

The Maine Entomologist

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

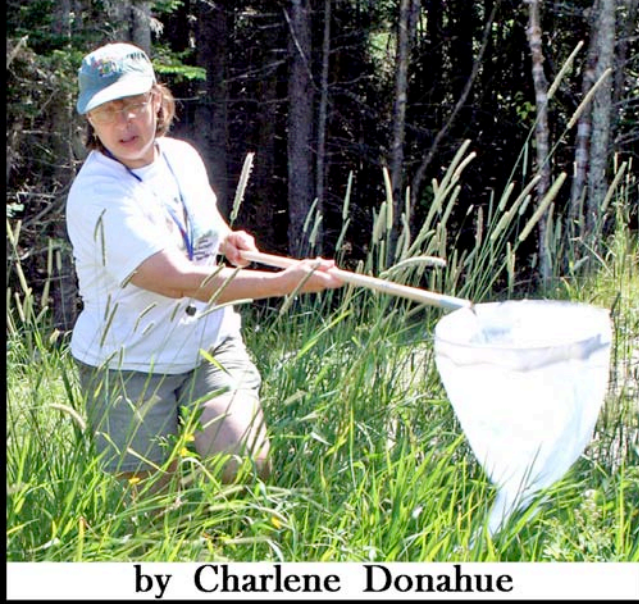
The Official Newsletter of the Maine Entomological Society

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November, 2015



PRESIDENT'S CORNER



by Charlene Donahue

What a warm fall we have had! What will this do to insect populations?

We should first look back at last winter that was colder than has been the norm in recent years. How did that affect insects? Some of the pests that have moved north and begun overwintering here were in short supply at my house. Tomato hornworms (*Manduca quinquemaculata* or *M. sexta*) were absent; cabbage whites (*Pieris rapae*) did not show until late in the season, no corn earworm (*Helicoverpa zea*) and fewer Japanese beetles (*Popillia japonica*) than usual. Not to say that these insects disappeared from the landscape. It may have been just cold enough to prevent these insects that overwinter as pupae to survive the winter. Or there may be some other reason for their low numbers.

The El Niño event happening in the Pacific Ocean is bringing us this warm fall and may produce a mild, wet winter as well. The long and mild fall may actually be detrimental to some species. Spruce budworm (a native insect) and browntail moth (an invasive) both overwinter as early instar larvae. They are well adapted to bitterly cold winter temperatures but not so much to protracted warm fall weather. Both these species hatch from their eggs in August and feed briefly in August and September. The tiny larvae then 'web up' for the winter. If it stays warm then their metabolism runs faster than it would in the cold and they burn up their energy reserves. They then die before spring. This is potentially a good thing. Other insects, such as those mentioned in the first paragraph, will do very well with the warmer weather.

Recent work with blueberry spanworm (*Itame argillacearia*) has shown that although the eggs readily survive cold winter temperatures the newly hatched larvae are

susceptible to spring freezes. This is an idea that we need to consider for winter moth (*Operophtera brumata*) and how far it will spread inland. The Maine Forest Service has temperature loggers in the yards of two MES members who are in the winter moth infested parts of the state.

These are just a few of the ways that weather affects insect survival. When people ask, "Did the insects all die from the cold last winter?" There is no one answer other than, "No, all the insects will not die from the cold."

I noted earlier that several garden pests were uncommon or rare at my house this year. Did you see the same, or did you have a different experience? Let me know!

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BALLOT for CHANGE IN BYLAWS !!!

You'll find a ballot enclosed for three important proposed changes to the M.E.S. by-laws. PLEASE take the few moments necessary to clip this from the dues renewal portion of the insert, mark your preferences, and return it by mail to Charlene Donahue at the address on the ballot. For something of this significance, major membership participation is essential. Thanks!

DUES REMINDER!

M.E.S. dues are payable on a calendar-year basis. If you haven't already done so, please renew now for 2016 to guarantee uninterrupted receipt of the Newsletter; you'll find an insert inside this newsletter. Treasurer Dana Michaud's name and mailing address are also 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 "2015", please contact Dana to renew for 2016 or correct the record.

ONE MORE 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!

Minutes of MES Annual Meeting: September 12, 2015

Submitted by Anna Court

About 20 people attended the MES Annual Meeting at Bob and Nettie Nelson's home in Clinton on a beautiful sunny day -- September 21st. Collecting followed by lunch preceded the business meeting, which President Charlene Donahue called to order at about 1:15 p.m.

Attending the business meeting were the following: Diane Boretos, David Bourque, Kathy Claerr, Anna Court, Peter Darling, Charlene Donahue, Karen Hopkins, Edie King, Louie King, Mike Mazurkiewicz, Bob Nelson, Dana Michaud, and David Wiggins.

