

The Maine Entomologist

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

The Official Newsletter of the Maine Entomological Society

Vol. 19, No. 3

August, 2015



PRESIDENT'S CORNER



by Charlene Donahue

I have been fortunate to have worked with a number of young entomologists recently and I will take this opportunity to tell a bit about them.

First is Kaitlyn O'Donnell, who has just submitted and successfully defended her Master's thesis at the University of Maine. Her thesis project was on host preference of winter moth in Maine. One of her most disturbing findings was that lowbush blueberry is a host for winter moth, and because the caterpillars feeds on the flower buds it is very destructive and difficult to control. As winter moth spreads this will be another pest commercial blueberry growers will need to deal with.

Kaitlyn had two field seasons; one in November – January to monitor adult activity, and one in April – June during the larval feeding time. Both seasons were partly during the academic year and she worked in a location 1½ hours from school. She devised multiple experiments building on previous research and developing techniques that would work for the winter moth. This is the first research on winter moth in Maine and provides baseline information on how this insect behaves as an emerging population.

Hilary Morin, a native of Brunswick, Maine, worked with Kaitlyn on winter moth and decided to do her Senior Thesis project looking at potential parasitic and predatory wasps that are found with the winter moth in Harpswell, Maine. She captured and identified to family an impressive number of not only wasps but everything else she caught in her traps. Her work actually became an ecological study of the area both in and just outside the winter moth outbreak area. Hilary is working on completing her parasitic wasp identifications and writing up the results (see her thank-you article on page 4). She did an impressive amount of work in

one short season and has also added to that incredibly important baseline information about what exists in an area when an invasive species moves in.

Joseph DeSisto is a young Bangor man going into his junior year at the University of Connecticut. He is interested in the sub-phylum Myriapoda which contains centipedes and millipedes. He has written an article about these interesting soil denizens for an earlier MES newsletter, and asked people to collect them for him. He is THE active expert on Myriapoda in the United States, and inspired us all at the Bioblitz last month to pull apart logs and turn over rocks to collect for him. No one has ever looked at the Myriapodes of Maine. Joseph estimates there are probably around 40 species in Maine. We found 20 species in Acadia National Park in two days.

And finally let me tell you about Regina Smith, who grew up in Lewiston and is currently working at the Maine Forest Service lab as a technician. She got her degree in New Media at the University of Maine, but had a job in the Entomology Department as work-study student working with bumblebees. She absolutely loves bees (and now has two honeybee hives in Portland, one at the community gardens) and did her Senior Thesis project developing a device to put in hives to remotely monitor the living conditions, so that if it gets too moist or cold then a beekeeper will know to go check the hives.

Share your interest in insects with others; you never know who is going to get hooked. Regina did not know how much she like insects until she got a job working with them at school, and Joseph did not plan on becoming the country's expert on millipedes and centipedes. But it happened. Help it happen more.

Inside:

- Results of 2014 Beetle Blitz at Acadia (p. 2)
- The 2015 Hymenopteran Blitz at Acadia (p. 2)
- Bug Maine-ia Returns to Maine State Museum (p. 3)
- Brandon Woo is on the Move! (p. 4)
- Serena Gross is now DOCTOR Serena Gross! (p. 4)
- Thank you, M.E.S.! (p. 4)
- Red Hat Society vs. Deer Flies (p. 5)
- First record of *Pagaronia minor* in Maine (p. 5)
- Literature notice: a new European leaf beetle recognized in Canada (p. 5)
- Literature notice: a summary of insects that attack conifer seedlings (p. 6)
- Agenda for Annual Meeting in September (p. 6)
- Coming M.E.S. events calendar (p. 6)

IMPORTANT REMINDER:

Please don't forget to let us know if you move or change mailing or e-mail addresses! At least one copy of each issue of the newsletter is returned, either from e-mail or snail mail, because of invalid addresses or expired forwarding orders. Secretary-Treasurer Dana Michaud's mailing address is on the back page. Thanks!

Results from the Acadia National Park 2014 Bioblitz

by Donald S. Chandler
Department of Biological Sciences
University of New Hampshire
Durham, NH 03824

On the beautiful weekend of July 18-21, 2014, around 70 “blitzers” participated in the third bioblitz that targeted beetles of Acadia National Park.

