

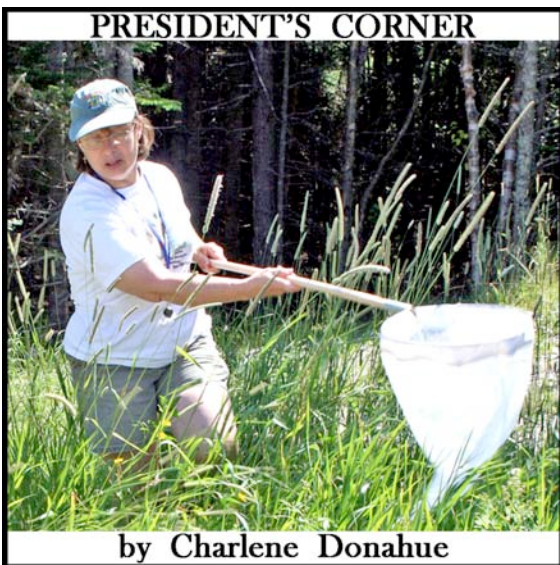
# The Maine Entomologist

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

The Official Newsletter of the Maine Entomological Society

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## PRESIDENT'S CORNER

by Charlene Donahue

Last winter I agreed to head up insect hunts with Cub Scouts at Camp Bomazeen in Belgrade this summer. At the time my plan was to send our summer interns off to the camp. Plans changed, and all the interns were changing lures on 955 purple traps used to survey for emerald ash borers that we hope are not yet in Maine. So I ended up heading off to camp and 130 Cub Scouts on a day with a 70% chance of rain and thunderstorms predicted. Luckily there was only one shower during lunch and I had a much better day than I had expected.

The scouts came in groups of about 20 for 45 minutes, most were 8-11 years old with one group being younger. As I waited for each group to gather, they pored over the display cases of insects I had brought, studied the oak apple galls, leafrollers and leafminers I had picked up, and some actually thumbed through the field guides. They oohed and aahed and asked one question after another about what they were seeing. I spent just a few minutes telling them about what they were looking at, then handed out small collecting cups, passed out a few sweep nets, showed everyone what poison ivy looked like (this at the request of one of the staff members - why they thought an entomologist was the best person to do this I am not sure) and sent them off to find insects.

These kids should come to the blitzes: they were amazing. They caught beetles, mayflies, dragonflies and damselflies, caterpillars, moths and butterflies. They caught a cicada. On mowed grass surrounded by woods they came up with eight species of grasshoppers. They caught all kinds of parasitic wasps, they loved catching ants, spiders, tiny flies and aphids. They didn't care if it was big or little, brightly colored or dull. They were just having a ball. Most everything they caught was by hand; the nets were used occasionally, but they really liked catching things with just their hands or the cups. Not one said, "Eww, I don't like bugs!" (There was one leader who started saying that, and I suggested she turn it into "wow look at that!" - she said, "good idea" and did.) They

loved learning about the parasitic fly that lays its eggs on the Japanese beetle and eats its guts out. They turned over stumps, boards and rocks, looked under leaves, picked insects off of walls and stayed out of the poison ivy.

After showing off their catches - cups were often emptied and refilled - they let everything go, as this was a 'catch and release' day. At the end of the day, the camp director thanked me and said she had overheard the scouts chatting about what they had caught all day long. It was not how I needed to spend a day in the middle of a very busy summer, but I am glad I did it. In a week that was long and stressful, it was good to spend a day seeing that there are still kids out there who get excited about bugs.

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## Web Site for Zombie Bees!

You may recall the February article in *The Maine Entomologist* about the native Maine phorid fly, *Apocephalus borealis*, which has been found to parasitize honeybee colonies in California. Honeybee parasitism by the species has also since been discovered at a site in South Dakota. A new web site has been established to document verifiable sightings of parasitized bees, at

<https://www.zombeewatch.org>.

The type locality for this fly is on Mt. Desert Island, and though its natural host here is apparently unknown, its potential to move into the introduced and critically important honeybee is already demonstrated. The web site has information on how to recognize parasitized bees, with a plea for assistance in documenting such occurrences.

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## Maine Entomological Society Field Trip to Jugtown Plains, Otisfield on Saturday, August 11, 2012

Hancock Land Company owns the 5,500-acre Jugtown Forest in Otisfield, Naples and Casco that is open to the public. It is a relatively unfragmented area that includes a pitch pine-heath barren on a sandy outwash plain. We will meet near the Crooked River and pitch pine-heath barren to explore a part of the forest that is home to at least two rare insects – the Ringed Boghunter dragonfly (*Williamsonia lintneri*) and the Acadian swordgrass moth (*Xylena thoracica*). We will create a list of insects that we observe or collect.

We will meet at 10:00 a.m. at the snowmobile entrance to Jugtown Plains. Bring collecting gear, water, lunch, camera, bug spray, sun screen, interest. Please let me know if you are planning on coming: Charlene Donahue 485-0960, or via e-mail at donahuecp@juno.com.

**Directions:** Traveling west on Rte. 11 in Casco you will pass the intersection with Rte. 121. Continue on Rte. 11 past Hancock Lumber Yard on left and Hancock Bargain Barn on right.

Cook Mills Road is the third right hand turn after the Hancock buildings. (There is a small green sign but it is not too obvious. Beside the turn is a 45 MPH highway sign close to a weeping willow tree. If you miss this turn and get to the Crooked River Adult Education Center on the right, you have gone too far.)

Turn right on Cook Mills Road and continue to the end. Turn left, continue straight and cross a bridge over the Crooked River. (You will come upon a sign " Jugtown Road " to the right, do not take this road.) This spur is very short.