Charlene passed out copies of two MES member lists: one alphabetically by name with contact information and one of members by entomological interests. If members didn't get a copy, they may contact Charlene.

ACTION: The Minutes of the Annual Meeting in September 2014 were approved.

Treasurer Dana Michaud presented the Treasurer's Report which showed a balance of \$2,177.46 in the general account as of August 31, 2015. This showed an increase of \$235.87 over the general account balance of August 31, 2014. The balance in the Scholarship Account was \$1,448.47 on August 31, 2015. The Treasurer's Report including itemized accounting of all income and expenditures, was audited by Nettie Nelson and found to be in order. **ACTION:** The Treasurer's Report was accepted by vote of the members present.

With reference to finances, the group discussed the source of the funds in the Scholarship Fund. \$1 of dues goes to the Scholarship Fund, Michaud said. But the \$1 contribution to the Fund for the sale of each sweat shirt was suspended because the price we are asking for the sweat shirts does not cover cost. **ACTION:** The Executive Committee will decide on a new price as well as new mailing rates.

Michaud reported that the two-year membership collection change was working well. He reminded the group that we have proposed life memberships at \$200.

The next item on the agenda was election of officers. President Charlene Donahue, Treasurer Dana Michaud, Member-at-Large Edie King and Newsletter Editor Bob Nelson agreed to serve another year in these positions. Karen Hopkins resigned as Vice President and Kathy Claerr was nominated for this position by Peter Darling. Member-at-Large Brandon Woo is now away at college and so needs to be replaced. Diane Boretos agreed to serve in this capacity. **ACTION:** The 2015 slate of MES Officers was unanimously elected: President Charlene Donahue, Vice President Kathy Claerr, Treasurer Dana Michaud, Newsletter Editor Bob Nelson and Members-at-Large Diane Boretos and Edie King.

Charlene Donahue said that as President, she has many responsibilities and needs help. The group suggested that she ask for help from members and that she name specific tasks that members can do.

The issue of changes to the Bylaws was raised. Currently the Bylaws stipulate that voting has to be by paper ballot. The changes that need to be made are: 1) to allow for voting electronically -- i.e. by e-mail; 2) to allow for future changes in the Bylaws to be voted on at the Annual Meeting; and 3) to allow for a \$200 lifetime membership. **ACTION:** These proposed changes to the Bylaws will be announced in the November 2015 Newsletter which will include a paper ballot. The ballot will be due by December 31st. **Edie King** agreed to draft the ballot and send it to Bob Nelson for inclusion in the Newsletter.

The issue of non-profit status for MES was discussed. Peter Darling said that we have already voted approving this

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change. He said he has researched it and all that is required is the names and addresses of officers and appointment of a Board of Directors that does not include officers. **ACTION:** **Peter Darling** said that he would contact members to form the Board of Directors and complete the application. The group voted to authorize Peter to spend up to \$125 for fees for the application. **Kathy Claerr** agreed to write up this matter for the November newsletter.

The Group discussed disbursement of the Scholarship funds. So far this year, MES awarded a \$100 scholarship to Hilary Morin, an entomology graduate student, to help defray expenses of attending the Acadia National Park Hymenoptera Bio-Blitz last summer. The group agreed that we need more applications for scholarships. **ACTION:** We will produce a poster that shows the benefits of being a MES member, including the availability of scholarships. **Charlene Donahue** will e-mail members asking for a volunteer to design a poster. She will send the poster by email to educational and other organizations advertising the availability of scholarship funds.

The group discussed the need for outreach efforts to increase membership. **ACTION:** we will have a table at Bug Maine-ia at the State Museum next year with our new poster and MES brochures and the ability for people to pay dues and sign up for membership. We will have a drawing for a free T-shirt and should ask the Museum store if they will sell our T-shirts. We will also have a table at the Edith Patch Society annual Insect Day at the Orono Library.

The group planned MES activities from October 2015 to October 2016, as follows:

October/November, 2015: **Charlene Donahue** will arrange for a meeting at the Natural History Annex at the State Museum. She will announce this by e-mail to members.

January-February, 2016: **Charlene Donahue** will ask her colleagues if they will help organize a winter workshop at the Maine Forest Service Building. If they are willing, the subject will be Lepidoptera.

March: **Charlene Donahue** will host a collecting/get together at her house in North Whitefield.

May: Participation in Insect Day at the Orono Library; collecting/identification event on the trails behind the Edith Patch house on College Ave (**Kathy Claerr**).

June: **Kathy Claerr** will explore a joint insect/plant identification event with the Kennebec Estuary Land Trust.

July: Entomological Bio-Blitz at Acadia National Park -- third weekend in July, on Lepidoptera.

August: Field Day at Big Wilson Stream in Sangerville. **Diane Boretos** is in charge.

