

# 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

We have had a wonderful spring – cool temperatures, a mixture of bright sunny days, and abundant rain. Now it looks like the warm temperatures will arrive and insects will begin to really come out in full force.

I had the usual mix of insects in my sap buckets this year – moths, flies, springtails, sap beetles, parasitic wasps, stoneflies, spiders and more. Every year I plan on identifying what gets caught and every year the work of boiling fills too many hours of the day and I don't get to the insects. Some day.

There is a nice array of MES field trips and other activities coming up this season. We start in southern Maine in May at Tatnic Hills Preserve in Wells on May 21<sup>st</sup>, then head to central Maine on June 25<sup>th</sup> for a survey at Dick Dearborn's place in Mount Vernon (with an invitation to help out at a bioblitz in Falmouth on the same day – see the February newsletter). July is the Moth & Butterfly Blitz at Acadia National Park - Schoodic Point, on the weekend of July 22-25 (see story at right). And on August 20<sup>th</sup> we explore Saddleback Mountain.

Also, Gail Everett has a series of trips she has planned and welcomes others to join her as she says good-bye to special places in Maine before she moves west. Again, check back to the February newsletter for more information or contact Gail directly.

On a rainy day, when you need a lift, type 'minuscule' or "minuscule" into search on YouTube (at <http://www.youtube.com/>). You'll find lots of insect cartoon shorts.

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## Acadia Bio-Blitz 2011: LEPS!

There's still time to register for the 9th annual bioblitz at Acadia National Park on July 22-25, 2011, sponsored by the National Park Service, Maine Forest Service, Maine Entomological Society, University of Maine, University of New Hampshire, and the SERC Institute at Acadia National Park. This year, the target group is the Lepidoptera: moths and butterflies. The event is open to professional entomologists, amateur naturalists, and other interested persons.

As in the past, the event will be based at the park's Schoodic Education and Research Center (SERC) and collecting will be focused in the Schoodic section of the park. Lodging at the Schoodic Education and Research Center will be provided to participants at no charge; however space is limited, and will be available on a first-registered, first-served basis. Participants will only need to pay a small registration fee and food costs - meals will be provided by the SERC Institute.

The event will begin with dinner Friday evening, followed by presentations on current research and issues of interest to the entomological and natural history community. Saturday morning will be a workshop on collecting and identifying moths and butterflies. The official BioBlitz commences at noon and continues until noon on Sunday. The remainder of Sunday and Monday morning will be focused on sorting, pinning, and identifying collected specimens.

Registration information and downloadable forms are available at the M.E.S. web page, or at the Acadia National Park site:

<http://www.nps.gov/acad/naturescience/bioblitz.htm>

For immediate questions, please contact David Manski at Acadia National Park ([david\\_manski@nps.gov](mailto:david_manski@nps.gov) or 207/288-8720).

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## A Butterfly To Watch For!

Martin Turgeon has collected the first inland Maritime specimen of a northern swallowtail butterfly, the Short-tailed Swallowtail (*Papilio brevicauda*), only ~30 km (18-20 miles) north of the Maine border at Madawaska.

The specimen was collected last summer on June 2; the species has not yet been found on the Maine side of the border. However, anyone able to document the species' presence in northern Maine would have a new national record!



Martin Turgeon's specimen of *Papilio brevicauda* from just north of the Maine border, part of the *Maritimes Butterfly Atlas* (<http://www.accdc.com/butterflyatlas/>). (Photo by John Klymko)

The species is predominantly black in color, with yellow-orange maculations and a single bright red-orange "eye spot" on the inner rear margin of the hind wings (see above). The Eastern Black Swallowtail has much paler straw-yellow markings and longer "tails" on the hind wings.

According to John Klymko of the Atlantic Canada Conservation Data Centre, the host plant for the larvae will likely be Common Cow Parsnip (*Heracleum maximum*).

Anyone able to provide Maine documentation (a specimen or clear photograph) of this generally more northern species should contact one of the partners of the Maine Butterfly Survey, who can be found through their web site:

<http://mbs.umf.maine.edu/>

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## The Lucky Mantis by Brandon Woo

Mantids (order Mantodea) are very interesting insects. The one species in Maine, the European Mantis (*Mantis religiosa*) is introduced from (where else?) Europe. In some years they can be relatively common. This last summer, I found thirteen, one brown and the rest green. About seven of these were small, active males. The rest were green females, with one exception, a brown female, which I decided to keep as a pet.

On August 31, 2010, I was at school. Another student brought a green male mantis to me, with the story that he had stepped on it, then felt it crawling up his leg. The mantis was unscathed except for one wing, which was bent to the right and

ripped. I took him home, and put him in a container, planning to put some other insects in later.

A few hours later, around 6:00 p.m., I decided to try to mate the male and the brown female I was keeping. As I was taking him out, he jumped from my hand, hit the ground, and ran underneath my insect table in the garage. In a few seconds he emerged, covered in spider webs. I brushed him off, then brought him to the female, whom I had taken out and placed on the top of a tall container. He moved in front of her, and the female struck at him. He maneuvered out of her grasp, and started running. I recaptured him, and placed him in back of the female. He climbed on her back, and started to mate. I was astounded. I wanted to get my camera, but they had crawled onto my hand, and I didn't want to force them off.