After the round of introductory and organizational talks on Friday evening at the Schoodic Education and Research Center, the “24 hour” period of intensive collecting began Saturday morning. Saturday was devoted to Mt. Desert Island, where five ecologically different areas were targeted by groups of “beetlers”: Bass Harbor, Canon Brook, Duck Brook, Great Meadow, and Western Mountain areas.

On Sunday was a period of free-form collecting on the Schoodic Peninsula in the morning, and the gathering of the various traps (pit-falls, flight intercept, Lindgren funnel, and baited malaise traps) ran through the afternoon. During this period and Monday morning, voucher specimens were mounted, labeled and sorted/identified to species where possible.

Ten boxes of specimens returned with the lead scientist, UNH coleopterist Don Chandler, so that the more challenging material could be identified at a leisurely pace. Parts of this material was subsequently farmed out for visitors to UNH (Jonas Insinga), or those at other institutions to identify (Bob Nelson, Colby College; Ales Smetana, Serge LaPlante, Pat Bouchard, Ed Jendek, Canadian National Collection of Insects, Ottawa). As the specimens were identified, the data were entered into a database that captured the “who, what, when, and where?” of each voucher specimen that documented presence of species at the targeted areas.

After lunch on Sunday, there is a traditional report on the success of the blitz, typically a guesstimate of the number of species taken, though a significant portion of the material collected is still being processed and hasn’t been thoroughly examined. The guesstimate was **320** species, with speculation that the final count would probably turn out to be higher, as it always is.

produced by the three beetle blitzes. For year 2014 **209** species were taken for the first time at the beetle blitzes, and 33 of these species are new state records based on the list by Majka *et al.* (The Coleoptera of Maine).

years →	2005	2013	2014	total
# species	353	371	465	770

Between-year similarity in species lists has been low, with only 94 species collected all three years, and only 50% overlap between years 2013 and 2014. Each year has been different in terms of the species collected, and in each year another large number of species has been added to the park list.

The five collectors who captured the most species are listed below, with two individuals collecting well over 100 species. Systematic use of various traps (particularly flight intercept and malaise/Santé traps), examination of fungi, observant searching, and productive sweeping were noticeable factors in leading to the increase in species.

Collector	# species
M. DiGirolomo	166
J. Insinga	137
D. Chandler	78
R. Nelson	76
B. Woo	62

The eight families with the most species consistently account for 60% of the total species for each blitz, and the total number of families produced by the Acadia blitzes has risen to 65 families. Of these, 93 species of weevils (Curculionidae), 79 species of Staphylinidae, and 75 species of Carabidae round out the top three families.

Family	2005	2013	2014	total spp.
Cantharidae	20	16	16	33
Carabidae	33	31	43	75
Cerambycidae	13	19	27	43
Chrysomelidae	24	35	40	67
Curculionidae	39	49	65	93
Elateridae	22	27	33	50
Scarabaeidae	12	13	16	27
Staphylinidae	43	35	35	79
Totals →	206	225	275	467

Based on the number of species collected, this was the most successful blitz of the three, but an important part of “success” must take into account the good weather, camaraderie, and satisfaction in contributing to an increasing knowledge about the biodiversity of a beautiful national park.

* * * * *

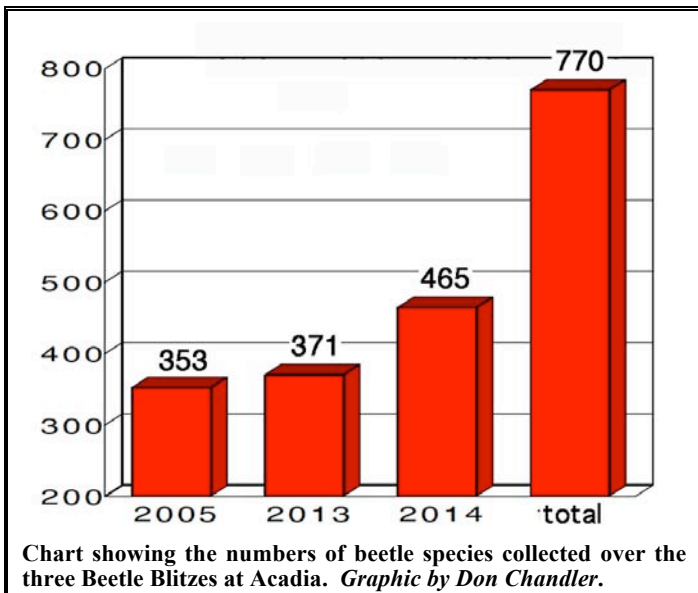
2015 Entomological BioBlitz at Acadia by Bob Nelson