Turn right onto River Road. Continue northward for 1-2 miles following along the Crooked River. You will come to a pull-out area on the right hand side of the road with a green footbridge blocked by logs, which crosses the Crooked River. Park here. There will be a red Toyota pickup truck there with a sign saying MES on its tailgate.

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### Bioblitz at River Point Conservation Area, Falmouth by Brandon Woo

On the weekend of July 29-30, I attended the bioblitz that occurred at the River Point Conservation Area in Falmouth, Maine. It was hosted by the Falmouth Conservation Commission and the Biodiversity Research Institute. I was to help find and identify as many species of insects and other organisms as possible during the 24 hours allotted for collecting. My first catch appeared inside the barn being used as a data center: a nymphal roesel's katydid (*Metrioptera roeselii*), a European species that is now common in grassy areas in Maine. I found a number of other common insects outside the barn as darkness fell, including tarnished plant bugs (*Lygus lineolaris*) and winter fireflies (*Ellychnia corrusca*). A camel cricket was found crawling up the side of the wooden barn. My mom discovered a very tiny immature European mantid (*Mantis religiosa*) in some short grass nearby. I immediately took it for rearing.

When nighttime was upon us, Karen Hopkins, who was working with all the moths, set up a light sheet outside the building that slowly started to attract night-flying insects. We went for a moth walk in the forest, stopping to inspect the trees that Karen had baited. Fireflies galore flashed around us as we made our way through the fields.

Not many moths had been attracted to the bait, but numerous carabids (*Platynus* sp.) were sipping the sweet substance, along with carpenter ants and large leopard slugs.

*The Maine Entomologist*

Walking back through the fields was an eerie experience; mist had appeared and cloaked the lower parts of the field.

When we arrived back at the light sheet, good numbers of insects were arriving. Virginia ctenuchas (*Ctenucha virginica*) and banded tussocks (*Halysidota tessellaris*) dominated the sheet, with many midges, caddisflies, and other tiny insects swirling around. I found a solitary *Colluris pensylvanica* scuttling along the ground under the sheet; I took it. Later on, after midnight, a few sphinx moths began to show up. A number of northern pine sphinxes (*Lapara bombycoides*), 2 blinded sphinxes (*Paonias excaecatus*), and a small-eyed sphinx (*Paonias myops*) buzzed around the light. A somewhat larger sphinx also made an appearance. My mom and I scrambled to capture it, but it left us as quickly as it had come, and we never saw it again.

By this time, Karen, my mom, and I were the only troopers that remained. We finally left the area at around 2:30 a.m. We came back the next day around 10:00, and took a trip down to a muddy pond, where there were dragonfly nymphs, backswimmers, and a few nymphal giant water bugs. Coming back through the fields, I heard adult Roesel's katydids buzzing all around me. I was determined to catch a few. Honing in on the extremely high-pitched sound, I eventually spotted one in a clump of goldenrod. With a swing of my net, I had him! Over the course of the next hour or so, I collected 3 adult males and 2 adult females to study, along with a number of nymphs.

I eventually managed to record all the insects I had found on 3 data sheets. I released those that I didn't want, and packed all my gear. One of the other volunteers at the bioblitz had captured a round sand beetle (*Omophron* sp.) near a pond. Since I had never seen these before, they let me take it. Today, it's still alive, happily feeding on small caterpillars and deer flies in a container. The mantid, too, is alive, and has molted three times. I was very pleased with this event, and hope that it is repeated in future years, with more volunteers, more public interest, and more organization to better record the insect diversity.

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### Nothing at the Bioblitz in Falmouth by Karen Hopkins

A bioblitz was held on June 29 -30 at Falmouth's 41-acre River Point Conservation Area. A team of about 30 naturalists was led by open space ombudsman Robert Shafto to survey the land's species of flora and fauna. This was a public event and visitors were invited to take part in the data collection.

After dark on Friday there was a light sheet and a baited trail to attract moths, but there were no visitors out that late. While the moths seemed to be a bit lazy that night, the walk through the field and forest area was, as Brandon Woo put it, exhilarating. The night was cool and damp and a bright moon illuminated the fog hovering eerily over the fields. While the other taxon leaders turned in after the moth walk, The Woos and I stayed up until 3 a.m. collecting at a light sheet. Overall, I did expect to see more moth action, but there was a nice diversity. Brandon has noted (in his story above) numerous species that were seen but not collected.

Public activities on Saturday included bird walks, bird-banding demonstrations, mammal and reptile/amphibian surveys and demonstrations, and plant/wildflower and fungi walks. On the entomology level, there were walks and demonstrations for aquatic insects, spiders, and butterflies. The taxon leader for the butterflies [Bob Gobeil, see story below] also mentioned some surprise at the low number of butterfly species found that day.

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**Moths from Falmouth Bioblitz (cont.)**

It was agreed by all that repeating the blitz at a different time of year would be necessary to find seasonal species in all categories.

Eight families were represented by 17 moth species that I collected:

<b>Crambidae</b> <i>Donacaula</i> sp.	<b>Notodontidae</b> <i>Oligocentria semirufescens</i>
<b>Gelechiidae</b> <i>Dichomeris flavocostella</i>	<b>Noctuidae</b> <i>Nematocampa resistaria</i>
<b>Tortricidae</b> <i>Acleris forskaeana</i>	<i>Phalaenstola larentiodes</i>
<b>Geometridae</b> <i>Lytrosis unitaria</i>	<i>Anagrapha falcifera</i>
<i>Eusarca confusaria</i>	<i>Agriopodes fallax</i>
<b>Lasiocampidae</b> <i>Phyllodesma americana</i>	<i>Polia imbrifera</i> (m)
<b>Erebidae</b> <i>Hyphantria cunea</i>	<i>Polia imbrifera</i> (f)
<i>Cynthia tenera</i>	<i>Noctua pronubra</i>
<i>grammia virgo</i>	<i>Rivula propinqualis</i>
<i>Pyrrharctia isabella</i>	

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**Butterflies Recorded at the River Point Conservation Area BioBlitz in Falmouth, Maine on June 29-30, 2012**  
By Robert E. Gobeil

On June 29-30, 2012, the Falmouth Conservation Commission and the Biodiversity Research Institute of Gorham co-sponsored a BioBlitz at the River Point Conservation Area in Falmouth, Maine. Jim Paruk and I were the taxon leaders for the butterfly portion of the BioBlitz. The weather conditions were ideal, with temperatures in the mid-80s with light wind and a partly cloudy sky. Other members of the collecting team included Rose Marie Gobeil, Olivia Paruk, Zack St. Pierre and John Hinkle III. The general public was also invited to the BioBlitz, with hourly demonstrations including several butterfly walks.