September: Bug Maine-ia; **Kathy Claerr** will organize a field day from her home in Bowdoin.

October: The group agreed to change the date of the MES Annual Meeting to the first Saturday in October.

The group discussed asking Bernd Heinrich, Zoology Professor Emeritus to lead a field day for MES members, perhaps at his cabin near Weld, Maine. **Anna Court** will draft an invitation letter. **Charlene Donahue** will follow up.

The group discussed the disposition of state-collected insect specimens by Inland Fisheries and Wildlife. Many members of MES helped collect the specimens of butterflies, dragonflies and damselflies so that the state could make a Maine Atlas. The lead entomologist on the project gave all of the specimens to the taxonomists in Nova Scotia and New Brunswick who identified the Maine specimens. **Action:** MES will send a letter requesting that voucher specimens of every species come back to Maine for archiving; and that Inland Fisheries and Wildlife set up an advisory committee on such matters.

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November, 2015

Minutes of Annual Meeting (cont.)

The group discussed issues that arose at the July 2015 Bio-Blitz at Acadia National Park – specifically, the increased cost this year compared to previous years (i.e., costs for housing) and the lack of communication and coordination with MES on the Bio-Blitz. MES is a significant provider of services for the Bio-Blitz and wants more input in planning. **ACTION: Charlene Donahue** agreed to write a letter.

The group decided to add a hat to MES' collection of clothing for sale. **Peter Darling** will be responsible for this.

The group discussed the need for a monitor for a blog attached to the MES website. The blog can't be launched until a monitor or monitors are identified. **Peter Darling** said he would address this.

The group discussed collaboration with the Edith Patch Society. Edie and Louie King have been members and involved in the Society for a number of years and provided some information about Edith Patch and the Society's activities. The Society saved Patch's house from demolition and restored it. They hold an Insect Day every spring at the Orono Public Library. Charlene said that partnership with the Society would be advantageous, promoting a closer relationship with UMaine professors, students and staff. **ACTION:** The group voted to donate \$100 to the Society and to have an MES table at the Orono Library Insect Day. The group also agreed to hold a collecting event on the trails behind the Patch house on College Ave on the afternoon of the Insect Day event. **Kathy Claerr** agreed to organize this event. **Charlene Donahue** agreed to write a letter to the Society on these matters.

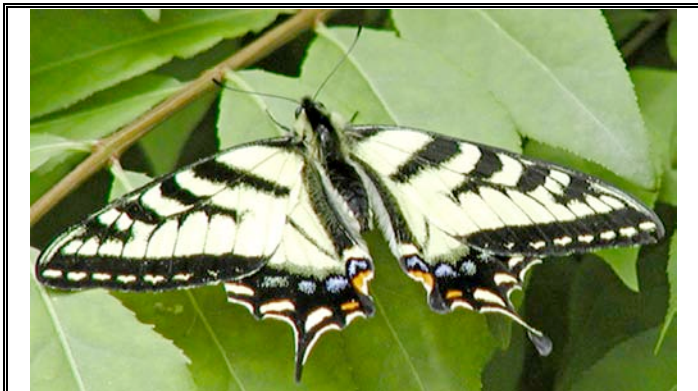
The meeting adjourned at about 3:45 p.m.

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**Macro-Lepidoptera Winter Workshop 2016 –
Saturday, February 27**

The 2016 MES Winter Workshop topic is Lepidoptera, specifically the macro-Lepidoptera. Moths and butterflies are a favorite for many people.

The workshop will take place at the Maine Forest Service Bolton Hill Facility in Augusta at 14 Conservation Drive, off Route 3 – directions will be found below. The workshop will run from 9:30 a.m. to 3:00 p.m. on Saturday, February 27, 2016. The workshop is open to people with any level of experience or none at all.



The Canadian Tiger Swallowtail (Papilio canadensis) is one of our most common large butterflies, found statewide.

The Lepidoptera – moths and butterflies - is an important order of insects from many perspectives. It is the third largest order of insects, with thousands of species in Maine. They fill many niches in the environment and some of them have significant economic impacts.

Yet many people do not recognize the diversity and stunningly beautiful moth side of the order. Part of the reason may be that many of the adults are active only at night and so we miss their presence during our waking hours. Come learn about these small wonders, what resources are available for identifying moths, and take a look at their beauty, learning more about our world on a cold February day.

There is a \$20 fee to cover expenses and pre-registration is required by February 12th. Please bring your \$20 with you to the workshop so we do not have to deal with reimbursing money if it has to be cancelled. There is a limit of 30 people and we usually fill these workshops to capacity, so sign up early. Please bring a bag lunch. There are microscopes available but if you can bring one, please do so.

To register: e-mail patti.roberts@maine.gov. If weather is threatening on the day of the workshop, contact Colleen Teerling at 207-592-2474. Also if you cannot make it for some reason, please call so that if there is a waiting list, others on that list can attend.

