) I now have almost 500 photos since mid-July. Does anyone want them for data? I could keep this up all year as I live here year round, in the edge of a spruce forest at Barred Isle Preserve, with a nearby garden and the coast. I have been ignoring the micros so far. Let me know if I could modify my procedure to be useful in some way."

She expressed interest and we began exchanging emails. I explained that I used an extension cord to run a de-zapped old bug zapper on an old sheet. Since we are adjacent to a land trust preserve I thought it would be useful to make a checklist of the moth species. "I am comfortable checking things at 9:00 p.m. just before I go to bed and again at 5:00 a.m. just when it gets light. Having checked this system every three hours through one night I feel I see both the early arrivals and those who come shortly before dawn... Since the camera automatically records the date that means the data would be fairly accurate."

I owned the first Peterson Field Guide to Moths written by Dr. Charles V. Covell, Jr., published in 1984 by Houghton Mifflin, discontinued from the Peterson line in 1996. However, I found its photos of moths spread and pinned rather challenging to compare with my photos which could only be described as informal portraits. I was delighted when Canadian writer/naturalist Seabrooke Lecki and David Beadle, "a bird illustrator by profession but a moth enthusiast by night," produced a new Peterson Field Guide to Moths of Northeastern North America.

It was not long before I discovered that those photos often looked to my eye rather "chilled", and indeed the moths often had been refrigerated so they could be photographed in the lab. Nothing wrong with that, but I was enjoying the behavior of my moths. I watched them lay their antennae back along their bodies if my camera came too close, or quiver their wings and fly off when I ever-so-gently tried to prod them to show me their underwings. Oh, I was hooked and even the rather formal requirements of closely-cropped photos for submission to BugGuide.net slightly put me off.

Eventually I found the more informal Facebook page MOTHS OF THE EASTERN UNITED STATES where experts and novices alike share moth photographs. After I posted a few Tortricids for identification I made on-line connection with Jason Dombroskie, Manager for the Cornell University Insect Collection and the Coordinator of the Insect Diagnostic Lab, whose main research interests are Tortricid moths.

I ended up making for him a Google Drive folder of all my photos of anything that looked like a Tortricid, meaning close a hundred. After I weeded out the duplicates and impossible photos, there were still too many for an email attachment; but thanks to the modern technology of Google Drive, sharing was a snap. Oh what a thrill – I shared some data with Cornell University, the very place where my father had done his PhD thesis on codling moths back in 1933.

My camera did such a good job of lighting the subjects in the dark and automatically calculating the best exposure that only a slight bit of adjustment was necessary with the Smart Fix of Photoshop Elements. From the MOTH PHOTOGRAPHERS GROUP website, I picked up a few

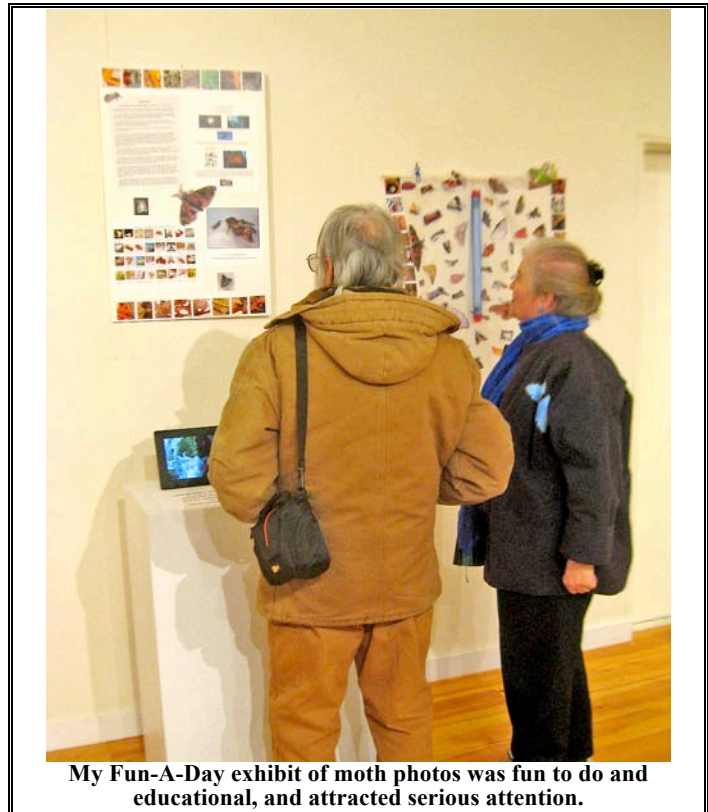
more tips such as the (also inexpensive) Focus Magic app for sharpening according to a slightly different algorithm than the one that Photoshop uses, to make my moth portraits look really good.

