

The Maine Entomologist

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

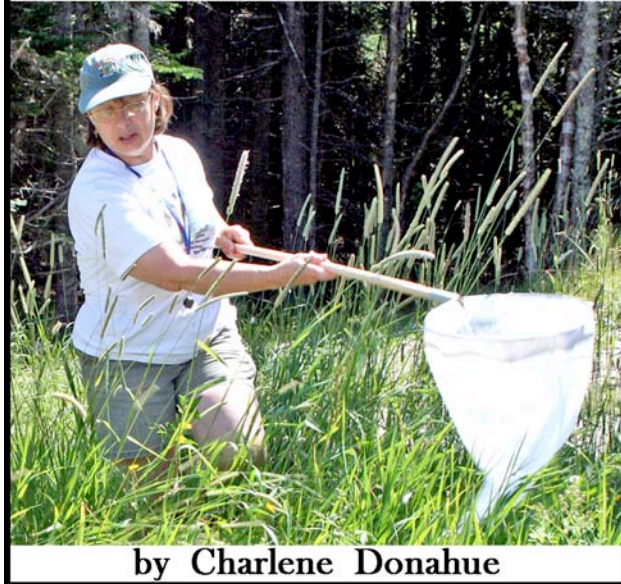
The Official Newsletter of the Maine Entomological Society

Vol. 18, No. 3

August, 2014



PRESIDENT'S CORNER



by Charlene Donahue

One of the interesting parts of my job is seeing various insects that catch people's attention and leads them to seek an answer as to what it is they have found and what it is doing there. The big is certainly on that list. Eastern Dobsonflies (*Corydalus cornutus*) are quite impressive at 120 mm or so in length, although a person recently thought she had the Giant Asian Dobsonfly that comes in at 210 mm. The males have long pincers that can look really scary but they are relatively soft and do little damage to human hands. Beware the female and the larvae (called hellgrammites and prized by fishermen as bait) as they both have strong jaws that can draw blood.

Then there are woodborers, including the Brown Prionid (*Orthosoma brunneum*) that someone thought was the invasive Brown Spruce Longhorned Beetle (*Tetropium fuscum*). The prionid is 48 mm long as opposed to the BSLB at 10 mm. Pretty easy to separate the two. So far we have not found *T. fuscum* in Maine.

People are sensitized to invasives and insects in firewood. So calls and samples come in about Eastern Ash Bark Beetles (*Hylesinus aculeatus*) that emerge from their firewood either in the pile outside or in their house. They are tiny – 4mm or so - but they show en masse. I tell them to keep the wood outside until you are ready to burn it or vacuum up the beetles when they head for the windows if you insist on storing your wood inside. But who listens to an entomologist?

Then there are the calls about frass on the deck. It is hard for me to know what is producing bug poop when all they can tell me is that it is falling out of the tree. Although this year there is a credible population of Saddled Prominents (*Heterocampa guttivitta*) in western Maine so I can make an educated guess when I get calls from that area of the State.

Nothing wildly exciting has come in yet but the summer is not over.

A couple of notes from my backyard: The Japanese Beetle (*Popillia japonica*) population is down and as many as half the beetles have eggs of the parasitic fly *Istocheta aldrichi* on their backs. I pick beetles off my roses and raspberries leaving the parasitized beetles to produce more flies. What are others seeing for Japanese beetle populations? Secondly I have NO Lily Leaf Beetles (*Lilioceris lili*) on my oriental lilies this year or last. Are others seeing this decline? I know my hand picking could not have decimated the population to extinction!

Enjoy the rest of the summer; slow down and watch the insects.

Important Proposed Change in Bylaws:

Last year at the Annual Meeting, a proposal was floated to add a "Life Member" category for membership, with a total cost of \$200 for membership for the entirety of the natural life of the subscribing member. This would necessitate a change in the M.E.S. Bylaws, and will be one of the important items on the agenda for the Annual Meeting in September (see p. 2).