Directions:

From north or south on Interstate 95: take exit 113 and merge onto Maine Route 3, heading eastwards toward Augusta/Belfast. Cross the Kennebec River and go straight through the lights at Route 201. In 6.6 miles, you'll go up a hill. Just past the Smokey Bear Fire Danger sign, turn right onto Conservation Drive.

The physical address is: 14 Conservation Drive, Augusta. (This address in a GPS unit should get you there; if you get turned around, just watch for the Smokey Bear sign and you should be fine.)

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**Visitors Swarm Maine State Museum in
Augusta for Bug Maine-ia
by Joanna Torow**

The Maine State Museum was alive with insects on Tuesday, September 15th, and their presence brought out a swarm of human visitors. School children, teachers, homeschoolers, and everyday visitors that happen by the museum were all amazed by the displays and activities that formed the 13th annual Bug Maine-ia event.



Dick Dearborn and Dana Michaud were short on woolly bear caterpillars, but not on enthusiastic devotees at their Bug Maine-ia table.

Photo supplied by Joanna Torow

The minute visitors entered the museum, it was clear that for this one day the insects were celebrities, with the Peruvian Pink Rump Tarantula, the Giant African Millipede, and the brightly colored exotic butterflies being the superstars of the bunch. But the less showy insects shined too!

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November, 2015*

Bug Maine-ia (cont.)

A new presenter to the event, Allison Kenney, showcased several species of stick insects that highlighted the exceptional camouflage of insects – is it a leaf or a twig, nope, it is a live bug!

Other bugs were hard at work such as the ladybug larvae found in corn husks gorging themselves on aphids at the *Insects on the Farm* display put on by the Maine Department of Agriculture and Maine Agriculture in the Classroom. The Kennebec County & Maine State Beekeepers Associations brought a live honey bee hive so everyone could observe bees performing their normal daily chores. Woolly Bears caterpillars were in short supply for this year's event so no predictions on the weather forecast quite yet, but Marge and Dick Dearborn and Dana Michaud of Maine Entomological Society kept the students enthralled with a variety of other Maine insects.

Moving farther into the museum galleries, visitors came across Charlene Donahue and Edie King with a plethora of insects. Their supply of magnifying glasses allowed everyone a chance to inspect the insects up close and see how well-designed they are for living in Maine forests.



Edie King and Charlene Donahue had their Bug Maine-ia table constantly swarmed by young entomologists-in-training eager to check out the light-trap specimens with a magnifying glass.

Photo supplied by Joanna Torow

Visitors followed a paper “ant trail” laid out on the floor and made their way downstairs, pausing to sign their names in oak gall ink made with help from the oak gall wasp; learn how to tie flies from Master Maine Fishing Guide Sean McCormick; and to learn how insects in our water act as important water quality indicators at the hands-on display run by the Maine Department of Environmental Protection’s Biological Monitoring Unit. After exploring the museum and all the presenters within, students jumped at a chance to go outside and collect insects among the grass, trees, and rocks around the museum grounds. After netting a specimen they could then get it identified by Allison Kanoti and Regina Smith from the Maine Forest Service and David Bourque of the Maine Entomological Society.

In all, 1727 people visited Bug Maine-ia and all left with a smile on their face and a little bit more aware of the big role insects play in all our lives. Mark your calendars for Bug Maine-ia 2016, which is scheduled for Tuesday, September 13. This is one event you don’t want to miss!

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The Supermoth Eclipse

By Marnie Reed Crowell

People talk about birds singing their evening songs and briefly roosting in the dark of a solar eclipse. Moth watchers generally assert that moths fly less in periods around the full moon. Would we see more moths flying when the moon was in eclipse?

Deer Isle, Maine: On the nights of September 23 to 26, I went to our sheet in the forest lit by a bug zapper that has been de-fanged—i.e. the insect-electrocuting wire has been cut—and I counted the moths between 9 p.m. and 10 p.m. to approximate conditions on the night of the coming eclipse itself. Recently the night temperatures had dropped below 50°, so the sample size was admittedly going to be rather small; but our counts averaged approximately forty moths per nearly-full-moon night. The number of Hemlock Looper, *Lambdina fiscellaria*, and False Hemlock Looper, *Nepytia canosaria*, had dropped to a few dozen. By day the nearby goldenrod patch was still host to a few butterflies, Coppers, Ladies, a Sulphur, and a few Cabbage Whites.