(Note to reader: At this point it might be helpful to know that this is a 76-year-old grandmother writing these words. Anything I can do, you can do. That's why I am writing this.)

In January, it was time to get really serious about indentifying and labeling my photos. I live on Deer Isle, home of many artists and the Haystack School of Crafts. My middle school teacher friend was managing the second year of Fun-A-Day, a national enterprise designed to foster artistic creativity in the community, so of course I signed on to ID thirty moths and make an exhibit at Haystack.

The way an amateur learns to ID moths is by riffing through the field guides for a match. No kidding. I did submit a few stumbers to the kind folks at the Facebook page, MOTHS OF EASTERN NORTH AMERICA, hereinafter called the Moth-ers. (I confess that some were not moths but caddisflies, but they tactfully reassured me that it's pretty hard to tell the Tawny Virbia from a caddis: slightly longer antennae, different wing pattern, and experience.)

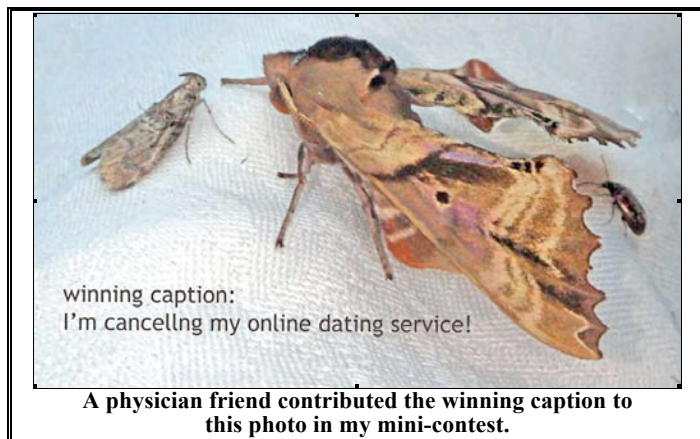
I was loving the experience. I could not possibly limit myself to thirty moths! I interpreted the "rules" to mean thirty days of fun, not thirty species. I used the UV bulb that Charlene had loaned me – that subsequently died – as the centerpiece of a light-sheet mock-up. I printed and cut out and pasted moth images all over the sheet. The key I provided with common and scientific names read like a poem.



**My Fun-A-Day exhibit of moth photos was fun to do and educational, and attracted serious attention.**

I generated interest by posting moth photos on my personal Facebook page. I ran a contest for friends to suggest a caption for the photo of a sphinx moth and a smaller companion. Our island's rather formal physician suggested the winning caption (see photos). The sheer variety of moths that people were largely unaware of was the worthy message that came out loud and clear.

*(continued on next page)*



I was still not satisfied with the components of my Fun-A-Day gallery installation. The printed images on paper lacked the vibrancy of on-screen versions. Then it occurred to me to buy a Nix Hi-res Digital Photo frame with a motion sensor. Mindful of our culture's extravagant use of electricity, I was somewhat mollified by the idea that the images turn off when there is no live audience. I am not someone who collects digital gadgets so I was amused when I read that makers of these frames were downsizing. Apparently they found that their frames were so good that a new improved model every year was a hard sell. There went the profit curve—so buy now before they give up altogether. I now enjoy the frame in my living room. How nice that it notices me and shows me my gorgeous abstract moth wing patterns whenever I come into the room.

These frames would be wonderful on a counter in a natural history center, or in your local bank, in the waiting room of the doctor or dentist. How is that for a sneaky way into the public consciousness? I shared the idea with the Facebook Moth-ers and with Charlene who forwarded my messages to MES, and the rest is history, this history.

From the moth slides I assembled a talk which I presented at my teacher friend's science class. She assured me that probably all Maine teachers use Google Drive Presentation to show their classes. Yes, that same Google Drive that I used to share with the entomologist. I also had to save my show as a Powerpoint and put it on a thumb drive and transfer it to lap top and LED projector for a show at the local library and at a nearby retirement community, but by now Granny is quite comfortable in the digital world.

My next show will be at our local land trust. The trust appreciates the fact that moths can serve as effective ambassadors for the natural world. Their impressive diversity and beauty demonstrate to the public why our society would do well to care for the habitats we rather casually mistreat. And I get to serve as ambassador for the moths.