**Bob Gobeil describing some common Maine butterflies with visitors during the Falmouth BioBlitz. Photo by Rose Marie Gobeil**

The River Point Conservation Area is located off Routes 26/100 near the Falmouth Crossing Shopping Center. The 41-acre River Point property has a variety of habitats including overgrown fields, forested areas, ponds and some wetlands. The East and West branches of the Piscataqua River and the

Presumpscot River form the boundaries of the conservation area.

A total of 16 different butterfly species were recorded during the BioBlitz (see list below). The majority of the butterflies were observed in the open fields while the Mourning Cloak and Question Mark were found in the forested areas along the walking trails. The most common species encountered was the European Skipper.

<p><b>Butterflies recorded at the River Point Conservation Area BioBlitz on June 29-30, 2012 in Falmouth, Maine</b></p> <p>Silver-spotted Skipper <i>Epargyreus clarus</i>          European Skipper <i>Thymelicus lineola</i>          Tawny-edged Skipper <i>Polites themistocles</i>          Long Dash Skipper <i>Polites mystic</i>          Canadian Tiger Swallowtail <i>Papilio canadensis</i>          Cabbage Butterfly <i>Pieris rapae</i>          Clouded Sulphur <i>Colias philodice</i>          Azure <i>Celastrina neglecta</i> (?)          Monarch <i>Danaus plexippus</i>          Northern Pearl Crescent <i>Phyciodes cocyta</i>          Question Mark <i>Polygonia interrogationis</i>          Mourning Cloak <i>Nymphalis antiopa</i>          Red Admiral <i>Vanessa atalanta</i>          Painted Lady <i>Vanessa cardui</i>          Viceroy <i>Limenitis archippus</i>          Inornate Ringlet <i>Coenonympha tullia</i></p>
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**MES Field Day - Pineland Farms, May 19, 2012**  
by Brandon Woo

The second field trip of the season was held at Pineland Farms in New Gloucester. Six MES members showed up for a gorgeous warm sunny day, full of insect life. After a bit of conversation in the parking lot, the group headed out into the open field trails.

Sweeping was very productive, yielding many interesting insects including numerous buprestids, large *Euschistus* sp. stinkbugs, and immature Roesel's katydids (*Metrioptera roeselii*). Northern green-striped grasshoppers (*Chortophaga viridifasciata*), one of the only early spring grasshoppers, were also abundant, and added sound to the day. A small cherry tree was found near the edge of the forest that appeared red from a distance. On closer inspection, it was found to be covered in red spindle galls.

Moving along into the woodland trails brought discoveries of a number of interesting wildflowers: fringed polygala, bluebead lily, starflower, Indian cucumber root, and Canada mayflower. Another field was found to be predominantly dandelions; there were also some beehives nearby that were responsible for the large numbers of honeybees foraging on the dandelion blooms. Walking back toward the parking lot for lunch, many eastern and forest tent caterpillars were encountered crossing trails in order to pupate. A large male white-spotted sawyer (*Monochamus scutellatus*) was discovered in the parking lot, and saved from the onrushing traffic.

While eating lunch under some tall white pine trees, a number of insects came to us, including a large green blister beetle, *Lytta sayi*, and some American Ladies (*Vanessa virginiensis*) that attempted to take a taste of some of our sandwiches! We also watched a man mowing a field at breakneck speed. Luckily, we had combed the field beforehand!

Heading back out into the field after lunch, we happened upon a small tree that was festooned with feeding aphids, and small ants and wasps taking advantage of the honeydew produced by the aphids. A nearby pond was alive with dragonflies, and large frogs and tadpoles adorned the edges of

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**Pineland Farms Field Day (cont.)**

the water. Taking another woodland trail proved fruitful; we heard a gray treefrog calling, spotted two pink lady's slipper orchids, and found a number of beetles. Yet another field hosted many dandelions already setting seed; a dead garter snake was also found.

At the end of the day, we visited the Welcome Center Market available on the premises. There, we browsed and sampled cheeses and enjoyed delicious ice cream while we relaxed and reviewed the day's events. We even saw a working beehive that was behind glass for public observation.

All in all, it was a wonderful day spent with our good friends and insects.

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***Xylocopa* Carpenter Bees in Southern Maine**

By Monica Russo

Photos by Kevin Byron

Two friends have submitted *Xylocopa* bees to me this May. In Arundel on May 7, Donna der Kinderen found both a male and female, moribund on the ground. She reports she has seen the bees locally for several years. On May 12, my friend Lois found a male "Xylo" in Wells. She has also seen Carpenter Bees in the Kittery area for at least 6 or 7 years.



As shown in these photos, the male *Xylocopa* (A) has a yellow face with larger, more rounded compound eyes than the female (B). Photos by Kevin Byron.



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*Xylocopa habitus* photograph.