Just then, my mom came out. I showed her the mantids and asked her to get my camera. She went inside and came back out with the camera. I took some photos of them just as my dad drove up from work. He, too, was amazed at the sight. I took the mantids to a small aspen sapling, and they crawled on. I took some more photos of them in a more natural setting.

Soon, it was time for dinner. I placed them back in the female's container, and went inside. I ate quickly, then ran back to the garage to check on them. The mating pair had not moved. I then found my book on mantid rearing, *Praying Mantids: Keeping Aliens*, and read about mating mantids. While many people think that female mantids always eat their mates, the truth is that: "Females sometimes do eat males, but this is the exception rather than the rule."



Female (left) and male European Mantids, *Mantis religiosa*. Kennebunk, Maine (photo by Brandon Woo)

I kept watch on the mating mantids until about 8:15 p.m. Then, I decided to separate them, planning to follow the information and instruction from my book: "Fertilization occurs within thirty minutes independent of how long the pair stays coupled..... Holding the male and female by the thorax will give

(Continued on next page)

### **Lucky Mantis (cont.)**

them the impetus to separate without any need to pull them apart...” What actually happened was this: I touched the male’s thorax, and he immediately detached and started off running. I quickly recaptured him, and put him in a container. Then, I put the female back into her cage. I placed the male in another terrarium with a squash bug (*Anasa tristis*) in case he was hungry. I then went to bed.

The next day, I noticed that the squash bug was dead and devoid of its insides, evidence to the male’s feeding. The day after that, the male mantis was alive and well in the morning, but by the afternoon, he had dropped dead. I waited for the female to produce an egg case for a few days. During that time, I also noticed that her tarsi (feet) were becoming brittle and falling off. According to my book, this is an early sign of old age. She continued to feast on any insects I could scrounge up. On Thursday, the female attached an egg case to a branch. Soon afterwards, she died, so I pinned her. I took the case and put it in another container. I will now proceed to incubate it over the winter months and hopefully hatch it in the spring. When/if that happens, anyone who wants a pet mantis is free to call and take one, since I surely can’t take care of hundreds of young mantids!

This is the story of the lucky male mantis, who survived many perils in order to accomplish his goal in life, achieved it, and died. Most males would not have survived, but this one did. I believe he was favored by Mother Nature.

### **Reference:**

McMonigle, O., and A. Lasebny, 2001: Praying Mantids: Keeping Aliens; Brunswick, Ohio: Elytra & Antenna Publishing; 44 p.

\* \* \* \* \*

## **USDA Volunteer Forest Pest Survey**

America’s trees are under attack. Help us track down the killer beetles.

The Emerald Ash Borer (EAB) beetle and Asian Longhorned Beetle (ALB) have destroyed millions of trees throughout the United States. The USDA, the Maine Department of Agriculture, and The Maine Entomological Society are partnering to ask M.E.S. members to participate in a Volunteer EAB/ALB Forest Pest Survey. We need your help to determine if these damaging forest pests are in your community.

The EAB and ALB most likely arrived in the United States inside solid wood packing material from Asia. Since their discovery, infestations of ALB have been reported in four states and infestations of EAB in 15 states. There could be other undetected infestations in the country as well.

Be an ace beetle detective. Start searching today.

You can help us stop the spread of the beetles — and the devastation to our forests, parks and neighborhoods — by searching your community for signs of both beetles. Just follow these simple steps:

Go to <http://www.beetledetectives.com/>. Review the fact sheets linked to the site to become familiar with the EAB and ALB as well as signs of damage. Take the fact sheet for reference when you search.

Locate host trees in your search area. The EAB lives in ash trees and the ALB lives in hardwood trees, particularly maple, birch, horse chestnut, willow and elm. Carefully examine each tree for signs of infestation. Take notes on the following:

- Area searched.
- Types of trees examined.
- Descriptions of any beetles or signs of infestation detected. It is also helpful to take pictures of the insects or damage to your trees.

If you observe beetles or signs of infestation, contact your USDA/APHIS State Plant Health Director. Go to [http://www.aphis.usda.gov/services/report\\_pest\\_disease/report\\_pest\\_disease.shtml](http://www.aphis.usda.gov/services/report_pest_disease/report_pest_disease.shtml) to find your State Plant Health Director.

Report both positive and negative sightings online at BeetleDetectives.com. Negative sightings help confirm that the beetles were not found in your area. Make sure you indicate your organization’s name on the online reporting form.

Help your organization become top-ranked beetle detectives.

At BeetleDetectives.com, we will rank participating organizations based on the reports their members submit. If you know other people who would like to help protect our trees, forward this email to them and ask them to report their findings as an individual.

Thanks in advance for helping protect America’s trees!