Perhaps you too will find the idea enchanting. Together with my husband, a retired St Lawrence University ecology professor, I created a series of free downloadable PDFs that our Chamber of Commerce hosts on its website. See [www.deerisle.com](http://www.deerisle.com) and click the navigation bar, NATURE and select any of the local preserves for a virtual guided nature tour. The younger generation knows how to load these on their smartphones and they appreciate that this offers much more than a paper brochure. What they don't know is how to recognize most of what they see outdoors. We have posted a section on Family Activities and a Species Almanac for further information about habitats and species in your own backyard.

It has been a bit of work to get these old dogs up to speed in the Digital Era but the enterprise seems worth it. What knowledge do you have to share? The world now offers you the tools for the job!

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Marnie Reed Crowell is author of books and magazine articles concerning natural history, and a new M.E.S. member. She can be reached on Facebook and her personal web site, [www.marniereedcrowell.com](http://www.marniereedcrowell.com).

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### Eagle Hill Institute Offers Up Their 2015 Workshop Schedule

The Eagle Hill Institute in Steuben, Maine, has announced their summer workshop and seminar schedule, which once again is impressive. This year's offerings seem particularly strong in lichens, fungi and mosses.

Read Charlene's President's Report on page 1 for a description of what these wonderful workshops are like. She attended one last summer.

Five of this year's workshops are specifically focused on insects:

**June 14-20** will feature **Ants (Hymenoptera: Formicidae)** of the Northeast, with Amy Arnett of Unity College.

**July 5-11** will feature **Dragonflies and Damselflies: Field Techniques and Identification** with Bryan Pfeiffer, of the University of Vermont

**July 12-18** will feature TWO concurrent workshops. The first will focus on **Moths and Butterflies: Identification, Specimen Preparation and Taxonomy** with Hugh McGuinness of the Nature Conservancy and Smithsonian Institution, and Bryan Pfeiffer, of the University of Vermont. The second workshop will focus on **Beetles: Diversity, Identification and Natural History**, with Warren Steiner and Gary Hevel, both of the Smithsonian Institution.

**July 19-25** will feature **Native Bees as Pollinators** with Allison Dibble and Frank Drummond of the University of Maine.

The Eagle Hill Institute is located on the Dyer Point peninsula, about 3.5 miles south of Highway 1, in a beautiful forested setting ideal for contemplative study. A complete listing of the seminar topics can be found at the Institute's web page at

<http://www.eaglehill.us/programs/nhs/nhs-calendar.shtml>

Information on costs and facilities can be found at

<http://www.eaglehill.us/programs/general/application-info.shtml>

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### Acadia BioBlitz to Focus on TWO Taxonomic Groups this year

The Entomological BioBlitz at Acadia National Park this year will be held on July 17th-20th, and will be focused on two different groups. The first will be Hymenoptera, with a particular focus on the parasitoids. Bob Kula, from the Smithsonian Institution's Systematic Entomology Lab, will be one of the key taxonomists. His area of special expertise is on braconid and ichneumonid wasps. He'll be bringing another colleague whose expertise is on other groups.

Joseph DeSisto, a University of Connecticut student who hails from Bangor, is particularly focused on study of myriapods and chilopods. He'll be heading up a collecting effort on the myriapods of the Park.

More information on the Blitz will appear in the May newsletter and, as it comes in, on the M.E.S. web page.

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## Canada Features Monarch on New \$3 Coin

Richard Hildreth forwarded a notice that a new Canadian collectable coin has been issued in their Animal Architects series – featuring the caterpillar and chrysalis of the Monarch butterfly!



Don't expect to see any of these in circulation, though – unless you encounter one that's been stolen and subsequently spent by the thief. Struck with a mirror-like proof finish in 99.99% pure silver, with the caterpillar in full color, they are collector's items that are selling for \$69.95 each through the Royal Canadian Mint or various retailers.

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## Something to Watch For: A Spectacular Eurasian Butterfly in North America

Richard Hildreth forwarded excerpts from the January issue of *Ontario Insects* (produced by the Toronto Entomological Society) and *American Butterflies* from last fall, that document the first appearances, in Ontario and New Jersey respectively, of the Eurasian Peacock butterfly.



The Eurasian Peacock butterfly (*Aglais io*) photographed in Birmingham, UK, by Tony Hisgett. photo from commons.wikimedia.org/wiki/File:Peacock\_Butterfly\_(7822792836).jpg .