Photo by Jim Baker, North Carolina State University, Bugwood.org

*Xylocopa* were not listed as found in Maine in T. B. Mitchell's *Bees of the Eastern United States*, published in 1960. Nor are they included on the Hymenoptera list for the *Forest Insect Survey of Maine* (by Dearborn, Bradbury and Russell) published by the MFS in Augusta in 1983.

*Xylocopa* carpenter bees can be recognized by bearing a superficial resemblance to founder queen bumblebees (they're big, typically 20-30 mm long – see photo). However, the blue-black to black abdomens are *not* fuzzy, unlike bumblebees.

Two species are found in the eastern U.S., *X. micans* and *X. virginica*. In *X. micans*, the apparently black areas on the body are a deep blue-black, often referred to as gunmetal blue. Though still with a bluish tinge, these sometimes are closer to true black in *X. virginica*, the species we have in Maine.

Though the genus was formerly placed in the Anthophoridae, this group has now been reassigned as the subfamily Anthophorinae of the Apidae, the family that also includes honeybees and bumblebees.

If you have your own colony of carpenter bees, they will most likely be seen entering pencil-sized or larger holes up under the eaves of older homes or barns, particularly in any decorative trim like fascia boards.

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**Moth Night at Ecotat Gardens, Hermon**

by Karen Hopkins

Seventeen people attended the July 27th mothing event for National Moth Week - 2012. At the Ecotat Gardens and Arboretum in Hermon, the evening temperatures were about twelve degrees warmer than predicted, making the night quite comfortable (for those of us who like the humidity).

We began with a short introduction to moths and recognizing moths in the field. A collection of about 460 different moth species from Maine gave visitors an opportunity to see "woolly bears" and "inch worms" in a new way. For many, the moth itself became more than the "pesky gray thing that tries to get in the house at night."

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### **Moth Night at Ecotat Gardens (cont.)**

A moth walk began around 10:30. On our way out, Brandon Woo spotted two Gypsy Moths laying eggs on a tree just outside the building. Once at the head of the baited trail, our first non-mosquito encounter was a young porcupine. The prickly cat-sized critter climbed a tree to about eye-level where it squirmed nervously in the light of seventeen flashlights.

The baited trees did not bring the moth attendance that I had hoped for, but it was early. When mothing on my own, I find both diversity and abundance best after midnight, but that schedule doesn't seem to appeal to most people. However our surprise waited for us on the very last tree, where an *Ilia Underwing* feasted on the fermented fruit concoction with its long "tongue". Everyone had the chance to glimpse the bright pink hind wings of one of the largest underwings in our area.

The light sheet had more visitors when we returned from the bait trail, the most notable a fresh-looking *Clymene* Moth. Long after everyone else had sought their pillows, MES diehards stayed up and travelled to some Bangor lights for some fun. When we finally took down the sheet, the evening ended most splendidly with the appearance of a *Gallium* Sphinx.

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### **Kennebec Highlands Field Day - June**

by Bob Nelson

The June collecting trip to the Kennebec Highlands in Rome, just north of the Belgrade line, started out gray and overcast but was bright and sunny by the early afternoon, bringing out a host of flying things. A hardy group of stalwarts met in the parking lot for the Sanders Hill Loop Trail, where there is a small vernal pool, a swampy wetland, Watson Pond with adjacent marshland, young immature upland mixed hardwood-conifer forest and more mature forest with trees to over 30 cm in diameter.



Canadian tiger swallowtails (*Papilio canadensis*) gathered in numbers, presumably for residual salts, on the gravel of the parking lot at the Kennebec Highlands in June.

(Photo by Bob Nelson)

At least 50 spp. of insects were collected and have been tentatively identified to at least family, with many species-level IDs completed. A number of hard-to-identify specimens seen were not collected, including thrips and many small Hymenoptera, Dipera and Auchenorhyncha (soft-bodied Hemiptera). A vial of spiders collected in the swampy wetland was also saved for Dan Jennings.

Once the identifications have been completed, the list will be provided to the Belgrade Regional Conservation

Alliance, which oversees the property and agreed to allow us to collect. Brandon Woo and Karen Hopkins have been responsible for most of the identifications thus far.

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### **Please WATCH for this Carabid!**

by Bob Nelson

Ground beetles (Carabidae) are normally so generally benign that even introduced exotics rarely generate much concern. Here in Maine, the European *Pterostichus melanarius*, *Carabus nemoralis*, and, more rarely, the bright green *Carabus auratus* have been present for a century or more, but are at most ho-hum exotic members of the established local fauna.

Not so, however, with the European *Nebria brevicollis*, commonly known as the Gazelle Beetle. Since the lone initial specimen was found in Corvallis, Oregon, by students in 2007, it has now spread across ten counties in western Oregon and across the Columbia River to southwestern Washington State, and in some pitfall traps is already proving to be the most abundant carabid encountered – even more so than the long-established *Pterostichus melanarius*.



*Nebria brevicollis* (Fabricius), female. Length: 10-12 mm.  
(Photo by James LaBonte, Oregon Dept. of Agriculture)

Unlike other members of the genus *Nebria*, the Gazelle Beetle is not at all hygrophilous, and is very happy in open and dry habitats, from agricultural fields to parks and even gravelly margins of unpaved parking lots. Perhaps unfortunately, it also seems to be equally happy in dense virgin forests as well as second-growth stands, and any habitat between this and the dry parking lot margins. It apparently will eat a wide variety of foods, which could explain its explosive population growth.

One of the principal concerns about its presence in Oregon is that this species commonly will climb vegetation to predate on herbivorous insects. Caterpillars are thus potentially vulnerable, and of course this can leave rare endemics in particular jeopardy.

*N. brevicollis* can be distinguished from our native *N. pallipes* and *N. lacustris*, which it superficially resembles, first of all by habitat: our local species will be found on wet ground on pond, lake and stream margins, whereas *N. brevicollis* will be found in almost any habitat but this. Gardens would be ideal habitats in which to encounter it.