*Charlene Donahue, President*  
Maine Entomological Society

*Terry Bourgoin*  
State Plant Health Director, Maine  
USDA/Animal and Plant Health Inspection Service, Plant Protection and Quarantine

*Ann Gibbs*  
State Horticulturist  
Maine Department of Agriculture

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## **Browntail Moths Are A Serious Problem in Bath/Brunswick Area** **by Charlene Donahue**

An invasive insect that is well established in Maine is wreaking havoc in the Bath/Brunswick Maine area.



**A browntail moth caterpillar. (Charlene Donahue photo.)**

The browntail moth (*Euproctis chryorrhoea*) is a hardwood defoliator that feeds early in the spring on red oaks, crabapple, (Continued on next page)

*Browntail moths in Bath/Brunswick (cont.)*

cherry, birch and other hardwood trees. It is an insect that has outbreak phases where the population builds to unsustainable levels, crashes, exists at low levels and then builds up again. Unfortunately, browntail moth has been at outbreak levels in one section or another of the southern Maine coast since the early 1990s.

The larval feeding causes branch dieback and some tree mortality, but worse than the tree damage is the rash that people get. The larvae have urticating hairs that cause a rash similar to that of poison ivy. People do not have to come in contact with a caterpillar to get the rash, as the hairs break off cast skins and blow around in the air. Just being in the area where there are browntail moths can bring on the rash.

When populations are high, larvae can strip all or most of the foliage off the trees in May or June. The trees re-leaf but these second-flush leaves have chemicals that make them less palatable to the insects – it's the tree's defense mechanism.

The browntail moths overwinter as larvae on host trees after feeding for a short time in late summer and fall. The females are 'good mothers' and do not lay their eggs on second-flush leaves, as many of the larvae would not survive. Therefore the browntail moth population will shift from one set of trees to another set of trees. Sometimes this can be quite dramatic. This dynamic between the trees and insects helps keep the trees from dying, as they get a reprieve from the larval feeding every few years.

For more information about the browntail moth, go to  
<http://www.maine.gov/doc/mfs/fhm/pages/BrowntailMoth.htm>  
\* \* \* \* \*

**The *Duponchelia* Situation: First record of an introduced greenhouse pest in Maine**  
by Brandon Woo

On December 8, 2010, my mom discovered a small moth in our guest room and captured it for me. A few days later, I took a few photographs of the moth, then uploaded them to my computer. The result of some cropping and editing was the realization that this seemingly drab, insignificant little moth was actually quite beautiful. It was light brown, with a distinctive white lined pattern on the forewings.

Puzzled over its identity, I submitted one of my photos to bugguide.net, a fantastic web site for arthropod identification and information. It was soon identified as *Duponchelia fovealis*, a recently introduced "pest" that should not be in Maine yet (it's cold-intolerant). Its caterpillar feeds on numerous garden and ornamental plants. We had recently hosted a friend from Delaware, so we assumed that the moth's pupa had stowed away, and that this was an isolated occurrence.

This hypothesis was proven wrong on January 6, 2011, when another one of the moths showed up, in the same room. After vigorous research, I determined that this second moth was a female because of the thicker abdomen. (By now, the first moth had died and been pinned.) We were now a bit more suspicious, but still remained hopeful that it was still just a fluke. But on January 12, 2011, two more specimens were found. Both were males, and one was found in the guest room, and the other was in my bedroom.



*Duponchelia fovealis* from Kennebunk, Maine.  
(Brandon Woo photo)

I spotted it when I went upstairs to bed. It was on the floor, and when I approached, it spiraled up into the air with a flight pattern reminiscent of a plume moth (family Pterophoridae). Luckily, I keep three film canisters near my bed, so I quickly snapped the moth up. Each of the moths lived about a week and a half in film canisters with no food or water before dying, proving that they are very resistant to harsh conditions.

Now that we were almost sure of a possible infestation, we started thinking that the moths were coming from a plant purchased from Hannaford in October, that was in the guest room. However, the plant looked fine. We decided to bring the female and a male to the MES winter workshop on moths.

There, we hoped to receive some information on what to do about the situation. It turned out that no one there had even heard of it! After a bit of discussion, Karen Coluzzi told us to check the plant in the room for damage and/or evidence.

The very next day, we took the plant (a kalanchoe, according to the tag) out to our garage. As my mom was brushing some dirt off of it, the whole crown fell right off! Once we put the pot and plant remains into a box for inspection, we saw just how serious the damage was. There was silk webbing around the base of the plant, and many of the stems were girdled and eaten. Most of the leaves showed evidence of *Duponchelia fovealis* feeding as well. We did not discover any eggs, larvae, or pupae. Finally, we took some photos, put the plant remains and soil into a smaller container, plopped a tall plastic container over the whole thing to make sure that any extra moths would not escape, and left them in the garage. No more have emerged or been spotted anywhere in our house since.

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### *Duponchelia fovealis* new to Maine (cont.)

Afterwards, one of my male specimens was taken for a confirmation on the identification. It would appear that the plant was grown in a greenhouse in Canada, which may have been infested. How about that?

#### Reference:

Species *Duponchelia fovealis* - Hodges #5156.5. Bugguide.net; 12 Nov., 2010.