Lambdina fiscellaria, the Hemlock Looper, on our lighted sheet.
Photo by Marnie Reed Crowell

September 27, 2015, Supermoon Eclipse. At 9 p.m. there is quite a breeze blowing in from the bay. There are three little tortricids and one Hemlock Looper on our sheet. The night is quiet, no cricket song, but one far-off buzz, and one squeak which could be a Spring Peeper. The top left corner of the moon is slightly shaded: the penumbra, Latin for “almost shadow.” When I sit in the lawn chair to look up I realize that the dew point has been reached. Tiny droplets of water spangle the chair arms. Overhead Cassiopeia has appeared, asserting herself against the fading moon. I realize I am chilly and I go to see what the young Spotted salamanders are doing in a tiny vernal pool. Under the shallow water remaining I see a number of stick-like forms, youngsters about an inch long, resulting from the Big Night frenzy in April. They don’t move. I do not see that they are paying any attention to the eclipse.

10:10 p.m. – the moon looks like a dark eyeball, the lens of remaining brightness looking down to the right. It is so dark that there are no shadows as I make my way through the woods to our sheet. My spirits rise as three Hemlock Loopers flutter ahead of me on the path. I feel like some folk tale

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Supermoth Eclipse (cont.)

character- Hansel and Gretel? Cue the Wagner score for any number of characters on a quest, or maybe Mozart and The Magic Flute. There is no sign of moonlight down here amidst the spruces. Moths come fluttering up the woods road as if called to some fairy gathering.

My husband Ken arrives. Hooray, I cannot be accused of observer bias. Together we count moths, moving targets, as best we can. He counts while I photograph. Just before the eclipse there were 33 loopers. During the hour of the eclipse we photographed 73 macro moths for a total of 93 individuals, counting the tortricids and other small moths.

When we return to the open lawn, the moon is just an ochre smudge overhead. Ken allows as how our moth numbers do seem to indicate some effect of the eclipse. It will be interesting to see what the pre-dawn numbers are.

Dawn: Our morning count shows that half of last night's dark-of-the-moon dancers crept away to their bark shelters and wherever they hide themselves from the eyes of predators. Only 42 macros or 60 total moths have come in the morning shift or have spent the remaining hours on the sheet. Pretty usual for this moon-bright week, one might say.

I am not a statistician but it seems to me that a significant number of moths took advantage the dark bonus of the dark hour of supermoon eclipse, well beyond what one might expect by chance. Good old reliable Hemlock Loopers. What a gift from the moths: Supermoth Eclipse.

Natural history writer Marnie Reed Crowell is at work on a book entitled The Moth Diaries.

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Summary of "A survey of butterflies found at a reclaimed municipal landfill Superfund site in Saco, Maine (York county)"

by Robert E. Gobeil and Rose Marie F. Gobeil

We recently published a paper in the "News of the Lepidopterists' Society" (Gobeil and Gobeil 2014) based on an extensive butterfly survey we conducted at a Superfund landfill site in Saco, Maine and decided to write a summary of the paper for the M.E.S. Newsletter.



Figure 1. View of the recreated wetlands at the reclaimed municipal landfill site in Saco, Maine.

The Superfund Site, owned by the city of Saco, covers approximately 160 acres of land. The city operated the municipal landfill from the early 1960s to 1988. In 1990, the landfill was declared a Superfund site by the U.S.

Environmental Protection Agency. As part of the closure agreement with the EPA, the city of Saco converted portions of the former landfill into recreational fields and nature conservation areas. A former borrow pit approximately 2½ acres in size was transformed into a pond and alternate wetland areas were also created at the same time (Fig. 1). The EPA determined that the landfill closure was officially completed in 2000.

During the summer of 2013, as volunteers for the Maine Butterfly Survey, we did a survey of butterflies at the reclaimed landfill. A total of 47 species of butterflies were recorded during the survey. The main goal of the survey was to determine how well the recreated wetlands serve as habitat for butterflies. Some of the more unusual species recorded included the Bronze Copper, Appalachian Brown, Mulberry Wing Skipper, Black Dash Skipper, Banded Hairstreak, and Pepper and Salt Skipper (Fig. 2). The most significant findings were the Bronze Copper and the Appalachian Brown, which are both listed by the state of Maine as species of Special Concern.

During the 13 visits to the landfill, we also counted the number of butterflies observed for a total of 1,880 individuals. Based on our counts, the Inornate Ringlet was the most abundant species with 725 individuals, followed by the European Skipper (174), Clouded Sulphur (124), Pearl Crescent (109), and Common Wood Nymph (92).

Due to frequent mowing during the summer, most of the reclaimed landfill areas (recreational fields, capped mounds, etc.) had limited nectaring sources (flowering shrubs and wildflowers) resulting in low butterfly counts in those areas. The only two areas with infrequent mowing were the recreated wetlands area and the small meadow adjacent to the pond. Both of these locations had a greater volume of nectaring sources with higher populations of butterflies.



Figure 2. Pepper and Salt Skipper (*Amblyscirtes hegon*), Saco, Maine, June 10, 2013.