Young entomologists-in-training were fascinated by moths and other light-trap specimens at last year's Bug Maine-ia at the Maine State Museum. See story, p. 6

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Tentative Agenda for M.E.S. Annual Meeting on 13 September, in Clinton, Maine

Audit books
 Treasurer's Report
 Minutes of 2013 annual meeting
 Election of 2015 M.E.S. officers
 President
 Vice President
 Treasurer
 2 Members-at-Large
 By-Laws – proposed change to include Lifetime membership
 Dues – continue at \$10/year with \$200 for Lifetime members
 Newsletter - updates
 Blog for *ad hoc* collecting update – Peter Darling
 M.E.S. outreach efforts?
 Collaborate with Edith Patch Society

2015 Events

January Winter Workshop
 Date: January 10
 Topic, Location, Facilitator?
 March 28 – Maple Syrup Insect Collecting Day in Whitefield; Charlene Donahue
 April – field day?
 May – field day?
 June – field day?
 July - Blitz - probably Hemiptera, no firm date yet
 August – field day?
 September 9 - Bug Maine-ia
 September 12 – Annual Meeting

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Results of Butterfly Field Trip to Swan Island (Perkins TWP) on June 21, 2014

By Robert E. Gobeil

On June 21, 2014, as part of the Swan Island Summer Nature Program, I led a butterfly field trip on Swan Island (Perkins Township, Sagadahoc County). Swan Island is located within the Kennebec River at the head of Merrymeeting Bay near Richmond, Maine. The island is approximately four miles long and varies in width between a half-mile and three-quarters of a mile with a total of about 1,755 acres including approximately 230 acres of fields and some tidal flats (Martin 2010). Swan Island and Little Swan Island, also known as the Steve Powell Wildlife Management Area, are managed by the Maine Department of Inland Fisheries and Wildlife (MDIFW).

Under sunny conditions (72°F), with minor wind, a total of 16 different species were observed during the two hour field trip as listed below:

Northern Cloudywing (*Thorybes pylades*)
 Tawny-edged Skipper (*Polites themistocles*)
 Long Dash Skipper (*Polites mystic*)
 Hobomok Skipper (*Poanes hobomok*)
 Canadian Tiger Swallowtail (*Papilio canadensis*)
 Cabbage White (*Pieris rapae*)
 American Copper (*Lycaena phlaeas*)
 Bronze Copper (*Lycaena hyllus*)
 Eastern Pine Elfin (*Callophrys niphon*)
 Eastern Tailed Blue (*Cupido comyntas*)
 Silvery Blue (*Glaucopsyche lygdamus*)
 Silver-bordered Fritillary (*Boloria selene*)
 Harris's Checkerspot (*Chlosyne harrisii*)
 Red Admiral (*Vanessa atalanta*)
 White Admiral (*Limenitis arthemis*)

Inornate Ringlet (*Coenonympha tullia*)

The most significant find was the Bronze Copper which is listed as a species of Special Concern by the state of Maine. A single Bronze Copper was photographed by Lisa Davis in the meadow near the pond across from the Curtis Cemetery (Fig. 1). This species was also recorded in the same area during a butterfly survey of Swan island in 2013 (Gobeil and Gobeil 2014). A newly created checklist of butterflies found on Swan Island is now available for use by visitors to the island. The checklist also includes photos of some of the more common butterflies found on the island which should make identification easier. I wish to thank Lisa Davis for granting me permission to use her photo of the Bronze Copper taken during the field trip.



Fig. 1. Bronze Copper (*Lycaena hyllus*), Perkins TWP (Swan Island), ME, June 21, 2014 (Photo by Lisa Davis)

References:

- Gobeil, R. E. and R. M. F. Gobeil 2014. A survey of butterflies found on Swan Island (Steve Powell Wildlife Management Area), Perkins Township, Sagadahoc County, Maine. *Limenitis*, MBS Newsletter VII:7-14. (Online) <https://2d042df5ce2f94779d5a6c1b6c47d612202b3787.googleusercontent.com/host/0B985dSVRA1mWm43NXVQWEhmVGM/Limenitis%20VII%20June%202014.pdf> [Accessed 3 July 2014].
 Martin, R. D. 2010. A Report to the Joint Standing Committee on Inland Fisheries & Wildlife. L.D. 398 - Resolve, To Develop a Management Plan for the Nonwildlife Components of Swan Island and Little Swan Island in Perkins Township, Sagadahoc County.