<http://bugguide.net/node/view/471854>

(accessed 12 Dec., 2010)

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### Maine Garden Day Draws Over 350 Attendees by Robyn Holman

Maine Garden Day is an annual gathering of over 350 gardeners and educators who come together for workshops and information sharing. Held in early spring, participants are eager to get going on all matters of gardening and have over 35 topics to choose from – from creating rain gardens, choosing native plants for landscaping, fruit tree pruning, weed identification, composting and much more. Sponsored by the University of Maine Cooperative Extension, Maine Garden Day has been held in the Lewiston-Auburn area for 18 years.

I was co-presenter with Dana Rickman, both of us long-time gardeners and pollinator enthusiasts, of *What's the Buzz All About? Attracting Pollinators to Your Garden*. Our session was an overview of pollinators, the plants they love, and how to create a habitat that encourages and sustains both. Pollination is a hot topic with gardeners these days, fueled by extensive media coverage on honey bee decline and native bee habitat loss. How do we increase our yields? Harvest more and bigger fruits and vegetables? Produce more heirloom seeds for saving? Better pollination is the answer. And better pollination means encouraging insects, specifically bees, to not only visit but make your garden their home.

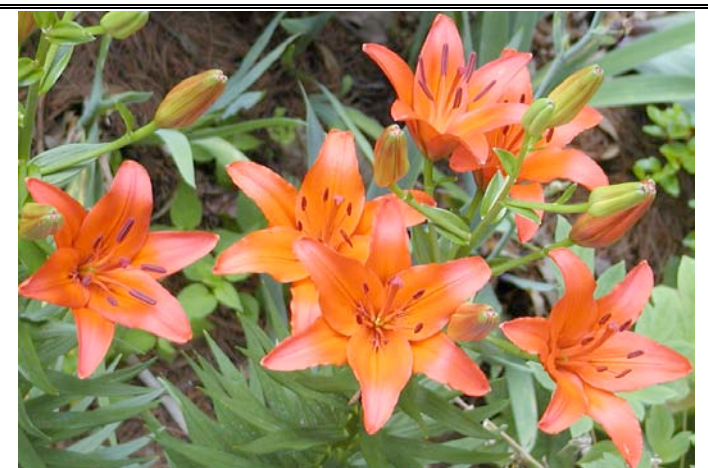
We began with a brief overview of the mechanics of pollination -- the process of getting pollen from anthers to stigmas, with nectar being the carbohydrate reward for many pollinators. Evidence was presented showing that vegetables, herbs, and fruit trees will all be better producers when there are healthy populations of bees, wasps, beetles, butterflies, moths, and flies. We shared some important numbers: 80% of food crops world-wide rely on pollination by animals. It has been calculated that one out of every three mouthfuls of food we eat and the beverages we drink is delivered to us by pollinators. We depend on pollinators, and they depend on us.

The list of players in the pollination game in Maine is vast, so we limited our review to some of the more likely visitors. We had an orchard mason bee house and a good supply of *Osmia* and leafcutter bee cocoons -- kept in a cooler so they wouldn't hatch during the class! Our slides and discussion included *Andrena*, *Colletes*, *Hylaeus*, lovely little halictids, megachilids, honey bees and, the heroes of pollination, bumble bees. A personal favorite, *Sphex ichneumoneus*, the great golden digger wasp, reminded us to talk a bit about insects with pointy ends and that, in general, they are defensive only when their nests are disturbed or if they are in imminent danger. We were able to make the point, more than once, that unless a nest is directly impeding foot traffic or is in close proximity to an often-used

door, the best thing to do is usually nothing. Foraging pollinators are a joy to watch close-up and are essential to a healthy garden

Other insect "friends" - the paper wasps, bald-faced hornets, and yellowjackets - are ones to be respected, not eliminated. After our hymenopteran friends we did a brief "meet the beetles" and introduced some fascinating flies, and gave a "how to" guide showing the difference between flies and bees. We included clearwing hummingbird moths and a few butterflies, noting, that for these creatures, larval host plants are essential. If one is to create habitat to encourage pollinators, caterpillars are part of the pollinator landscape and need to be tolerated if not welcomed.

The list of plants for encouraging pollinators is enormous. We focused on general groups and a few favorites, from trees and shrubs to perennials, herbs, and small woodland natives: *Allium* species, *Cornus alternifolia* (pagoda dogwood), *Ilex verticillata* (winterberry, our native holly), *Asclepias* species (both common and fancier milkweeds), asters for late season nectar and pollen sources, *Echinops* (globe thistle), and a little-grown pollinator magnet that isn't invasive, *Pycnanthemum muticum* (mountain mint). Closing out our list of plants were the "little stinkers," whose "scented" flowers, such as the appropriately named *Symplocarpus foetidus* (skunk cabbage), attract flies.



Lilies are showy, varied, and a great attraction for many pollinators. (Bob Nelson photo)

The list of ways to encourage pollinators is short and within anyone's ability to provide: include a variety of plantings that will bloom early to late season; a source of water, and consideration for bare soil or sand as nesting sites. We also encouraged gardeners to be less vigorous in their clean-up and spring preparation habits -- the soil they dig could be home to an overwintering bumble bee queen, a nest for a *Sphex*, or a miner bee. Tolerate more un-cut stalks in the fall because they may be harboring pollinators as pupae, chrysalises, or some other form. And of course, no pesticides. Understand the food chain and realize that aphids are someone else's dinner, who in turn may give you even more zucchini as well as more tomatoes!