Some 54 official registrants, including six Acadia Teacher Fellows, and five I-Tech students, gathered at the Schoodic Education and Research center (SERC) campus of Acadia National Park on the weekend of July 17-20 to commence the thirteenth annual Entomological BioBlitz at Acadia.

The focus this year was on two groups: the Hymenoptera, with Dr. Robert Kula of the U.S. Department of Agriculture as the lead authority, and on Myriapoda, with Mr. Joseph DeSisto of the University of Connecticut as the on-site expert. This year also featured an iNaturalist component – in which participants could use an iPhone or iPad to photograph organisms and upload the images to a database.

Weather was damp but spirits remained high. Friday evening featured the regular introductory meeting and presentations on the target groups and specific collecting

continued on the next page



The final count is **465** species, the most ever of the three beetle blitzes, and in fact is nearly 100 more species than were taken during the 2014 beetle blitz (**371**), or 2005 beetle blitz (**353**). There is now a total of **770** species of beetles

The Maine Entomologist

2015 Blitz Report (cont.)

strategies. After breakfast on Saturday morning, everyone headed out in teams to pre-selected ecologically diverse habitats on the Mt. Desert Island portion of the Park. Saturday evening featured a lobster dinner, following which many participants adjourned to the lab for sorting, pinning and labeling. Some were unable to pry themselves away from the lab until nearly 3:00 a.m.!

Sunday morning after an early breakfast, participants fanned out over the Schoodic Peninsula portion of the Park to collect and photograph in established sites from which we've gathered data on other groups in the past. Sunday noon ended official collecting, participants had lunch and the group photo was taken. The afternoon, and evening, continued the laboratory sorting, including materials from various traps that had been put out earlier and collected immediately after lunch. The most diehard participants departed the lab and SERC on Monday.



Most of the participants in the 2015 Entomological BioBlitz at Acadia (a few were camera shy or had to depart early). Myriapod authority Joseph DeSisto is seated in the front, at right, and Hymenopteran specialist Bob Kula is standing on the deck, fourth from the left in the rear.

Despite the occasional light showers on Saturday and the mist and fog of early Sunday morning that left much of the above-ground habitat wet, collecting was surprisingly good. Overall, the initial estimate was that approximately 300 species of Hymenoptera were found and collected, including 75-100 species of Braconidae, 75-100 Ichneumonidae, 10 sawflies, 20 bees, and an unknown number of ant species. The biggest bonus was the preliminary assessment that we may have found not one but *two* undescribed species of parasitoid wasps.

Joseph DeSisto estimated there may have been a total of 20 species of Myriapoda, including both centipedes and millipedes.

As is usual for the Blitz, the final counts will take time, as the more exotic and difficult (or unfamiliar) taxa are identified back in the lab.

* * * * *

Bug Maine-ia at the Maine State Museum

Tuesday, September 15, 2015

9:00 a.m. - 3:00 p.m.

Free Admission All Day for Human and Insect Visitors!

by Joanna Torow

Here at the Maine State Museum we are gearing up for one of our favorite days of the year, *Bug Maine-ia*, an insect

extravaganza. One day out of the year completely reserved for everything insect-related!



Above, Marj Dearborn reaches into a jar to pull out a specimen of an always-popular Woolly Bear caterpillar for avid Bug Maine-ia attendees last year, while below, Tony Sohns shares his knowledge of more exotic insects and spiders with several other entomologists-in-training. Photos provided by Joanna Torow.



Bug Maine-ia is one of the museum's largest annual events of the year. The museum sees over 1,500 people, hundreds of which are school children, both public and homeschooled, who come with great eagerness to learn about insects. To make sure it will be a great day for all, the museum staff is in full event planning mode – rushing around creating flyers, emailing new potential presenters, and diving deep into all the details that take this event to the next level!