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Reflections on an Ant Picnic by Dana Michaud

As May 17th rolled around and the 9:00 a.m. M.E.S. field trip to Thorncrag Bird Sanctuary in Lewiston was cancelled due to rain, the "Ant Picnic" scheduled from noon to 2:00 p.m. at the Atrium Art Gallery at the University of Southern Maine (Lewiston campus) had the doors opened early (at 11:00 a.m.) to accommodate the change in plans and early arrivers.

Once inside, having never been to "The Ant Girls" display, the cafeteria alcove was a perfect drop-off locale for my backpack before I sneaked down the hall to see the exhibit. The cafeteria also had its two walls covered with

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Ant Picnic (cont.)

interesting historical photos of local groups, buildings, and individuals of French heritage.

As people slowly gathered in the cafeteria to eat lunch and converse, I returned from my quick peak down the corridor at the Ant Farm exhibit. As noon neared and the guest speakers had all arrived, the crowd moved from the cafeteria to the lecture hall. M.E.S. President Charlene Donahue made some introductory remarks about the Ant Farm exhibit, which was to then be followed by Aaron Ellison's presentation on ants.

The eager crowd moved down the hall to tour the Ant Farm exhibit and heard from three of the four "Ant Girls." The main speaker, Colleen Kinsella, explained how the four of them had interacted after consulting ant specialists and books on leaf-cutting ants. From collages to cutouts, decoupage and hanging sheets of printed ant bivouacs, with green "leaf pieces" pasted to give a third dimension, to ant mobiles in flight and colorful fungal chambers interlaces with ant pop-outs, the various pieces all exuded information and creativity.

Once Colleen finished her short presentation on how they passed along ideas and artwork, along with two of the other "Ant Girls", the crowd had eager questions for the three. A solid round of applause thanked the artists, and the crowd moved back to the lecture hall for Aaron Ellison's talk on ants.

Aaron, who along with three other collaborators wrote *A Field Guide to the Ants of New England*, along with his artist and coauthor Elizabeth Farnsworth, offered autographed copies of their book. As everyone listened, Ellison gave about a half-hour talk on ants to a crowd of nearly 50 people, using both slides and actual ant specimens (for people to see later). His down-to-Earth lecture betrayed a passion for formicids, while keeping taxonomy to a minimum and emphasizing instead their importance to the ecosystem through their wonderful variety.

After a question-and-answer period, those wishing to examine his ant specimens through hand lenses gathered around Aaron for more answers. The rain had stopped, so a number of the participants then went outside with Elizabeth to look for ants.



Eager young entomologists-in-training search the ground around a small pine stump outside the Atrium Museum for ants, and found several species. Photo by Robyn Holman.

With time still left to "go A'Buggin'," Dave Bourque, Peter Darling and I headed to Thorncrag to brave the outdoors. Sue Hayward offered to guide us there.

Once there, we found the free brochures at the main entrance gateboard, which explained all the various trails (in color). Peter, having been here bird-watching, led the way as we opted for the yellow trail, passing various old foundations, fireplaces and memorials, all the while sweeping partly wet vegetation.

On to the Green Trail to Whale Rock and backtracking through meadows, the collecting was sparse and my knowledge of birds via songs is limited (compared to Peter's). I did notice a winter wren hobbling amongst the ground vegetation in a shaded area but said nothing, as David and Peter were quite a ways ahead of me. The Green Trail yielded to an Orange Trail that changed to the Red Trail that took us back to the gate entrance.