According to an article in last August's issue of *Maritimes Butterfly Atlas*, an individual of this species was also sighted near Halifax, Nova Scotia. According to the same piece, the species was first seen in Canada in the Montreal area in 1997, and several additional records have been made since then – so it's likely established in southern Quebec. The feeling is that the Halifax specimen likely came to the city as a chrysalis in packing materials.

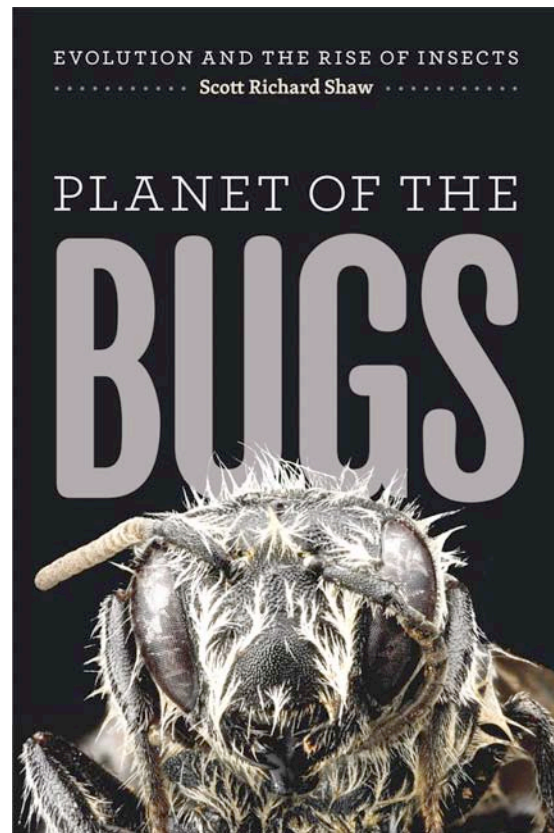
The Peacock butterflies are widespread in Europe and Asia, and the larvae feed on nettles. The adults have about a 2-inch (50-mm) wingspan and are strikingly brilliant red, with eye spots of black, yellow and blue.

There's a nice video of this species nectaring on flowing stonecrop (*Sedum* sp.) at

<https://www.youtube.com/watch?v=2kG-jTzJ1m4>

Given that the species has been seen in Ontario, Quebec, Nova Scotia, and New Jersey, it seems to be only a matter of time before someone finds them in Maine as well. This would definitely be something that would be a spectacular find.

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## ***Book Review: Planet of the Bugs: Evolution and the Rise of Insects*, by Scott Richard Shaw.**

University of Chicago Press, 2014; ISBN 9780226163611. Hardbound, 6" x 9", 256 pp.; list price \$27.50.

Reviewed by Dana Michaud

Published last year, *Planet of the Bugs*, by Scott R. Shaw, Professor of Entomology and Insect Museum Curator at the University of Wyoming, Laramie, after a brief introduction (Chapter 1) takes the reader on a journey through time starting in the Cambrian Period (Chapter 2), 541-485 million years ago (mya). Each subsequent chapter brings the reader chronologically through time to Chapter 10, the Cenozoic Era (66 mya to now).

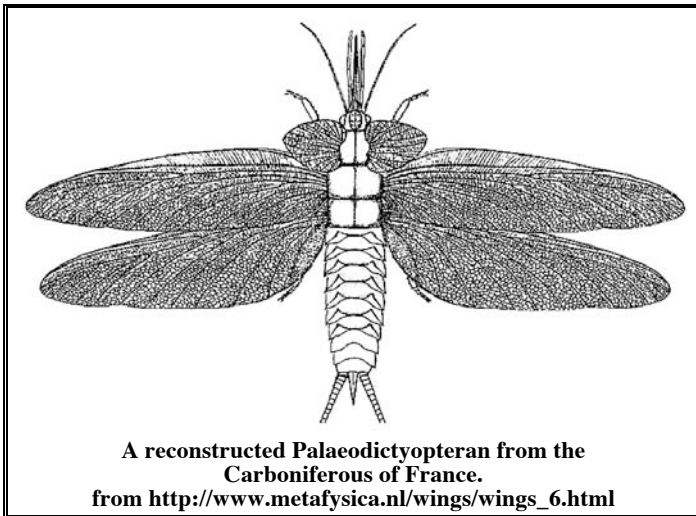
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*Planet of the Bugs (cont.)*

As Shaw discusses the various periods and eras in each chapter, he examines the various flora and fauna that evolved in that time frame. In Chapter 2, the Rise of the Trilobites, he discusses a group of ocean-inhabiting arthropods that flourished for over 300 million years, becoming totally extinct at the end of the Paleozoic Era (252 mya). In that time span, they left behind the fossils of nearly 20,000 species, including giant carnivorous ones that measured 28" long. Why they became totally extinct is still a mystery.