Based on the diversity and abundance of butterflies that we found at the reclaimed Saco Municipal Superfund site (47 species including two state-listed species of Special Concern), it appears that restored landfills and especially recreated wetlands can serve as important habitat for butterflies and help to conserve declining butterfly populations.

If anyone is interested in reading the entire article, it is available online at

http://images.peabody.yale.edu/lepsoc/nls/2010s/2014/2014_v56_n4.pdf

Reference:

Gobeil, R. E. and R. M. F. Gobeil. 2014. A Survey of butterflies found at a reclaimed municipal landfill Superfund site in Saco, Maine (York county). News of the Lepidopterists Society, v. 56 (4):160-165.

Conversion of an M.E.S. "Groupie" to a Passionate Myrmecophile

by Kathy Claerr

I used to describe myself as an MES groupie.

I first became involved in MES about 3 years ago through participating in the annual BioBlitz at Acadia National Park. Field collecting is right up my alley. I love being outside observing the workings of nature. Coupling outdoor time with volunteering to help compile an entomological inventory of the park is a really worthwhile endeavor, if you ask me. So, I happily go to the Blitzes. At the orientation meetings, everyone introduces him- or herself, and mentions their interest or specialty. I was along for the Blitz ride because I like field work, and MES's field season is nearly opposite that of the Audubon Society's, birding being another of my outdoor passions. Without anything more to say for myself, I joked that I was just an MES groupie.

But not anymore. My life has become ants. No, it's not been some conversion or epiphany. It doesn't feel like a calling or devotion. I didn't even seek the work. I just wanted to be helpful.



Camponotus pennsylvanicus, the black carpenter ant, is one of our most common species in Maine. Typical workers are 10-12 mm in length. Photo from Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org

At the end of this year's Blitz, after all the samples had been processed, Charlene Donohue mentioned wistfully that the ants still needed to be "sorted." Well, I'd learned a lot about Hymenoptera morphology that weekend while picking through our collections. I'm endlessly fascinated by the bizarre anatomical structures I see under the microscope. An ant is an ant to the naked eye—some are bigger and blacker than others, but get them under a 'scope and there's a whole world of weird body parts to appreciate. So I thought, "Gee, I could SORT ants." Well, Charlene deftly parlayed my very tentative offer into the more accurate, "...Oh, we'd like them identified to genus and species." "Oh. OK," I said, and to myself, "She should know I bombed every dichotomous keying exercise in college."

Armed with *A Field Guide to the Ants of New England* (Ellison *et al.*, 2012) and a creaky old dissecting scope someone gave me a while back, I dove in. It probably would have made a lot of sense to start using the guide and its keys with known specimens. I have found it hard to grasp descriptions of some characteristics. For example, how hairy

is "very hairy?" How fine is "fine sculpturing?" If you haven't seen the range of possibilities, it's hard to judge. But the authors have gone a long way to helping the lay myrmicist. Not only do they offer the typical dichotomous key within each genera, but also discussions of characteristics of different groups within the various genera that can help solidify your decisions from the key; many sketches; a graphical key to genera printed on the inner cover for quick access; and illustrated matrices of key characteristics for each species, along with species accounts that include photographs, clues about look-alike species, and a list of unique characteristics of each species. Thus the neophyte has many avenues to approach an identification.

Still, I find I wonder pretty often how far off my identifications are. Re-reading descriptions sometimes reveals a nuance I didn't pick up on earlier. Sometimes an internet source helps. I've made about 30 identifications so far, with only 2 or 3 species seen twice, so I'm covering a lot of anatomical ground. Still, I spend many hours pouring over the guide. I wonder when I might recognize a specimen right off the bat, like the pros. I sure am no expert (yet?), but I'm happy. At least I've graduated from being just a groupie.

Reference:

Ellison, Aaron M., Nicholas J. Gotelli, Elizabeth J. Farnsworth and Gary D. Alpert, 2012. *A Field Guide to the Ants of New England*. New Haven, Connecticut: Yale University Press; 398 pp.

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Bugged!

by Monica Russo

Over the years, I've had some questions about insects that have bugged me. It might be fun to ruminate about the answers in a flippant way, but they may also be questions deserving of more serious consideration.

- How come there are so many species of tiny moths, but very few teeny butterflies?
- Aside from the European cabbage white and other Pierids, how come there are so few mostly white insects? (White wings may make an easy target for predators, but the cabbage whites don't seem to be endangered.)
- How come the very sticky resin from fir trees, which a *Passaloeus* wasp collects, doesn't get stuck in her mandibles? Or, what is in the wasp's saliva that acts as a lubricant?



A wasp of the genus *Passaloeus*, photographed in Massachusetts. These solitary Crabronid wasps, typically 6-8 mm long, are predators on aphids.