We presented our class participants with butterfly feeders as a way to encourage and observe pollinators. Made of dowels, plastic champagne glasses, and a plastic kitchen scrubber, they're great for encouraging children (us grown-ups too) to watch what

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May, 2011

## Maine Garden Day (cont.)

happens in the life-cycle of a garden. The recipe for making the sugar syrup that serves as butterfly food is easy to make: fill the feeder to the top with a solution of 10% sugar to 90% water. Place feeder in the sun. Grease the dowel with petroleum jelly or cooking spray to discourage ants. Change the solution every 2 days to prevent bacteria from forming. Clean the feeder with hot water only (no soap).

Pollinators help a landscape come alive – with their movement and their life-giving ability to create food from flowers, for us and for them. Here's wishing all a bountiful season!

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## *Aphomia sociella* (Linnaeus): An Interesting Life by Charlene Donahue

An insect with an unusual life style is the bee moth, *Aphomia sociella*. This small moth (wingspan 18-40 mm) is a European transplant in the family Pyralidae (snout moths).

The larvae live gregariously in the nests of wasps and bumblebees, and have on at least one occasion been associated with a mouse nest (Schousboe, 1980). Life history information is a bit sketchy. There are European articles on this subject but most of them are not in English, making it difficult to research this insect.



*Aphomia sociella* adult (male) against a backdrop of cocoons.  
(Charlene Donahue photo)

Gambino (1995) called this insect an inquiline, as it lives in the wasp nest but does not appear to harm the wasps or bees to any extent. The larvae live on debris and detritus in the nest as well as some of the immature wasps and stored food, although feeding on young and eating food brought in by others seems as though it would have a deleterious effect on the wasp colony.

The New York study by Gambino found that *A. sociella* larvae infested *Dolichovespula maculata* (bald-faced hornet) nests in the spring and remained in the top of the nest as the wasps built them down and away from the moths. These colonies remained strong even with tenants living 'upstairs'. In contrast, *D. arenaria* (common aerial yellowjacket) nests that were infested with bumblebee moths were weakened as the active comb was fed on by the caterpillars.



*Aphomia sociella* larva in wood.  
(Charlene Donahue photo)

The larvae spin very tough cocoons that are often associated with wood or wood products away from any wasp nests. This is where I have come across this insect and again, information on this part of the life history is scarce.

The cocoons I have seen were attached to house siding, in a book, and inside a partially split piece of firewood that took three people and a maul to separate where the cocoons had spun the log together. Dick Dearborn has found the cocoons in a pile of boards and could not get the boards apart without breaking them. These are TOUGH cocoons!

The larvae gouge the wood as they attach their cocoons to the wood. They are also always in groups – do they vacate the wasp nests at the end of summer and travel en masse to an overwintering site? The larvae are bright yellow, so do they travel at night to avoid detection? How do they find wood substrate on which to pupate? Do they send out scouts? How far from a nest will they travel? Why do they leave the nest to pupate? Or is this where they lived all summer?

I have been observing a colony of these *A. sociella* cocoons since February (not very exciting – watching cocoons...). There are dozens of long cocoons. I dissected a couple of them and found the bright yellow larvae inside. In March, dozens of parasitic wasps began emerging and are still coming out. Starting on April 13th, moths began emerging and they are still emerging at this writing. To date more than two dozen moths have emerged. Once they are done I will disassemble the cocoons, if possible, and count how many there were.

The adults are of moderate size with tan, brown and green markings; the sexes are dimorphic, with the males generally being more brightly colored and distinctly patterned than the females. When the moths are disturbed, they fall to the ground and play dead, lying on their backs if that is how they landed. This makes it easy to catch them. It also may be a behavior that benefits them when living in a wasp nest, as the wasps would be less likely to attack what appears to be a dead moth.

Brower (1983) reported two native *Aphomia* moths in Maine, *A. fulminalis* and *A. terrenella* (sometimes placed in *Paralipsa*), although there are no specimens in the MFS collection. The moths that are emerging now are the first *Aphomia* in the collection. Although I am curious about these

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### *Aphomia sociella*: an unusual moth (cont.)

moths, I do not think my curiosity extends far enough to explore their lives in wasp nests. What is the host range in Maine? Are *Aphomia* always associated with wasp or bumblebee nests? Are they only in aerial nests? Perhaps someone else will take up the challenge.

#### **References cited:**

- Brower, A.E. 1983. A List of the Lepidoptera of Maine, Part 2. The Microlepidoptera, Section 1. Limacodidae through Cossidae. Life Sciences and Agricultural Experiment Station, University of Maine. Tech. Bull. 109; 60 p.
- Gambino, P. 1995. *Dolichovespula* (Hymenoptera: Vespidae), Hosts of *Aphomia sociella* (L.) (Lepidoptera: Pyralidae). Journal of the New York Entomological Society. Vol. 103, No. 2. pp. 165-169.
- Schousboe, C. 1980. Finds of *Aphomia sociella* in nests of wasps and of mice. Entomologiske Meddelelser. Vol. 47, No. 3. pp. 117-118.