The time machine continues as Shaw weaves a story of the subsequent rise of the insects in Chapter 4, the Devonian (419-359 mya), when the early hexapods arose. One, a Collembolan from Scottish chert, dates back over 400 mya, and is the oldest soil insect species known from Planet Earth.

The time machine continues through the Carboniferous (359-299 mya) and Permian (299-252 mya) where insect experimentation and radiation exploded to new levels. Here, giant (now extinct) flying insects called Palaeodictyopterans (with up 20-inch wingspans) and even larger Meganeurids (extinct Odonate look-alikes) measuring 3 feet across flourished.



During the Paleozoic Era, 22 orders of hexapods are recorded, of which 11 are now extinct. The Palaeodictyopterans alone evolved into 71 genera representing 21 families. These giant long-beaked (Hemiptera-like) insects flew on four large patterned wings, and were probably sap feeders. They left behind many complete and partial fossils in the record.

The various flora and fauna that cohabited with the insects are discussed also, as are the various mass extinctions that brought life on planet Earth to the edge of oblivion, including our ancestors, the early vertebrates.

In the final chapter (10), Cenozoic Reflections, Shaw gently reminds us that to spend trillions of dollars to seek out life elsewhere, all the while destroying it here on a grand scale, is unintelligent.

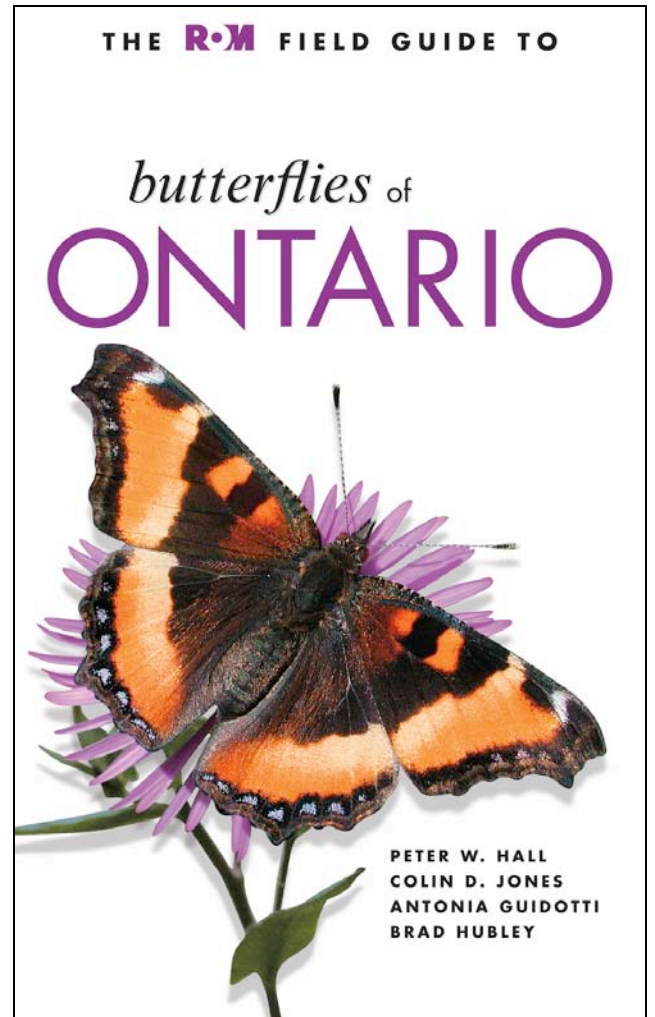
Shaw's book was enjoyable, easy reading, and informative, using down-to-earth terminology that is written for anyone wanting to brush through the history of life on the planet. The few black-and-white and color photos merely illustrate the various insect groups covered, adding to the effect of just how incredible this group of survivors is. We are not alone.