Like our native species, *N. brevicollis* is shiny, and dark brown to nearly black (piceous)(see photo). Its legs are the same color as the body, as opposed to the more yellowish legs of our native species. The striae on the elytra of *N. brevicollis* are deep and clearly punctate, as opposed to shallow and smooth. And most importantly, the base and margins of the pronotum of *N. brevicollis* are coarsely and densely punctured as well.

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### Exotic Carabid Watch Call (cont.)

Given that Maine is a major port state in the U.S., with significant traffic from Europe coming in to both Eastport and Portland, it is conceivable that *N. brevicollis* could be introduced here at any time. Its rapid spread in Oregon should be of concern to anyone desiring to protect the native fauna.

Anyone thinking they've encountered this species should collect and report the specimen as soon as possible to the Maine Forest Service, which has reference specimens of the exotic beast for comparisons. I also have a pair of specimens in my collection, and would be very willing to check the identifications of any specimens sent my way.

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### Searching for 2013 M.E.S. Calendar Photos!

Here's a reminder that we're *still* looking for a few more good photographs for the 2013 M.E.S. official calendar!

Calendar photos must be of entomology-related subjects and either taken at Maine M.E.S. events or include arthropod species which either are known to occur in Maine or may be found here. We are especially interested in seeing new taxa represented, and final selections will be based in part on a good balance of subject matter.



This photograph of a very large female orb-weaving spider (*Larinioides* sp., probably *L. patagiatus*) in Clinton isn't sharp enough for the calendar – but could be a good one if it were really sharp and clear. For scale, that's a clearwing hummingbird moth (*Hemaris thysbe*) providing lunch!  
*Bob Nelson photo.*

Please submit only unpublished photographs. All images should be digital and submitted via e-mail or on a CD (JPG format preferred). The photos should be "landscape" orientation and of sufficient resolution that they will retain clarity when enlarged to 7x9 inches @ 300 dpi (dots per inch). Photos should be accompanied by species identification (as close as possible) with date, location and host, if applicable, and should be received by September 15th, 2012 (i.e., by the date of the annual meeting – bring them then if you prefer!). Accepted photos will be used only once, in the M.E.S. calendar, without further permission of the photographer.

Please submit photos via e-mail to: Bob Nelson (BeetleBob2003@yahoo.com) or at the mailing address on the label page of this newsletter. Please e-mail any queries.

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### Annual Meeting Sept. 15th

Bob and Nettie Nelson once again invite one and all to their home at Rock Ridge in Clinton for the Annual Meeting of the Maine Entomological Society, on Saturday, September

15th. The formal meeting will begin at 1:30, with lunch beforehand featuring savory oven-roasted chicken and a vegetarian (vegan, even!) chili, and all the pot-luck dishes brought by attendees. Those who've attended any previous annual meeting know the food is always diverse, abundant, and most of all, really good! Come as early as 10:00 a.m. for some pre-meeting collecting in a diversity of habitats!

The agenda includes election of officers for the coming year, a report on the financial status of the Society, discussions of possible Winter Workshop topics and projected field days for the coming year, other society activities, MES T-shirts/sweatshirts, as well as other items of interest to the Society or to individual members. Plus, there is always some time to do some collecting, both before and after.

If you're planning to come, please DO let us know so we can plan accordingly! You can send an e-mail to BeetleBob2003@yahoo.com or call at 426-9629. Contact Bob also if you need driving directions. We'll also have signs posted from the Clinton exits off I-95 to help those coming from outside the immediate area, whether you're coming from the north or the south.

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### Acadia Aquatic BioBlitz Update

The 10th annual BioBlitz at Acadia National Park was held on July 13-16, 2012. This year, a total of 61 people contributed 1,419 hours over the weekend to collect, sort, pin (if appropriate), and identify aquatic insects, which were the focus of study this year. Participants included both familiar and new faces, including a hale and hearty contingent of NPS interns from as far away as California.



Acadia Aquatic Entomological Bioblitz participants gather for a group photo on the steps of the Schooner Club at SERC.  
*National Park Service photo.*

In the latest update, Don Chandler (who's been identifying the bulk of the materials) has identified 171 species so far (as of July 31st), and expects the ultimate number to approach 230 species or so. This is about double the initial estimate of the number of species we'd found, though at that time much of the material hadn't even been seen, much less sorted. However, materials thus far identified include (alphabetically, by order):

- Coleoptera, 71 species (family Dytiscidae most diverse, with 20 species)
- Diptera, 16 species (Chironomidae not yet done)
- Ephemeroptera, 4 species
- Heteroptera, 16 species (small corixids not yet done)
- Lepidoptera, 1 species (a small Pyralid moth, whose larvae are aquatic)
- Megaloptera, 3 species

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### Acadia Bioblitz Update (cont.)

Neuroptera, 1 species  
Odonata, 48 species (family Coenagrionidae with 16 species; larvae of Corduliidae, Gomphidae, and Libellulidae not yet done)  
Orthoptera, 1 species  
Plecoptera, 7 species  
Trichoptera, 3 species (larvae and adults not done yet)

As in the past, the event was based at the park's Schoodic Education and Research Center (SERC); many thanks to the SERC Institute for helping make this annual event a reality. For the first time in Blitz history, collecting was conducted on Mount Desert Island as well as the Schoodic Peninsula. **Next year's BioBlitz** will also be focused on Mt. Desert Island, with a focus this time on beetles (Coleoptera). The 2013 Blitz will be held July 12th-15th.

A publication with the results of all previous BioBlitzes should be available shortly, according to Andrei Alyokhin. Information on how to obtain copies of this authoritative reference volume will be posted on the M.E.S. web site as it becomes available.