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### ***Gnorimella maculosa* (Knoch): A Little-Known Scarab from Maine by Dana Michaud**

When sorting through the bycatch from the bark beetle and pine shoot beetle surveys, occasional scarabs showed up in the vials. The usual *Valgus*, *Sericus*, and *Trichiotinus*, along with smaller *Aphodius* and *Dialytes* occur in the vials, get pinned, and set aside to dry and to get identified later.

While processing the material from the summer of 2007 one night, I emptied out a vial of beetles, labelled June 26, 2007, Portland, Maine, into a Petri dish. Among the contents was an odd-looking scarab that I pinned and put aside.

As I continued to process the remaining beetles, this once-wet scarab took on a wholly different appearance as it dried. Before me was a 13-mm black beetle covered with reddish hairs. The pronotum had six small yellow spots, the elytra were red-brown with small black maculations, and the pygidium was bright yellow except for a small black "V" at the apex. This was a new one to me, and it is a beauty.

Out came the 2000 Arnett beetle book (keys to genera) and the 1996 copy of Downie and Arnett (for keys to species). It was time to find out what this unknown was. Working through the keys to genera with Dave Bourque, our specimen keyed out to the subfamily Cetoniinae (antennal insertions and epimera of mesothorax visible from above, tarsal claws simple and of equal size, and front coxae conical in form). Keying through the Cetonids, we arrived at *Gnorimella* – of which only one species is known in eastern North America, *G. maculosa*. The species description fit it to a tee. We decided that the next time we went to UNH, we'd bring it and ask Don Chandler about it.

At UNH, out came the Scarab drawer for the cetonids, and under G we found *Gnorimella maculosa*, the same species to which we'd keyed out our specimen. Remembering that François Genier was a Canadian scarab specialist, I wrote him a quick letter when I got home, seeking information about this Cetonid.

A prompt reply from him verified what I had suspected: not much is known of its biology. But being a Cetonid, the larval stage is probably spent in rotten wood (logs). It tends to be local and uncommon, though he had found it in Montreal. He was sorry he couldn't offer more information.

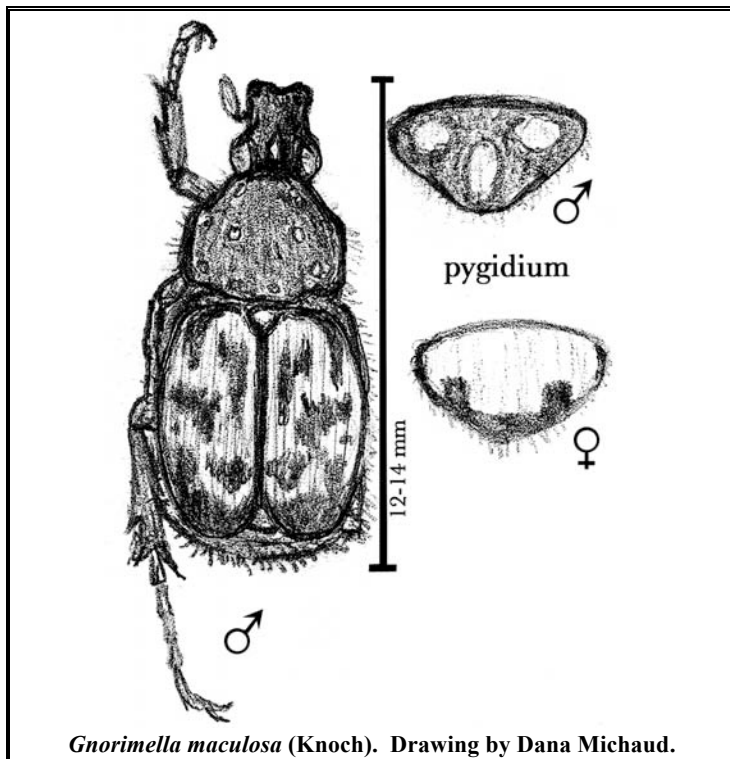
*The Maine Entomologist*

The 2008 bark beetle survey came and went ... and there were no more *Gnorimellas*. Then in 2009, specimen #2 appeared in a vial labeled "June 18, 2009, Portland, Maine," that Dave Bourque was processing. Both specimens we'd recovered to this point turned out to be females (which we found out when Chris Majka's paper was published; the species is sexually dimorphic). We found no more specimens until the summer of 2010 (June 6, Auburn, Maine) as Dave was sorting another vial.

This time the specimen was a male.

Prior to finding this third specimen, Chris Majka (Nova Scotia Museum in Halifax) e-mailed Dave that he was doing a paper on *Gnorimella*, having collected a female in Halifax on June 20, 2002. He wanted any data for any specimens we had. Dave forwarded the information for our first two specimens; Majka's paper was published in the December, 2010, issue of the *Coleopterists Bulletin*\*.