This year we are trying something new by moving the event from a Wednesday to a Tuesday and moving it back a week so to better fit into teacher schedules. Bug Maine-ia never fails to fascinate and inspire visiting schoolchildren and teachers, so it is very important to us that we reach as many schools as possible. That meant, when teachers gave us their feedback and suggestions, we listened, and it seems to have worked, we already have some school reservations coming in.

Contributing to the heightened enthusiasm for insects on this day, are the many Maine entomologists who each year fill the museum with fascinating insect displays and hands-on opportunities allowing the public up close and personal interaction with the bugs. Certainly we could not achieve such a successful event without the dedication and enthusiasm of all the entomologists and educators who participate. We extend a big thank you to all those dedicated presenters who join us year after year. If you have never been, we hope you will take the time to check out this amazing event!

continued on the next page

Bug Maine-ia (cont.)

We are always looking for new presenters, so if you or someone you know has a great idea for an insect display or activity or if you would like to come and help out with an existing activity, please contact Joanna Torow at the Museum at 287-6608 or e-mail her at Joanna.torow@maine.gov. We'd love to have you.

* * * * *

Brandon Woo on the Move
by Charlene Donahue

Many of you either know long-time MES member Brandon Woo, or at least have read his articles in the MES newsletters – such as the one on his first Maine discovery of the introduced leafhopper *Pagaronia minor*, on page 5 of this issue. Brandon has grown up in the Society, having joined when he was nine. He has been a member-at-large of the Executive Board for the past five years.



Brandon Woo's passion for insects started early, as demonstrated in this 2007 photo taken at the Winter Workshop on spiders. Brandon was for at least a while more fascinated by Charlene's Vietnamese stick insects than the spiders. (Mother Domenica Vacca wasn't so sure about them!)

Brandon has just graduated from Waynflete School in Portland, and is headed to Cornell University to study entomology. Before he graduated, he was a member of the school's Science Olympiad Team. The Waynflete team won the State tournament and went out to Lincoln, Nebraska, to compete in Nationals. One of the Olympiad's topics for the past two years was Entomology. Brandon won the gold medal in Entomology; this may be the first Science Olympiad gold for Maine in *any* topic! We are very proud of Brandon!

You can read more at <http://tinyurl.com/oac6zk7>.

Before Brandon heads to college, he is spending three weeks in Mozambique studying grasshoppers (see one of his photos on p. 6). Hopefully, he will have time to write an article for the next MES newsletter about his experiences in Africa. He's writing a blog about his discoveries, including photos, which can be found at

<https://theincorrigibleentomologist.wordpress.com/>.

* * * * *

Other Member Academic News

Two other long-time M.E.S. members reached significant academic milestones this year. **Mike Mazurkiewicz** retired as Professor of Biology at the University of Southern Maine after 45 years of inspired teaching. **Serena Gross** has completed her Ph.D. in Forensic Entomology at Purdue University, and now is **DOCTOR** Serena Gross! Her dissertation was entitled "*Carrion-Associated Arthropods in Rural and Urban Environments.*" Congratulations to both!



Serena Gross was fascinated by an exotic walking stick at Jim Nutting's Maine Art Glass Studio on a winter M.E.S. event in 2009.

Thank You, M.E.S.!
by Hilary Morin

I would like to say thank you to the Maine Entomological Society for the scholarship to attend this year's Acadia National Park Hymenoptera Bioblitz. As a recent University of Maine graduate, having financial aid made the trip back up from central Pennsylvania (where I am currently living) to Maine much less stressful.

The Blitz was incredibly helpful for me. I am working to further my research on the invasive winter moth in Harpswell that I started as my honors thesis at the University of Maine. I found relationships between some parasitic wasp families and the winter moth caterpillars as part of the project. However I was unable to identify all of my wasps to family or take the identities further.

Just with the resources from the Bioblitz that one weekend, I understand a lot more about the Hymenoptera family identification process. Additionally, the event proved to be an amazing networking opportunity for me. I will be starting a ten-week internship this fall with Dr. Robert Kula (who was the event's lead taxonomist) at the Smithsonian Museum of Natural History in Washington D. C. During the internship I will complete the winter moth parasitoid identifications and work on publishing my research. I am incredibly thankful for this opportunity, and I will be attending and looking forward to all future Bioblitz events!