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While paddling a kayak during a research project on Long Pond in Belgrade in late July, I was amazed by a number of things. First of all, I was surprised to find that Chrysomelids (leaf beetles) of the subfamily Donaciinae were rare on the emergent aquatic foliage. Having in the past had great luck in finding members of *Plateumaris* (formerly a subgenus of *Donacia*) to be seasonally abundant on emergent sedges, I was hopeful to find specimens of the nominate genus, *Donacia*, which were reputedly more common on water lilies and emergent pondweed. The lilies were everywhere – but the beetles were practically nowhere to be seen.

Imagine my surprise when I leaned far over the side of the kayak (fortunately, on calm waters!) to sniff a white water lily, *Nymphaea odorata*, only to have a half-dozen *Donacia* fly out and past my face, along with scores of tiny flies and other insects! Lo and behold, the *Donacia* were to be found in the flowers, not on the foliage! On the foliage, though relatively rare by comparison, were other leaf beetles – *Galerucella nymphaeae* – which also were on some of the leaves of the pondweed (*Potamogeton*) that was also to be found in these shallows.

I subsequently found the *Nymphaea* flowers to be quite productive of specimens (the white ones more so than the rare pink ones that were to be found in one small area), but not nearly as productive as the flowers of the yellow pond lily, *Nuphar variegatum*. On these, each and every flower I investigated had 2-6 specimens of *Donacia* in it – all snuggled down beneath the anthers, where I presume they were gathering nectar and pollen in a feast that they must have considered comparable to a large plate full of traditional Thanksgiving turkey stuffing! Older, more bedraggled flowers were often more productive than younger, fresher blooms.

Not to be outdone, though, countless scores of other insects came by to impress me – particularly an enormous variety of Odonata, including tiny bluets that were barely 2

cm long – less than an inch. Of course, there were the deerflies and occasional horseflies, and the rare day-active mosquitoes. But by and large, the light breeze kept most of the weaker fliers at bay.

The best experience of all, though, was when a dull gray dragonfly, which I presumed to be a Slaty Skimmer (*Libellula incesta*) (Libellulidae), landed on my arm as I was drifting through the water lilies and pickerelweed (*Pontederia cordata*). It was feeding ... on a lovely little deerfly it had apparently grabbed above my head! I remained motionless until it had finished, turning the fly this way and that as it slowly disappeared between the munching mandibles. As my gray visitor was "cleaning up" after lunch, I whispered a sincere "Thank you!" and it flew off. - Bob Nelson

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### Bug Maine-ia at the Maine State Museum

Wednesday September 12, 2012

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

Free admission All Day!

by Joanna Torow

Bug Maine-ia is the Maine State Museum's largest event of the year and it never fails to fascinate and inspire. Hundreds of visitors come from all over Maine to learn about insects and the amazing things they do. Bug Maine-ia has become a particular favorite for visiting schoolchildren and teachers. Schools are already calling and making reservations. With the arrival of August, the museum education staff is in full event-planning mode – rushing around emailing new presenters, making pleading phone calls, whipping up draft schedules and designing flyers to be sent out to teachers, homeschoolers, and the general public.



Dana Michaud shared his enthusiasm with youthful onlookers at Bug Maine-ia in 2011, with numerous "OH WOW!" cases of exotic specimens. Joanna Turow photo.

We could not create such a successful event without the help of the many Maine entomologists who fill the museum with amazing displays and hands-on activities featuring insects on land, in the water and in the air. A big thank you to all of our presenters and volunteers, who keep the event constantly changing and growing! We are always looking for new presenters, so if you have a great idea for a display, activity, or just want to help, we would love to hear from you! Contact Joanna Torow at 287-6608 or by e-mail at joanna.torow@maine.gov. Join the fun! Help us make Bug Maine-ia 2012 sensational by volunteering!

\* \* \* \* \*

**Sometimes Surprisingly *GOOD* Things Happen!**  
by Charlene Donahue

Sometimes good things happen. In mid-July a Botanist with the USDA Forest Service found the native caterpillar *Magusa divaricata* (Noctuidae) defoliating highly invasive glossy buckthorn (*Frangula alnus*) in Rhode Island. Then a week later, David Tibbetts found *M. divaricata* caterpillars on the glossy buckthorn on Cutts Island in Kittery, Maine.



Glossy buckthorn completely defoliated by *Magusa divaricata* caterpillars on Cutts Island, Kittery. Below: one of the happy and hungry little feeders in all his radiant beauty.



This insect migrates up from the south where it feeds on native Carolina buckthorn (*Rhamnus caroliniana*). We can only hope these caterpillars will continue to feast on invasive buckthorns farther north than they have in the past.

Please do note: *Magusa divaricata* has been recorded in Maine before as *Magusa orbifera*.

\* \* \* \*

**Rare Butterfly Sighted in Maine**

On Friday, August 3rd, I was sitting with Nettie on our front porch gazing over the yard and thinking of all the things that needed to be done, when a flash caught my eye. We're used to all sorts of butterflies in the yard, and this has been a grand year, but this particular butterfly was unusual.

It was so big, at first I thought it was a bird – but then it began nectaring on the purple coneflowers. Oh, I thought – a Canadian Tiger Swallowtail. But ... the color was wrong – it was more black than yellow. And it was bigger than any CTS I'd ever seen. I got out of my chair and went over .... wow!

It was mostly black, with yellow markings, and had no problem letting me observe from only 5-6 feet away for some time. It had far too much yellow on it to be a black swallowtail or anything of that sort. Thinking, I need to get a picture or something to document this, I instantly remembered that my butterfly net was in the garage.



Giant swallowtail (*Papilio cresphontes*); wingspan 4-6".  
Photo by Charles T. and John R. Bryson, Bugwood.org

I ran to get the net and returned, but this crafty beast must be wise and net shy – because as soon as I got within ten feet of him, he took off and flew up, up and away .... out of the yard to the treetops, and from there he sailed across the road.