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**Book Review: *The ROM Field Guide to Butterflies of Ontario*, by Peter W. Hall, Colin D. Jones, Antonia Guidotti and Brad Hubley. Royal Ontario Museum, 2014; ISBN 978-0-8854-497-1. Paperback, 4½" x 8" x ~1" thick, 488 pp., printed on good-quality glossy paper; list price \$29.99.**

*Reviewed by Richard Hildreth*

This is a spectacular book. All of Ontario's 167 species of butterflies are shown with multiple superb color photographs. Key field marks are pointed out with arrows. For each species there is a detailed range map and a phenogram showing the flight season. There are color photographs of many of the caterpillars and some of the chrysalides. This is one of the very best butterfly field guides currently available. This book includes some northern butterflies not found in Maine, but almost all species likely to be found in Maine are included. If you don't have a modern butterfly guide, get this one.



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***Insect trivia for you:***

Amazon ants (red ants found in the western U.S.) steal the larvae of other ants to keep as slaves. The slave ants build homes for and feed the Amazon ants, who cannot do anything but fight. They depend completely on their slaves for survival.

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## Bugs for Dinner!

by Bob Nelson

An article in the February 18th issue of the Bangor Daily News Online featured a new business in Freeport, "Bugs for Dinner." The restaurant was the brainchild of Bill Broadbent, a businessman whose mainstream focus is developing mobile applications for veterinarians. It all started when his 13-year-old son Sam asked him several months ago, "Why don't we eat insects?" Some on-line research led Broadbent to ask the same question, and this new business is the result!

Son Sam and his sister Julia have been intimately involved with the project since its inception. Sam has written a paper on insect farming for one of his school assignments, and Julia has led an insect demonstration for her Girl Scout troop.

With Broadbent's professional background, you can well imagine that their web page (<http://www.bugsfordinner.com/>) is a spectacular compendium of information. There are entomophagy videos, links to other entomophagy sites, and cricket nutritional values posted, as well as information on how many insect parts are permissible by USDA regulations in such common everyday food items as peanut butter, chocolate and flour. (And an interesting experiment they don't mention, would be to wash the contents of a bottle of ketchup through a fine sieve with water, and look at what remains on the screen under a microscope! I've done it – surprise!)

Their web site does feature edible insect products, such as Larvets (which look like dried, seasoned larvae of *Tenebrio molitor*), scorpion suckers with real scorpions, chocolate-covered scorpions, and Chapul, a bar advertised as "a simple combination of dates, cocoa, coffee beans, cricket flour and a late blooming wave of cayenne heat."

They launched the business, officially, on January 24th at the Freeport Public Library, with an offering of materials from which – according to the BDN article – perhaps half the attendees sampled. (Their web site claims "nearly everyone" tried something.)

For those who are normally entomophages, here's a local source for munchies. And for those who think that "bugs are gross things to eat!", consider that it's primarily people of Western European and American cultures who feel that way. Globally, we're in a minority!

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### COMING M.E.S. EVENTS in 2015:

- |              |  |
|--------------|--|
| 28 March     | Maple syruping and bugging day, North Whitefield (Lincoln County)(contact person: Charlene Donahue)                                |
| 2 May        | Field Day on Kennebunk Plains (York County)(contact person: Peter Darling)   |
| 30 May       | Field Day on Reclaim Plains, Old Orchard Beach (York County)(contact person: Peter Darling)  |
| 20 June      | Field Day at Hidden Valley Nature Center, Jefferson (Lincoln County)(contact person: Kathy Claerr)                                 |
| 17-20 July   | Entomological Bio-Blitz at Acadia National Park. Target groups will be Hymenoptera and Myriapoda; contact persons to be announced. |
| 8 August     | Field Day at Big Wilson Stream in Sangerville (Piscataquis County)(contact person: Diane Boretos)                                  |
| 22 August    | Field Day in Woolwich (Sagadahoc County)(contact person: Charlene Donahue)   |
| 9 September  | Bug Maine-ia, Maine State Museum, Augusta (contact person: Joanna Torow – <b>Joanna.Torow@Maine.gov</b> )                          |
| 12 September | M.E.S. Annual Meeting, Clinton (contact person: Bob Nelson - <b>BeetleBob2003@yahoo.com</b> )                                      |

(See <http://www.colby.edu/MES/> for more detailed information; new information on any event will be posted as it is received.)

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Maine Entomological Society

c/o R. E. Nelson

Department of Geology

Colby College

5804 Mayflower Hill

Waterville, Maine 04901-8858 U.S.A.

Visit our website at <http://www.colby.edu/MES/>

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