Majka's article showed that the dimorphism of this species makes males and females easy to distinguish (see figure).



***Gnorimella maculosa* (Knoch). Drawing by Dana Michaud.**

The male pygidium is black with three yellow spots; the elytra have more black maculations and the light spots on the pronotum are smaller than those on females. The female pygidium is predominantly yellow with two black marginal spots or a broad "V". Majka also discussed what was known of its biology, but showed that the known range of this uncommon Cetonid covers the entire eastern U.S., from Texas to Michigan, across southern Canada to Nova Scotia, and south to Florida.

Majka's conclusions are worth noting. Further investigation is needed to determine the status of this potentially rare beetle, as well as its biological needs and whether in fact some of its populations are disjunct and potentially subject to local extirpation.

*Gnorimella maculosa* is without a doubt one of eastern North America's least-known and prettiest endemic scarabs. The

(Continued on next page)  
May, 2011

*Gnorimella maculosa* in Maine (cont.)

more we know about its population and habitat needs, the better to assure its survival by protecting such habitat in the future.

\* Majka, Christopher G., 2010. The Distribution of *Gnorimella maculosa* (Knoch)(Coleoptera: Scarabaeidae: Cetoniinae) in North America. *Coleopterists Bulletin*, v. 64(4), p. 337-340.

\* \* \* \* \*

**Obituary:**

**Thomas Eisner: 1931-2011**

On March 25th, at the age of 81, Dr. Thomas Eisner passed away at his home in Ithaca, New York. Considered by many to be the "father of chemical ecology," Eisner published over 500 papers and books on insects and all aspects of their biochemistry. His knowledge was encyclopedic, his curiosity boundless, his enthusiasm infectious, and he was always willing to lend a helping hand to others.



**Dr. Thomas Eisner in 2001.  
(Cornell University photo; used by permission)**

It was Prof. Eisner who unraveled the now textbook example of chemical defenses in the explosive (and aimed!) spray of the bombardier beetles, who initiated studies of insect pheromones, and who learned how spiders chemically manufacture their silk.

Dr. Eisner was recipient of the National Medal of Science and numerous other honors, including the Louis Thomas Prize and the Independent Publisher Book Award for Best Science Book in 2004 for his memoir entitled *For Love of Insects*. He was a long-time conservationist and board member of the Xerxes Society, which works to protect invertebrate biodiversity and particularly the habitats of threatened or endangered species.

A more extended obituary to this phenomenal entomologist may be found at the Cornell University web site, at

<http://www.news.cornell.edu/stories/March11/EisnerObit.html> .

\* \* \* \* \*

**New Book:**

**Checklist of the Beetles of Maine, U. S. A.**

Christopher G. Majka, Donald S. Chandler, and Charlene P. Donahue, 2011: *Checklist of the Beetles of Maine, USA*. Empty Mirrors Press, Halifax, Nova Scotia, Canada. 328 pp.

The 328 page checklist of the Coleoptera of Maine provides the first comprehensive listing of the 2,871 beetles (2,466 native Nearctic species, 121 native Holarctic species, and 284 introduced species) recorded in the state of Maine, USA. Four hundred and seventeen are newly recorded in Maine while 58 are herein excluded from the state faunal list. For each species a chronological listing includes studies that have recorded it in Maine, and its distribution in the states and provinces of northeastern North America. Full collection data of all specimens for each newly recorded species are included. Recent synonymies and points of particular relevance are indicated in endnotes.

For each of the 96 families of Coleoptera, an introductory section discusses bionomics, taxonomic status, previous compilations of information, and the principal reference works that apply to the North American fauna. A photograph of a selected representative is also included. An introductory chapter recounts the history of Coleoptera research in Maine, while a second chapter presents a preliminary overview and analysis of the Maine beetle fauna. References to 1,171 publications that pertain to the Maine beetle fauna are provided, as is a table of contents. The index includes 1,940 supra-specific names of included taxa.

For those interested in entomology in Maine and neighboring states and provinces, this book will be an indispensable reference. Beetles are the most species-rich order in the world, occupying innumerable ecological niches in virtually every terrestrial and freshwater aquatic ecosystem. Beyond their intrinsic value, and the importance of conserving wildlife and protecting biodiversity for ecological reasons, beetles are potentially valuable in monitoring for climate change, pollution, anthropogenic disturbance, and ecological integrity. Many are important (either as pests or species of value) in relation to agriculture, horticulture, forestry, and pollination. Monitoring the health of the native fauna, and tracking the dispersal of adventive species (~10% of the Maine fauna), remain important objectives. This book will be helpful in all these respects.

The Maine Forest Service has copies available for \$50 (tax included). Make your check or money order payable to Treasurer, State of Maine. You can pick up a copy at the Lab, or let Charlene know before an MES event and she'll bring a copy; add \$3 for shipping if you'd like your copy mailed to you. To order, contact:

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*Checklist of Maine Coleoptera (cont.)*

Canadian members who wish to order directly from the publisher, should please send a cheque or money order (payable to Empty Mirrors Press) to:

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**May 21<sup>st</sup> Field Day:**

**Tatnic Hills Preserve, Wells (York County)**

The first field trip of the 2011 season has finally arrived! Join us in the great outdoors for a day of buggin' and great camaraderie. Based on a suggestion and a personal tour from the Southern Maine Preserve Manager of the Nature Conservancy, we've chosen Tatnic Hills Preserve in Wells, Maine, as the location for exploration.