Nonetheless, I was able to get a good enough look that, by comparison with photos linked through the Maine Butterfly Survey web page, I was able to identify it fairly confidently as a Giant Swallowtail (also called Orange-Dog Swallowtail: *Papilio cresphontes*). This deciduous-forest species is apparently a pest in citrus groves in the south, where the caterpillars (which resemble bird droppings) can be major defoliators.

I ran my tentative ID past both Herb Wilson (of the Maine Butterfly Survey - MBS) and Charlene Donahue. Herb responded that there had been a number of sightings in Vermont and New Hampshire this summer, and Charlene forwarded on two reports of sightings of the species from Orono (by Kris Sader) and in Readfield (by Joshua Brown). The Readfield specimen, like mine, was nectaring on purple coneflowers, so this may well be a particular plant worth watching!

Two additional late reports came in as well, via the Butterfly Hotline, from Casco (by Lisa Willey) and Livermore Falls (where Amanda Rand succeeded in getting a photo).

I'm sure the MBS (and MFS) would love to have a voucher specimen, or at least more clear photos, if anyone else should happen to encounter this great beauty. Oral reports of sightings, of course, are insufficient to actually include a species record in the MBS database. - Bob Nelson

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**Who'd Have Thunk It?  
Springtails help mosses to reproduce!**

Charlene forwarded on a link to a neat article in a recent issue of the Science section of the New York Times (<http://tinyurl.com/9chd5ts>), which references a paper just published in the journal *Nature* (<http://tinyurl.com/cbg37fh>). Researchers have discovered that apparently Collembola (springtails) may be instrumental in helping mosses to reproduce. Given that springtails first appear in the geologic record in the late Silurian period (about 415-420 million years ago), and mosses are among the most primitive of land plants, this suggests that insect-aided plant reproduction may predate the rise of bees by some 200 million years or more.

- Bob Nelson



## How DO Mosquitos Survive Raindrop Impacts?

A recent study\* has provided an answer to one of those questions that I know has haunted many of us as we lay awake in the summer evenings, listening to mosquitoes buzz around our tents or heads: how do mosquitoes, those tiny, delicate demons of our dreams, survive being pounded by raindrops when they're out and about seeking our blood?

In part, it turns out that they just "go with the flow," and absorb what little energy is transferred through the extremely small impact surface area, spinning in the air as the impacting raindrop goes past, then righting themselves once again. Since the raindrop isn't much impeded significantly by the mosquito's body, not much energy is transferred. When the raindrop hits the mosquito squarely, the insect is completely enveloped, but it escapes again and continues its flight before the raindrop hits the ground.

Of course, many of us also know that when it's raining heavily, mosquitos also DO tend to take shelter beneath leaves and other protective structures. Of course, once the active rain stops, all bets are off!

This ability to easily withstand raindrop impact is apparently a key survival issue, inasmuch as mosquitos are so very abundant in wet tropical areas that get abundant rainfall, as in the Arctic where summer rains may be over 50% of total annual precipitation.

- Bob Nelson

\*Dickerson, A. K., Peter G. Shankles, Nihar M. Madhavan, and David L. Hu, 2012: Mosquitoes survive raindrop collisions by virtue of their low mass. *Proceedings of the National Academy of Sciences*, v. 109, no. 25, p. 9822-9827.

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## A Neat New Light Trap for Small Insects

There was a neat short article in the most recent issue of *Entomological News*\* describing a very simple, easily transported, light trap that is particularly useful for collecting small insects. It was developed and turned out to be particularly valuable for capturing tropical specimens of the phorid fly *Apocephalus*, which we have in Maine and has been reported to be parasitizing honeybees in California and South Dakota (see p. 1).

The trap consists very simply of a shallow baking dish, over which is laid a sheet of ¼" screening, fit as tightly as possible – which bars the larger beetles, Trichoptera and moths which would otherwise overwhelm the sample. The dish is placed on the ground, and up to 2" of water is poured into it along with a few drops of dish detergent (to break surface tension).

The preferred light source is laid on top of the screening ("black light" fluorescent bulbs) or suspended immediately above it (mercury vapor lamp). Close distance between light source and water is critical, inasmuch as many small flies will circle the lamps and not really alight – so this will capture them in the water.

After sampling (which may last all night), the water is poured through a fine-mesh net (e.g., an aquarium dip net) and the catch is rinsed into a container with alcohol for returning to the laboratory for sorting.

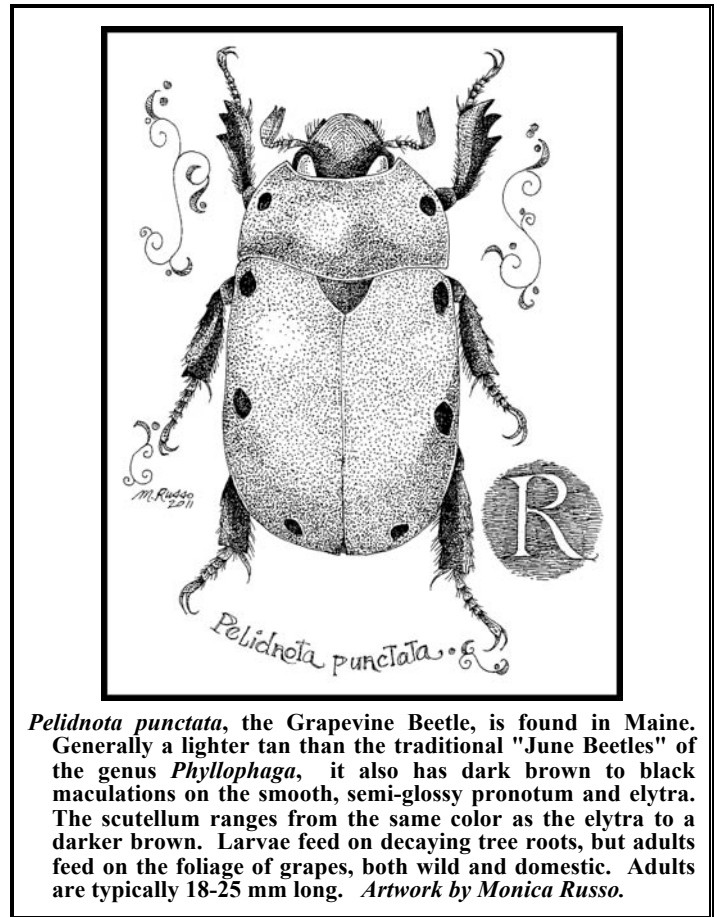
The article has a good photo of one of the traps in full assembly. The author, an authority on Phoridae, has been using this trap for some thirty years with excellent results.