Covering over two miles of walking, the trails were well-groomed and well-marked. Although very few actual specimens were collected, the enjoyable hike was made better by a birder who displayed his knowledge of bird calls. Although I can visually ID birds, my bird call knowledge has dissipated from disuse. The ovenbird call is one thing; the warblers are another.

With the afternoon sun drying out the morning's light rain, and the parking lot reached around 5 p.m., the ride home reminded me that Nature affects many people in many ways. The Ant Girls' interpretation of leaf-cutter ants, through their artistic expression, coupled with Aaron's passion for ant diversity, made for a very interesting "Ant Picnic."

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June 15, 2014

Lee Snyder was photographing butterflies in Stockton Springs, on Cape Jellison, back in mid-June, and was surprised when he downloaded the above image to see the spider in it! The butterfly (identified by Pat Snyder) is a worn female pearl crescent (*Phyciodes tharos*); Dan Jennings has identified the spider as a male flower crab spider (*Misumena vatia*). Dan says male flower crab spiders are usually much more interested in finding female crab spiders than seeking out prey, and that butterflies are not normally on their menu.

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Crickets to Watch For: Coming to Your Neighborhood Soon

by Brandon Woo

In the past several years, many species of crickets and katydids in the eastern U.S. have been recorded farther north than their usual ranges. Whether this is simply because more people are noticing them or true range expansions is unclear, but climate change certainly is a factor in allowing traditionally more southern species to colonize the northeast. In this article I will briefly describe six cricket species that could be expected in southern Maine in the coming years. The songs of each of these species can be heard at the Singing Insects of North America website listed below. I encourage everyone with an interest in nature to watch (and listen!) for these insects.

The sand field cricket, *Gryllus firmus*, is a large black cricket closely related to our native spring and fall field crickets. They do in fact interbreed, but the sand field cricket is usually found only in sandy areas such as beaches. Their wings are typically more tan-colored than the other species as well. Many range maps show their northernmost point as Connecticut, but they are likely found north of that state. Unfortunately, because of their tendency to interbreed, it is difficult to identify them.

The Japanese burrowing cricket, *Velarifictorus micado*, was first discovered in the U.S. in 1959. Since then it has spread across much of the southeastern part of the country. Recently they have been found in Central Park in New York. Since this is an introduced species, it seems reasonable that their range in the U.S. will continue to expand. They resemble field crickets but have white markings on the head and elongated mandibles. Their song is also distinct from all native crickets.

The jumping bush cricket, *Orocharis saltator*, has undergone a tremendous range expansion. As recently as 2009, its northernmost point was said to be New Jersey, but it is now common across much of New York, Connecticut, Rhode Island, and Massachusetts; it has even been reported from city trees in Boston. This arboreal species is light brown and flattened, with a bright chirping song. Personally I find it to be one of the most pleasing cricket songs I have ever heard.



A jumping bush cricket, *Orocharis saltator*.
Photo by Brandon Woo.

The two-spotted tree cricket, *Neoxabea bipunctata*, is a beautifully marked, arboreal animal. They are common across the eastern U.S. north to Massachusetts. However, I have discovered isolated individuals three times in the past few years in Wells and Biddeford, which suggests that the species is slowly moving into Maine. They call with a low trill very late in the summer at night, and are attracted to lights.



A two-spotted tree cricket, *Neoxabea bipunctata*.
Photo by Edward L. Manigault, Clemson University Donated Collection, Bugwood.org

The Say's trig, *Anaxipha exigua*, superficially resembles a ground cricket (Nemobiinae), of which there are several species in Maine. However, the trig is a much more agile animal, able to climb glass and plastic surfaces with ease, whereas the ground crickets, though fast jumpers, are unable to climb. The Say's trig is a very small light brown cricket found in lower vegetation. Specimens have been reported throughout Massachusetts, with some only a few miles from the New Hampshire border. Because of its small size and agility, it seems like a prime candidate for Maine colonization in the near future.

