

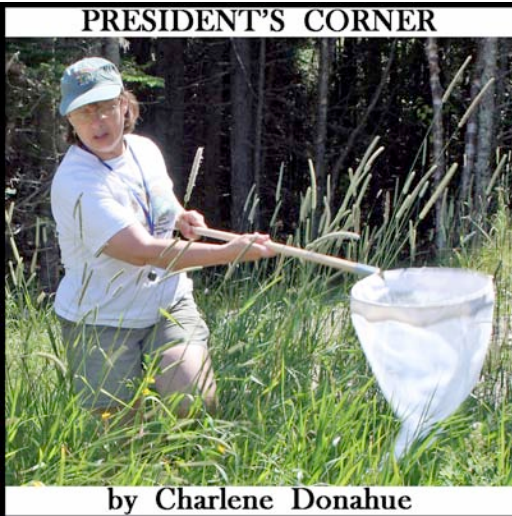
The Maine Entomologist

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

Entomology is an amazing field of study. There are so many unanswered questions about insects that anyone can contribute to increasing our knowledge of them. Look at what has been reported just last year in The Maine Entomologist – the first Maine records of giant resin bees (*Megachile sculpturalis*) and a moth (*Schinia spinosae*). These are finds made by people keeping their eyes open and saying, “Hey, I never saw THAT before.” It can be as easy as leaving your light on at night or putting a cup in a hole in the ground or checking the flowers in your backyard. Keeping a log of when common insects show up at your house can add to the body of knowledge about seasonality of insects and a running log can show changes over time.

Every year I add new species to the Maine Forest Service insect collection – some previously reported from Maine, some not. These are most often serendipitous finds of specimens collected as 'by-catch' from traps set out looking for something else. We save groups if there is someone interested in identifying them, and if we have the time. There is much more caught in those traps that ends up getting discarded because we simply do not have the time to look at everything we catch or even sort it and store it for another day.

An ant researcher looked at all records of ants from Maine that he could find and found large areas of the state with few or no records of ants. ANTS! Ants are everywhere! Yes, but what species? No one has even checked them out in many places. It seems unbelievable that such a common family has not been widely collected in Maine. [See p. 5 for his request for help.]

Last year at least four different researchers asked MES members to collect various insects for their studies. Amateurs are everywhere and can aid in studies far beyond the ability of a single researcher to cover the same ground.

I know we have a lot of armchair entomologists out there, maybe this year is the year to start looking in your backyard to see what is there. Or call and pick up some vials to save ants for that researcher mentioned above. Or come on a field trip – all you need is an interest and a lunch – no experience required. Or volunteer to sort through some of the by-catch at the lab (most of which doesn't smell *too* bad).

And speaking of by-catch, Dana Michaud has an article in this issue about his experience with by-catch from the MFS lab exotic survey traps. I will put a few numbers on what we are talking about in terms of volume of by-catch. In just one year - 2010 - the MFS set out 78 lindgren funnel traps in 38 locations, starting in March and going through October (most traps did not run the entire time), resulting in 648 samples. From this material the MFS (read Bill Urquhart) identified to species target groups:

15,010 bark beetles

2,374 longhorned woodborers

143 metallic woodborers

74 woodwasps

For a total of 17,601 specimens! Okay, okay so he identified some of the bark beetles only to genus. The by-catch volume is at least this large - and this is for just one year. We see a LOT of insects go through this lab in pursuit of the exotic. This is why we would like to see people take an interest in the leftovers.

I checked our collection records and Dana Michaud and Dave Bourque have identified and deposited in the MFS collection over 1,700 beetle specimens collected as by-catch from exotic beetle surveys in the past six years. Many of these species were new to the collection, new records for Maine or had not been collected in decades. Also since they began volunteering at the lab they have put names on over 5,000 specimens in the MFS collection. Pretty impressive for guys who volunteer!

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The University of Maine Insect Collection's Proposed Move to Augusta

by Andrei Alyokhin

The fate of the University of Maine Insect Collection has been under discussion over the past two years. Currently the collection is stored in the attic of Merrill Hall on the Orono campus, and is not being curated. There is a serious concern that if nothing is done, it will disintegrate in the foreseeable future due to pest and environmental damage.