* * * * *

Red Hat Society and Deer Flies by Charlene Donahue

A relative's relative who asked to remain nameless was told about a novel way to keep deer flies at bay by an old Mainer. He said, "Take one of those red beer cups, smear it with Vaseline and tie the cup to your head. The deer flies will all get stuck to cup and leave you alone." Well she tried it and it worked, but the relatives would have nothing to do with her while she was wearing the hat (other than take her picture). The dog did not mind.



Another less obvious way to keep deer flies at bay is to cut a two-inch square of double-sided carpet tape and stick on the back of your hat. The flies get stuck on it and you can replace the tape when it is filled with flies and is no longer effective.

* * * * *

Finding *Pagaronia minor* in Maine by Brandon Woo

It often happens that you find a new insect before you know what it is. It is also common to read about a species long before you actually encounter it. But it is a rare experience to read about an insect and then find your first one on the same day.

This happened to me in June of this year. While browsing through leafhopper images on BugGuide.net, I came across a species, *Pagaronia minor* (Anufriev, 1970), which I had never heard of before. It is a large (~7 mm), green, Japanese leafhopper that was first reported in New York City in June, 2005, and has been rapidly spreading along the East Coast. The general habitus and the dark black spots on the head are distinctive.

Not much is known about the biology of this species, not even its host plants. BugGuide records showed it as far south as North Carolina and as far north as Rockport, Massachusetts. I was intrigued by all of this and suspected that they might be in New Hampshire and Maine, and even if

they weren't, they might be soon (as we all know, introduced species tend to get around!).



Pagaronia minor photographed in Kennebunk, Maine
Photo by Brandon Woo

Later in the day, I was outside in my yard when I saw something jump under a leaf. My thought processes when I turned over the leaf went something like this: "Ooh, a leafhopper! Doesn't look like one I've seen in the yard before...Wait, it has black spots on its head! I think it's *Pagaronia*!" After my initial excitement, I grabbed the critter and hopped onto BugGuide. Sure enough, it matched the photos there perfectly. Thus heartened, I returned outside and swept the area, which consisted mostly of goldenrod and asters. This yielded over twenty adults, and additional searching proved that not only was *Pagaronia* established in my yard, they had a sizable population as well!

I was eventually able to photograph an individual, the result of which you can see above. I also collected a series of specimens and sent them to Don Chandler at UNH, who has been on the lookout for them in New Hampshire. So far they haven't turned up in that state yet, but they are surely there.

This is definitely an interesting animal to watch out for, as it is a recently introduced species and we have no idea what effects it might have on the native flora and fauna.

Reference:

Pagaronia minor - BugGuide: <http://bugguide.net/node/view/94361>
* * * * *

Literature Notice: A New Introduced Leaf Beetle

A forthcoming article in *The Canadian Entomologist** has documented the presence of a European tortoise beetle, *Cassida viridis* (Chrysomelidae), in southern Ontario, which apparently has been established there for at least 40 years, based on specimens found in the collections at the University of Guelph.

Given the rapidity of spread of introduced taxa into suitable habitat, it is conceivable that the species may occur in southern Maine but has not yet been recognized here. Specimens that may have been found here could easily have been mistaken for the similar *C. rubiginosa*, which has long been established in North America (including Maine), and was introduced deliberately to help control thistles.

Both species are 7-9 mm in length, and green in color; like all tortoise beetles, the head is concealed beneath the pronotum.

continued on the next page
August, 2015

Introduced Leaf Beetle (cont.)

The easiest way to tell the species apart is that adults of *C. rubiginosa* tend to have a darkish "cloud" on the elytra around the scutellum, extending onto the pronotum, and the elytra are somewhat paler at the margins. More importantly, the hind-angles of the pronotum are roughly at right angles, with the slightest rounding at the tip.



Photo of *Cassida viridis*, at the Regional Park of Capanne di Marcarolo, Alessandria, Italy; photographed by contributor Hectonichus (from commons.wikimedia.org)

C. viridis, on the other hand, is entirely bright lime green, and the hind angles of the pronotum are broadly rounded, as shown in the photo above. The pronotum of *C. rubiginosa* is also fairly coarsely punctured, whereas that of *C. viridis* has only fine punctures.