Anyone who would like a copy of this article who does not have access to *Entomological News* can e-mail me a request for a copy.

- Bob Nelson

\* Brown, Brian V., 2012: A simple light trap for collecting small insects. *Entomological News*, v. 122, no. 2, p. 188-191.

\* \* \* \* \*



*Pelidnota punctata*, the Grapevine Beetle, is found in Maine. Generally a lighter tan than the traditional "June Beetles" of the genus *Phyllophaga*, it also has dark brown to black maculations on the smooth, semi-glossy pronotum and elytra. The scutellum ranges from the same color as the elytra to a darker brown. Larvae feed on decaying tree roots, but adults feed on the foliage of grapes, both wild and domestic. Adults are typically 18-25 mm long. Artwork by Monica Russo.

## Native Bees Highlighted by MPBN

There was a nice piece aired on August 3rd on MPBN (Maine Public Broadcasting) about the importance of native bees, featuring U. Maine Professor of Entomology and M.E.S. member Frank Drummond. You can listen to the piece as it aired, and read the illustrated transcript, at

<http://tinyurl.com/95dvxda>

\* \* \* \* \*

## Casual Barn Observations

Over the past year, we have had to deal with what we feel is perhaps more than our fair share of the beautiful but occasionally painful *Dolichovespula maculata*. We've had nests under the eaves of the house, over both the front and rear porch deck areas, and in multiple places under the eaves of the barn. In general, we've tried to adopt a policy of "if it's not causing a direct problem, let 'em be."

Thus it was last year about this time when I spotted a baseball-sized nest up in the cupola of our barn, some 10 feet above the floor of the hay loft. The wasps clearly entered through the side openings in the cupola, and posed no threat, so I left it and them alone. (Those closer to the ground, and thus the horses, were ... dealt with, "with extreme prejudice.")

This year, several checks indicated that apparently the nest in the cupola had not been reoccupied nor was it in any use. So, it has hung up there undisturbed for much of the summer.

Imagine our surprise, however, when Nettie went up last week and found it flat on the floor in the hay loft, in two pieces. She looked up into the cupola, and what was there but black mud-daubing wasps (Sphecidae – possibly *Sceliphron* sp.) happily plastering their own nests in the same living space. When I checked a few days later, there were four

(continued on next page)

**Barn Wasps (cont.)**

distinctly separate mud nests under construction simultaneously. Looks like they decided to guarantee they wouldn't be facing any competition for living quarters!

- Bob Nelson

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Hemlock woolly adelgid (*Adelges tsugae*; HWA) remains of concern in Maine, and has become established in the southern part of the state. The insect occurs as cottony tufts on the underside of needle-bearing twigs, as shown in the photo above.

HWA has been found in forest trees from Kittery to Bristol along the southern Maine coast. Recent winters, including the last, have allowed unfettered build-up of their populations, so the insect is increasingly noted. Although most detections are confined to towns in the immediate coast, it is very plausible this insect has become established in more inland locations. Hemlock woolly adelgids are in a period of dormancy from now through mid-October. Risk of spreading them on anything except rooted hemlocks is very low. Further information can be found on the MFS web site at [www.maine.gov/doc/mfs/HWAOverview.htm](http://www.maine.gov/doc/mfs/HWAOverview.htm).

New localities should be reported to Allison Kanoti [287-2431; [allison.m.kanoti@maine.gov](mailto:allison.m.kanoti@maine.gov)] or Charlene Donahue [287-3244; [Charlene.Donahue@maine.gov](mailto:Charlene.Donahue@maine.gov)] at the Maine Forest Service in Augusta. Photo by John A. Weidhass, Virginia Polytechnic Institute and State University, [Bugwood.org](http://Bugwood.org).

**Colleen Teerling** has been conducting a number of community-outreach efforts in the search for the introduced **Emerald Ash Borer**. Fortunately, to date, all efforts have turned up zero records for the species, which has killed hundreds of thousands of ash trees from Michigan to New York and Montreal, in Quebec.

**COMING M.E.S. EVENTS in 2012:**

- 11 August M.E.S. field day, Otisfield; contact person: Charlene Donahue [207-287-3244]
- 12 September Bug Maine-ia, Maine State Museum, Augusta; contact person: Joanna Turow [207-287-6608]
- 15 September Annual Meeting, Clinton (Kennebec Co.); contact person: Bob Nelson [207-426-9629]

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

**PETERSON GUIDE ERROR CAUGHT!**

Karen Hopkins has discovered that there is a little problem with the *new* Peterson's Moth book. The ruler on the inside of the back cover is not accurate. By its 7-inch mark it is a whole inch off. She has suggested photocopying the ruler from the old Peterson's guide, and taping it over the new one, which is what she has done.



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

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