The Handsome Trig or Red-headed bush cricket, *Phyllopalpus pulchellus*, is by far the most colorful cricket in the United States. With a red head and thorax, pale legs, and bluish black wings, it is unmistakable. Found in vegetation near streams and marshes, it has been recorded as far north as Concord, Massachusetts. Its song, given day and night, is a broken rattling trill.



The Handsome trig or Red-headed bush cricket, *Phyllopalpus pulchellus*. Brandon Woo photo.

References:

- Himmelman, John, and Michael DiGiorgio, 2009. Guide to Night-singing Insects of the Northeast. Mechanicsburg, PA: Stackpole Books; 160 pp.
Singing Insects of North America:
<http://entnemdept.ufl.edu/walker/buzz/index.htm>
BugGuide: <http://bugguide.net>

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2014 Beetle Blitz at Acadia Yields Hundreds of Species

The annual Entomological BioBlitz at Acadia National Park on July 18th-21st was focused once again on the order Coleoptera (Beetles). Some 70 people, young and old alike, consisting of M.E.S. members, staff and summer interns at Acadia National Park, and numerous community volunteers, all turned out to collect, sort, pin and label specimens from the Park, to help document the park's biodiversity. As usual, accurate locality and habitat information was gathered for all specimens collected, to ensure maximum utility of the information. This was the third Blitz to focus on beetles, after the first in 2005 and last year's (2013) Blitz.

On Saturday, teams of volunteers fanned out after breakfast to five target areas representing a diversity of habitats in the Park properties on Mount Desert Island, while others searched various sites around the Schoodic Peninsula portion of the Park. On Sunday morning, everyone targeted additional areas on the Schoodic Peninsula, sweeping in meadows, beating brush and low-hanging tree limbs, treading in wetlands, searching beneath debris, carefully inspecting individual plants, etc. Various traps were also utilized, including flight-intercept traps, malaise traps, unbaited and carrion-baited pitfalls, black-light traps, etc. Richard Hildreth also lent a hand on Saturday evening with his high-intensity mercury vapor lamps, which were set up at the parking area near the head of the "Alder Trail." Reports were that the moths attracted were particularly abundant and diverse, but there were numerous beetles as well.

Preliminary indications are that the effort yielded at least 300 species of beetles, including species that were not collected in the 2013 Blitz.



Charlene Donahue fills out data sheets for her collecting at the Blitz. Accurate data are critically important parts of any scientific effort.

Planning for next year's Blitz has not begun in earnest yet, but there is some hint that the Hemiptera may well be the target group for the 2015 season. Details of the plans for the 2015 Blitz will be posted on the M.E.S. web page and included in the newsletter when they have become finalized.

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***Hemaris gracilis*: A rare Spingid moth in Maine**

by Brandon Woo

On June 7th of this year, I was collecting at the Reclaim Plains (now known as the Ross Road Blueberry Plains) in Old Orchard Beach. While looking for beetles and mirids, I had netted a hummingbird sphinx, which I assumed was the common and widespread species *Hemaris thysbe*. I photographed and released the moth, and later put the photo up on BugGuide. Not more than five minutes later, a saturniid and spingid expert on the site set me straight. The creature I had photographed was NOT *H. thysbe*, but rather *H. gracilis*, a species I had never heard of before.

Doing some research on several different websites proved fruitful. *Hemaris gracilis* is also known as the slender clearwing, and is a close relative of the common hummingbird moth and the snowberry clearwing (*H. diffinis*). The clue to identification of these three species is the coloration of the legs. The hummingbird moth *Hemaris thysbe* has pale or white legs, the snowberry clearwing *H. diffinis* has black legs, and the slender clearwing *H. gracilis* has red legs.

Hemaris gracilis is apparently uncommon and rarely reported within its range of the eastern U.S. and adjacent Canada. It is localized to areas with acidic soils such as oak-pine forests and open heathlands. The caterpillars feed on heaths, especially blueberry and laurel, and adults fly from May to August. Interestingly, even in the proper habitat, individuals are supposed to only be found in small numbers. Even more interestingly, according to Schweitzer et al. (2011), *H. gracilis* hasn't been reported from Maine since 1974. I was obviously quite excited by this, and a little chagrined that I hadn't kept the specimen.