Hosts are also important. *C. rubiginosa* feeds mainly on thistles, while *C. viridis* feeds on members of the Lamiaceae – the mint family – including beebalm (*Monarda*).

There are as yet no records for this species in Maine, but as Brandon Woo showed (in his article on the introduced *Pagaronia minor* that was common in his back yard), we often don't find these until we look for them! Consider that this species has been collected in southern Ontario since 1974, and was only just recognized in their fauna.

Bob Nelson has a digital copy of the article, which includes comparative photos of both *C. rubiginosa* and *C. viridis*, and will be happy to forward it to anyone on request.

* *Cassida viridis* (Coleoptera: Chrysomelidae), a Palearctic leaf beetle newly recorded from North America, by Stephen A. Marshall and Steven M. Paiero. *The Canadian Entomologist*, in press.

* * * * *

Literature Notice:

Insects Attacking Juvenile Conifers

A forthcoming article in *The Canadian Entomologist** brings together a nice summary of insect pests that attack and often bring about mortality in juvenile conifers, including most species that occur in Maine. Weevils that girdle roots and seedlings, Noctuid larvae that will cut off new seedlings at the ground, as well as foliage feeders, sap-sucking insects, gall-formers, and other insects attacking young conifers are all catalogued and discussed, along with suggestions for management in commercial woodlots. This would be an excellent introduction to the role of insects in the conifer forest for those who would like to know more about the topic.

Bob Nelson has a digital copy of this and can forward it to anyone who would like it.

* Insects affecting regenerating conifers in Canada: natural history and management, by René I. Alfaro and Alvaro Fuentealba. *The Canadian Entomologist*, in press.

* * * * *

Agenda for Annual Meeting in September

Bob and Nettie Nelson (BeetleBob2003@yahoo.com or 426-9629) invite all M.E.S. members and potential members to their home at Rock Ridge, for the annual M.E.S. business meeting, **on Saturday, September 12th. Please** do let us know if you're planning to attend to help with our planning! Signs will be posted at the ends of the Clinton off-ramps from I-95 to guide you to the meeting. Please contact Bob if you need directions from another route.

The grounds are open for collecting, as usual – and sometimes yield surprising new discoveries. We'll have oven-roasted chicken and vegan chili available, and invite everyone to bring something to add to the pot-luck luncheon that precedes the business meeting.

Come as early as 10:00 a.m. for collecting. Lunch will begin around noon, and the business meeting will start at 1:30.

A tentative agenda for the 2015 Annual Meeting of the Society, will include:

- 1) Approval of minutes of 2014 meeting (published in the November, 2014, issue of the newsletter)
- 2) Election of officers
- 3) Report of the Treasurer (and auditing thereof)
- 4) Report on a M.E.S. Scholarship fund award
- 5) Winter Workshop plans – and tentative plans for next year's BioBlitz at Acadia
- 6) Summer, 2016, field days
- 7) other subjects requiring or worthy of Society attention



Acrida acuminata, one of the exotic grasshoppers Brandon Woo has encountered in Mozambique. Brandon said this pink and green specimen was as long as his hand. (photo from his blog – see p. 4)

COMING M.E.S. EVENTS in 2015:

- | | |
|--------------|--|
| 8 August | Field Day at Big Wilson Stream in Sangerville (Piscataquis County) (<i>cancelled due to safety concerns</i>) |
| 22 August | Field Day in Woolwich (Sagadahoc County) (contact person: Bob Nelson – 426-9629 or by e-mail at BeetleBob2003@yahoo.com) |
| 12 September | M.E.S. Annual Meeting, Clinton (contact person: Bob Nelson) |
| 15 September | Bug Maine-ia, Maine State Museum, Augusta (contact person: Joanna Torow – Joanna.Torow@Maine.gov) |

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

The Maine Entomologist is the quarterly newsletter of the Maine Entomological Society. Dues are \$10 per year. Checks should be made payable to the M.E.S. and sent to Mr. Dana Michaud, M.E.S. Treasurer, at 3 Halde Street, Waterville, ME 04901-6317. Our records show your dues are paid through the year printed on your mailing label; please contact Dana if you believe this is in error. *Individual articles reflect the opinions of the authors and mention of any specific commercial products or businesses should not be construed as formal endorsement by the M.E.S. of any such product or business.*