Photo by Charley Eiseman, from <http://bugguide.net/node/view/601158>

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Bugged! (cont.)

- The yellow stripes and bands that act as warning signals on wasps and bees works on birds, which see color. But
- have mammals, which don't see color, been tested on their reaction to specific patterns?
- Are there any other insects, aside from native bees, that have branched hairs?
- How far apart must a pair of *Passalus* beetles ("bess beetles") be, to start to stridulate each other? (I kept a pair in a terrarium and they constantly talked to each other if they were 8 or 10 inches apart.)
- What is the green pigment in the hull of a monarch butterfly's chrysalis? Where does the pigment go, as the outer hull becomes clear? After the butterfly emerges, the hull is clear – with a row of brilliant metallic yellow-gold spots near the top. What is the gold pigment – copper or other metals from the uptake in the soil by the milkweeds which the larvae have eaten?

We all have questions about insects and their environment – and the more you look closely at things, the more questions you have!

* * * * *

From Kennebunk, Maine to Ithaca, NY: Reflections on My First Experiences at Cornell by Brandon Woo

I always dreamed of studying entomology, even from an early age. Back when I was in fourth grade, I remember thinking to myself, "I'm sure that real entomologists are probably already taking insect classes at this age, so what am I doing here?". Of course that's not true, but the sentiment - to want to be studying entomology among other people who loved insects as much as I did - rang true.

This fall, that dream became a reality. I came to Cornell University in Ithaca, NY, which hosts one of the oldest and best undergraduate entomology programs in the country. To be honest, I was quite nervous. This was the first time I would be living away from home, and the first time I would be living outside of Maine since 2005. I would also be surrounded by people I didn't know, in unfamiliar surroundings, and taking new classes...everything would be new! During orientation week, I thought many times that all I wanted to do was return to my high school, to retreat to the familiar. Once I met the other freshman entomology majors, however, all that changed.

Here I have finally found my people, all bug nerds in the best possible way, and each as passionate as I about insects. We all have varying levels of knowledge, but we all share this love. We also have our own specialties within the entomological world - I'm an Orthop guy, others are Coleoptera-crazed, or honeybee people, or arachnophiles, or even silverfish lovers! I have become fast friends with this motley little crew of people.

One of the many nice things about the entomology department is that all the undergraduate majors mingle. Since there are only 45 undergrads total in the department, we pretty much all get to know each other, as opposed to the larger majors such as biology. Many of us are part of the undergraduate entomology club, Snodgrass and Wigglesworth (we call ourselves SnodWiggs!), where we have movie nights, collecting trips, and various other bug-related activities. The department also hosts a day-long insect fair, Insectapalooza, similar to Bug-Maine-ia at the Maine State Museum, which I have visited many times before. It was a surreal experience to be on the other side of the curtain, a volunteer and not a visitor. It was super fun getting to talk to people about bugs, and at the end of the day I came out

with a new pet, a beautiful horse lubber grasshopper (*Taeniopoda eques*)!



Taeniopoda eques, the horse lubber grasshopper that Brandon now has as a pet, is a species of the American Southwest. This specimen was collected in Arizona.

Photo by David J. Ferguson, from <http://bugguide.net/node/view/245358>

Adjusting to college life was certainly a shift in how I go about my life, but truthfully, it has not been much of a struggle at all. I applied for, and was accepted into, the Ecology House, a dorm for students interested in environmental issues. A perk of living here is that you are allowed to keep small pets! My roommate is cool with me having a shelf-full of live bugs in my room, some of which I had before coming here and some of which I have collected right around campus! Here I have also found a caring community of people, all coming from different majors, but all sharing an interest in protection of the planet.

Classes are also quite a bit different from classes at my high school. The assignments are definitely tougher, and the exams are definitely longer, but the material is interesting. Especially fun is Insect Biology, taught by Dr. Cole Gilbert. He is an awesome professor with a huge breadth of knowledge and a fantastic sense of humor, which always shows during class! Interestingly enough, much of what we cover in the class is already familiar to me, thanks largely in part to what I have learned through MES events: orders, families, basic anatomy, that sort of thing. But, there's always something new to learn as well! I am going to be taking Larval Insect Biology next semester, which should be fascinating!

On one last note, the insect fauna of the Ithaca area has not disappointed me. There is a lot of overlap with the Maine fauna, but there are also lots of species here that I have never encountered before. First and foremost is the singing Orthopteran fauna, with eight species (so far!) not present in Maine, and quite a few other uncommon ones as well. There are lovely sphinx caterpillars and beautiful cicadas, hackberry emperor butterflies and walkingsticks! Being in the Insect Biology class has also allowed me access to some more unusual habitats, such as a riffle area (where I found elmids), and the Cornell Research Ponds (where I found naucorids). As the weather gets colder, the bug season is winding down, but I'm told that there are *Boreus* and *Chionea* on campus in the winter!