I returned to the Plains a few days later, not really expecting to see any others. Imagine my surprise, then, when I spotted another individual hovering over the tall grass! This

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A team of Beetle Blitz volunteers looks for beetles among the aquatics that they netted in a marsh on Mount Desert Island. Photo by Charlene Donahue.

Identifications are continuing, and it's possible the number of species identified from this year may ultimately climb closer to 400. If past experience in the Blitzes is any predictor, we will once again have species in the collections that are new additions to the known fauna of the Park, and possibly even new to the known Maine fauna.

The Entomological Bio-Blitzes are sponsored by Acadia National Park, the SERC Institute, the Maine Forest Service, the M.E.S., the University of New Hampshire, and the University of Maine. A report documenting the insect fauna of the Schoodic Peninsula, as determined by specimens collected on the various Blitzes through 2011, can be downloaded (as a pdf file) from the M.E.S. web page.

Hemaris gracilis (cont.)

one, although a bit more weathered, was kept. As evidenced by the presence of two specimens and the ideal habitat, I believe that this species has an established population at this locality, which is very good news! I have not been back to the Plains recently, but I will definitely be heading back to monitor the population and check for caterpillars as well. It just goes to show that you should always double-check your specimens of "common" species. They might just turn out to be something unexpected.



Hemaris gracilis from Old Orchard Beach; tips of both wings have been lost. *Brandon Woo photo*

Reference:

Schweitzer, Dale F., Marc C. Minno and David L. Wagner, 2011. *Rare, Declining, and Poorly Known Butterflies and Moths of Forests and Woodlands in the Eastern United States*. Morgantown, WV: U.S. Forest Service, Forest Health Technology Enterprise Team; 517 pp.

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**Bug Maine-ia at the Maine State Museum
Wednesday September 10, 2014
9:00 a.m. - 3:00 p.m.
Free Admission All Day for Human and
Insect Visitors!**

It is that time of year, Bug Maine-ia at the Maine State Museum is just around the corner and the staff at the Maine State Museum education division is in full planning mode. You may have heard of this insect extravaganza, which is the museum's largest annual event of the year. The museum sees over 1,000 people, hundreds of which are school children, both public and homeschooled, who come with great eagerness to learn all about insects! On that day, all the students are entomologists in training; they love the bugs!

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

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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!



Dana Michaud's collection of exotic Coleoptera was a popular attraction at the 2013 Bug Maine-ia.
Photo by Joanna Turow

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.

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Ordway Grove Collecting Was Good

A healthy handful of M.E.S. stalwarts showed up at the Ordway Grove in Norway on Saturday, June 14th, to begin the first-ever documentation of the insect fauna of this old-growth mixed white pine stand on the eastern shore of Lake Penneesseewassee. Those arriving in the dreary morning (which, despite the ominous forecast, did not turn to torrents of rain) were amazed by how many vehicles were parked up and down the road around the Grove entrance. But Pixie Williams and John Crumpton, our hosts from the Twin Town Nature Club, assured us that it wasn't just an M.E.S. event drawing in the crowd: most of the vehicles were there for a street-long community yard sale!



Brathinus varicornis from Witt Swamp. *Photo by Brandon Woo.*

Brandon Woo alone documented some 12 orders and scores of species of insects that he saw or collected in a

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Ordway Grove collecting report (cont.)

morning stroll through the grounds, including a number of specimens of the uncommon species *Brathinus varicornis*. This is a wet-ground-habitat Staphylinid beetle which is highly unusual for the family, in that the elytra are long enough to completely cover the abdomen (see photo on the previous page). The terminal segments of the antennae are also snow white. Additional specimens collected by other M.E.S. members have not all yet been identified – a task often left until the winter months when collecting becomes less attractive and time is a little more relaxed.