This is a mixed hardwood and vernal pool-rich habitat with extensive trails, old stone walls, and some open areas; it is a newly acquired part of the Mount Agamenticus Conservation Plan. Bug protection, long pants, sturdy shoes, and sunscreen are highly recommended, along with a lunch. We'll provide drinks and snacks. Please meet in the parking lot at 9:30 a.m.

**Directions:** Take exit 19 off of I-95. Make a right onto Route 109 (north). After 0.6 miles, turn left onto Route 9 (west), (North Berwick Road). After 2.9 miles, make another left onto Route 9B (Littlefield Road). Make your first right (0.1 miles) onto Cheney Woods Road. Drive 1.5 miles; the parking lot is on the left. Cheney Woods Road becomes a dirt road about midway between Route 9B and the parking lot. For more information, call Domenica at (207) 967-6159.

**August 20<sup>th</sup> Field Day:**

**Saddleback Ski Area, Rangeley (Oxford County)**

The gloomy weather forecast last July undoubtedly kept many from attending the Saddleback field day, but while the rest of Maine was being drenched in the mid-summer rains, we had at most a light mist early in the morning. Wildflowers abound on the ski slopes, and if the weather holds out the collecting for flying things should be phenomenal.

More on the August field day, with instructions on how to get there, will be forthcoming in the August newsletter and on the M.E.S. web site.

**June 25<sup>th</sup> Field Day:**

**Mount Vernon (Kennebec County)**

Dick Dearborn invites members and friends to visit or revisit his farm and environs on Spring Hill Road in Mount Vernon (Kennebec County), Maine, on June 25.

You are invited to show up at his home at any time that day, but officially the event will start at 10 a.m. You should bring a lunch, but water and some of Marj's cooking will be available to satisfy the "sweet tooth."

Collecting opportunities are diverse and light trap collections over several days will be available for your scrutiny. You are also encouraged to visit the newly established 490-acre Fogg Island Preserve (FIP), which is within walking distance on the same road. This conservation property is owned by the Belgrade Regional Conservation Alliance and they would like to build a faunistic reference list for this property.

You are welcome to leave your car in Dick's driveway and use his home facilities as needed. He hopes to have someone from the FIP to help explore this option, but there will be other options covering more than a thousand acres available for your collecting enjoyment. Dick is always hoping that you will find some new records for his place as well. Many records from Dick's farm are already in the new Maine Beetle list.

If you have questions or need directions, feel free to call Dick at (207) 293-2288 (leave a message) or email him at [modear@fairpoint.net](mailto:modear@fairpoint.net) or [modear@prexar.com](mailto:modear@prexar.com).



Hearty souls worked long into the night sorting and pinning specimens at the 2010 Hymenoptera Blitz at Acadia. Will YOU be among the lucky crowd at this year's Lepidoptera event at SERC? See p. 1 for information!

## COMING M.E.S. EVENTS in 2011:

- 21 May Field Day at Tatnic Hills Preserve, Wells (York Co.); contact person: Domenica Woo [207-967-6159]. *See announcement on p. 9.*
- 25 June Field Day in Mount Vernon (Kennebec Co.); contact person: Dick Dearborn [207-293-2288]. *See announcement on p. 9.*
- 22-25 July Schoodic Blitz on Lepidoptera - Moths. Contact person: David Manski [207-288-8720] *See story on p. 1.*
- 20 August Field Day on Saddleback Mountain, Oxford County; contact person: Bob Nelson [207-426-9629] *See announcement on p. 9.*
- 10 September Annual Meeting, Clinton (Kennebec Co.); contact person: Bob Nelson [207-426-9629]
- 14 September Bug Maine-ia, Maine State Museum, Augusta; contact person: Joanna Turow [207-287-6608]

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

\* \* \* \* \*

Comparative studies show that humans have some 792 distinct muscles, whereas grasshoppers have 900, and caterpillars may have as many as 4,000 separate muscles.



**Cecropia moth with wings expanded**  
from <http://www.public-domain-image.com/>  
(Photo by Ed Loth, U.S. Fish and Wildlife Service)

The Cecropia moth (Saturniidae: *Hyalophora cecropia*), found in Maine, is the largest native moth in North America, found from Nova Scotia and Maine south to Florida, and west to the Rocky Mountains. Larvae feed on a variety of hardwoods including sugar maple, wild cherries, apple, birch, alder and dogwood. Early instar larvae feed in groups, while later stages are solitary. Adults may achieve wingspans of 15 cm (6 inches); males can be differentiated from females by their much more broadly plumose antennae. After mating, a female spends most of the remainder of her life laying eggs, while the male may mate several more times. Adults also are non-feeding, and thus typically only live 7-10 days in the wild.



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

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