So far, my first semester at Cornell has been amazing. I knew that studying entomology here would be awesome but this has far exceeded my expectations. I am so grateful for the opportunity to be here and to continue to pursue my passion!

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Poison Sumac Surprise by Monica Russo

Along the lower, wetter part of our “driveway,” which is an old logging road, we were amused, disgusted, and taken aback to find a poison sumac (*Toxicodendron vernix*) growing happily. It was growing so happily, in fact, that in late June (2015), when it was only about 6 feet tall, it produced an inflorescence.

We discussed how privileged we were to have such a plant on our property, and thoroughly horrified at the same time. We observed it frequently, and on August 7th we were stunned to see five odd-looking larvae *eating* the leaves! What on Earth would actually feed on poison sumac?

Kevin took some excellent close-up photos of the larvae on August 10th, and sent them to Charlene Donahue, who identified them as *Arge humeralis* – sawfly larvae which specialize in eating poison ivy and poison sumac. We sent the photos to Brandon Woo simultaneously, who answered with the same identification.



Our poison sumac caterpillar. Photo by Kevin Byron

So if you are lucky (or unlucky) enough to have poison sumac growing in your area, keep an eye on it – and look out for the adult sawflies, which are bright orange-red with black wings. Charlene tells us there are no specimens in Augusta.

Many thanks both to Charlene and Brandon for their determinations.

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Update on Winter Moth (*Operophtera brumata*) and Browntail Moth (*Euproctis chrysorrhoea*) from the Maine Forest Service by Charlene Donahue

Bad news. Two forest pests from away are on the rise. Winter moth has been noticeably defoliating trees only since 2012. It is currently found along the coast from Kittery to Bar Harbor and on many offshore islands. Although more acres of defoliation were mapped this year than last the intensity was not as severe, i.e., many trees were not as heavily defoliated as last year, but there was a broader footprint across the landscape. A winter survey using both traps and ‘citizen scientist’ reports will be conducted in December.

Browntail moth has been at relatively low numbers for the past few years. This is also a pest that is found primarily along the coast but it has been here for over 100 years. Unfortunately there may be a major outbreak of browntail in the wings. Not only have we been seeing browntail farther inland than usual, but this fall there was significant fall feeding by newly hatched larvae. Over 13,000 acres worth was mapped from the air and it will potentially translate into severe defoliation in 2016. We will be doing our usual browntail overwintering web survey this winter to map the extent and intensity of this outbreak.

Winter Moth Defoliation	
Year	Acres Defoliated
2015	10,264
2014	1,996
2013	5,180
2012	606

Browntail Moth Defoliation		
Year	Acres Defoliated	Season
2015	13,050	Fall
2015	90	Summer
2014	431	Summer
2013	677	Summer
2012	1,141	Summer
2011	910	Summer
2010	4,702	Summer
2009	758	Summer
2008	643	Summer
2007	408	Summer
2006	693	Summer
2005	population crash	

What is worrisome is that these two insect ranges currently overlap but they have not been active in exactly the same places at the same time - yet. That may end soon with the expansion of both insect populations in 2015. The primary host of both insects is red oak. Tree mortality is not usually caused by one factor but by the addition of a second stressor. We may have a second-stressor situation brewing.

Emerald Ash Borer: Special Literature Alert

For those seriously interested in the Emerald Ash Borer, now known to be found just across the Maine border in New Hampshire, the entire June, 2015 issue (Volume 147, Special Issue 3) of **The Canadian Entomologist** was devoted to the status of knowledge of this imported and destructive pest. Articles feature the latest knowledge on the spread, natural enemies, biochemistry and potential control of the species, and even a paper on the economic incentives to monitor for the beetle's presence in an area.

COMING M.E.S. EVENTS in 2016 (precise dates will be in the February newsletter)

- 27 February Winter workshop in Augusta (see p. 3)
- March Mapling and collecting in North Whitefield (contact person: Charlene Donahue)
- May Insect Day, Orono Public Library; collecting and identification event behind the Edith Patch House (contact person: Kathy Claerr)
- June joing insect/plant identification event, Kennebec Estuary Land Trust (contact person: Kathy Claerr)
- July Entomological Bio-Blitz (Lepidoptera) at Acadia National Park
- August Field Day at Big Wilson Stream, Sangerville (contact person: Diane Boretos)
- 13 September: Bug Maine-ia, Maine State Museum (contact person: Joanna Torow Joanna.Torow@Maine.gov)
- September Kathy Claerr will also organize a field day from her home in Bowdoin.
- 1 October M.E.S. Annual Meeting, Clinton (contact person: Bob Nelson)

(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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