Following lunch, some of the group then continued up to Witt Swamp with Lee Dassler of the Western Foothills Land Trust. This, too, proved more than just interesting, with old-growth cedar and hemlock growing in wet to slightly elevated and thus drier sites, and extending out into the gradually infilling shores of the lake.

The day was a marvelous introduction to a site that is definitely worthy of additional study, because all we did was to barely scratch the surface of what must be there.

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Book Review: BUGS BRITANNICA

by Peter Marren and Richard Mabey
Chatto and Windus, London: 2010; 500 pp.
Reviewed by Monica Russo

This is a large and generously illustrated “coffee-table book,” about the size of a hefty volume from the Encyclopædia Britannica. There are photos and illustrations on almost every page, and the color reproduction is probably the best you can find.

Most of the book is about British insects, but Marren and Mabey include other invertebrates. There are crustaceans, pond sponges, vorticella, nematodes and spiders, but the greater part of the book is about insects.

Don't expect a field guide. While there are plenty of excellent photos of insects, there are also examples of how insects are used in advertising, painting, signage, sculpture, stamps and even poetry. Indeed, there are sections titled “Flies in Art,” and “Literary Wasps,” and even “Beetle Names and Expressions.”

It all adds up to a book that reflects on how people experience insects, and how insects influence our art and literature. Unfortunately, it is such a large book that it won't fit on your bookshelf with your field guides. And you'll need to sit at a table or desk to read it.

I found the book at a big discount in the Daedalus Books catalogue. You might have to go online to see if it's still available.

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Book Review: BUMBLE BEES OF NORTH AMERICA

by Paul Williams, Robbin Thorp, Leif Richardson
and Sheila Colla
Princeton University Press, 2014; 6x9" 208 pp.
List price \$24.95
Reviewed by Bob Nelson

I came across this new paperback quite by accident, and instantly ordered a copy in one of those knee-jerk reactions that I sometimes come to regret. But there's no regret at all this time – what a gem I found!

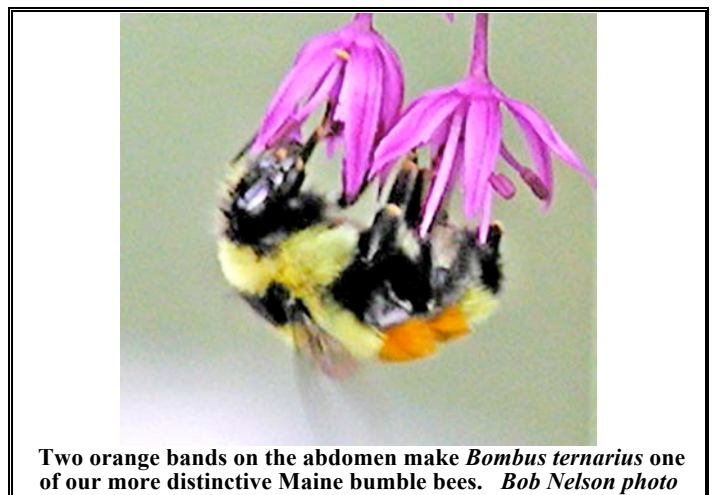
This is a profusely illustrated, full-color volume printed on semi-gloss paper, that will be a great introduction to our *Bombus* friends for anyone just beginning, while also containing useful information that will include new material for all but the most knowledgeable of bumble bee devotees.

Even Sam Droege is quoted (on the back cover) as saying *he* learned new things here that he'd find useful.

The Introduction alone provides a great introduction to bumble bee distribution and diversity, the life cycle of a colony, and the nature of the interaction of bumble bees with plants. Maps show species richness in a large rectangular grid (probably 5 degrees of latitude by 5 degrees of longitude) across North America and the world, as well as the numbers of museum specimens of bumblebees from North America on this same grid. All but southernmost Maine is mapped in the “100-500” specimen range, with the observation that most bumblebee collecting has been around large urban centers.

Chapters that follow cover bumble bee observation techniques, how to attract them, a forage guide by ecoregion, maps and season activity, bumble bee decline and conservation, threats to bumble bees, natural enemies, mimicry and distinguishing bumble bees from other insects (including some other Hymenoptera that may to the unknowing appear to be unusual bumble bees), and a “how-to” guide to using the book.

This is followed by species accounts of every species known in North America, with the fauna broken down into four major subgroups, based on morphology – the last group being the cuckoo bumble bees. Each species account includes the full name and authority, two to four photographs, and a guide to identification hints, based on characters identifiable in the field with a hand lens, as well as in the lab with a microscope. The maps of known occurrences are small but sufficiently detailed to allow one to know whether a species should be expected to be found in Maine.



Color variations of queens, workers and males are shown diagrammatically – with some species showing significant color pattern variation throughout their range. This is then followed by a short section on “occurrence,” which includes the species' range and status, habitat, examples of food plants, behavior (e.g., nesting habits), and whether it is known to be parasitized by other bees or is itself a parasite of others.

Following the species accounts is a beautifully photo-illustrated dichotomous key to identification of both male and female bumble bees, which is then followed by a 4-page illustrated glossary and a page of bumble bee resources.

I'm looking forward to some quiet time in the winter when I can sit down and spend some time absorbing everything in this volume, particularly about those species that comprise our own fauna here in Maine. This was certainly money well-spent, and at a bargain price for a colorful field and identification guide!

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Annual Meeting – Saturday, 13 September Clinton

Bob and Nettie Nelson once again invite *all* M.E.S. members to come to the annual meeting at their home on Rock Ridge in Clinton, on Saturday, 13 September. The formal business meeting normally starts at 1:30 or so (see the Agenda, on p. 2 of this issue), but is preceded by a pot-luck lunch and, for those who wish to do so, collecting on the grounds starting around 10:00 a.m. We have brush thickets, dense forest with ~40 spp. of trees on the grounds (including American Basswood and Bur Oak), and open grassy areas, as well as stone walls and pastures, plus a large vegetable garden (dominated by Cucurbitaceae).



A slightly oblique Google Earth image of Rock Ridge in Clinton, site of the Annual Meeting; north is to the right. Open fields, brush areas (both along the roadway and in the rear of the property), and dense forest should provide a wealth of excellent collecting opportunities.

In 2013, Charlene Donahue, Peter Darling and others found specimens of the caterpillars of the European moth *Sitochroa palealis* in dried-up seed heads from the Queen Anne's Lace (*Daucus carota*). This was the first record Charlene knew of the species in Maine, though adults

subsequently turned up in older light-trap specimens in the M.E.S. holdings, and Karen Hopkins had collected a specimen of the species in Bangor in 2011 (see last November's newsletter, p. 4, for more information). People are also encouraged to collect any and all specimens of *Manduca sexta* that they can find on the tomatoes!

Bob and Nettie will provide barbecued (or oven-roasted, depending on the weather!) chicken and a few other odds and ends, but the food is always varied and delightful. Signs will be posted at the end of the Clinton off-ramps from I-95 to direct you to the site. If you want specific driving directions from any locale, though, please contact Bob via e-mail (BeetleBob2003@yahoo.com) or by phone (426-9629).

For those who missed the "Ant Farm" exhibit at the Atrium Gallery in Lewiston (see Dana Michaud's related story on p. 2), three of the pieces from the exhibit will be on display.

We're looking forward to seeing you!

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COMING M.E.S. EVENTS in 2014:

- 16 August Ross Road Blueberry Plains (formerly the Reclaimed Plains), Old Orchard Beach (contact people: Domenica Vacca and Brandon Woo; see story in the May issue, and Brandon's tale of discovering the rare *Hemaris affinis* there in this issue)
- 10 September Bug Maine-ia, Maine State Museum, Augusta (contact person: Joanna Torow – Joanna.Torow@Maine.gov)
- 13 September M.E.S. Annual Meeting, Clinton (contact person: Bob Nelson – BeetleBob2003@yahoo.com)

(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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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.