On October 16, 2009, a group of entomologists and other stakeholders met with Paula Work, Curator of Zoology Collections at the Maine State Museum in Augusta (see Vol. 13, No. 4 for details). Two options were discussed: to move the collection to the State Museum in Augusta, or to merge it with the University of Maine Herbarium and other smaller collections and create a natural history museum on campus. The latter was decided to be a more desirable option.

On April 24, 2010, a group of MES volunteers looked over the collection and found it to be still in a generally good shape (see Vol. 14, No. 2 for details). After that, additional steps were taken by Alyokhin's lab to further stabilize the collection for the time being: running high-risk specimens through the freezer, strategically placing mothballs in some boxes, eliminating dermestid-infested junk outside the collection room, etc.

Meanwhile, Christopher Campbell, Professor of Plant Systematics and Manager of the University Herbarium, investigated the possibility of creating a natural history museum on campus. Despite all his efforts, not much progress has been made. While nobody in the University administration doubts the usefulness of such a facility, the resources are simply not here to properly care for the insect collection. The University of Maine is facing a severe budget shortfall and cannot afford making this investment.

As a result, there is little choice but to resort to the first option and move the collection to Augusta. Accordingly, the University and the Museum will start making appropriate arrangements. Members of the Maine Entomological Society are invited to share their insights on the situation. Comments and suggestions can be e-mailed to andrei.alyokhin@umit.maine.edu (please include UMaine Insect Collection in the subject line). They can also be submitted for publication to The Maine Entomologist.

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Winter Workshop on Moths

The Winter workshop, moved from the Department of Agriculture to the Maine Forest Entomology Lab up the street, attracted nearly two dozen participants who braved the cold to learn about the basics of identifying the major families of moths in Maine. One of the more amazing tidbits of information imparted is the fact that there are an estimated **4000 (!)** species of Lepidoptera in Maine – of which only about 120 are butterfly species, according to the latest checklist.

Of those 4000 estimated species, there are over 1000 species known in 21 families of larger "macro moths," and the remainder are spread among 35 families of the much smaller "micro moths." Noctuidae and Geometridae are by far the largest families of "macro moths," with 773 and 291 spp. respectively.



The Maine Forest Service lab in Augusta was packed for the Moth workshop, as Charlene Donahue and Dick Dearborn explained how non-specialists could identify the more common families of Maine moths.

Among the smaller "micro moths," the Tortricidae is by far the largest family, with over 500 spp. known from the Maine fauna. The taxonomy of the families of smaller moths is also in a state of flux, such that different authorities define the families differently. Much more work on these is obviously needed.



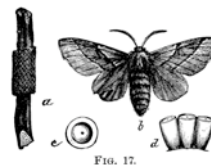
Moth Workshop attendees settled down to hone their skills on their own and M.F.S. specimens after the initial identification "primer" was over.

Unlike most groups treated in previous Workshops, there is no ready key to identifying the families of moths without undertaking the difficult and time-consuming process of stripping the scales from the wings. However, two particular field guides pointed out that are very useful are Covell's *Field Guide to the Moths of Eastern North America* (recently reprinted by the Virginia Museum of Natural History – available at

<http://www.vmnh.net/store.cfm?itemID=17>)

and Handfield's *Le Guide des Papillons du Quebec*. The text of this last is obviously in French, but the photographic plates are outstanding resources for moth identification.

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Acadia Bio-Blitz 2011: LEPS!

The National Park Service, Maine Forest Service, Maine Entomological Society, University of Maine, University of New Hampshire, and the SERC Institute are pleased to sponsor the 9th annual bioblitz at Acadia National Park on July 22-25, 2011. This year, we will be targeting 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 on Friday evening followed by presentations about ongoing research or emerging issues of interest to the entomological and natural history community. Saturday morning will feature a workshop on collecting and identifying moths and butterflies. The official BioBlitz will commence around noon and continue 24 hours until noon on Sunday. The remainder of Sunday and Monday morning will be focused with sorting, pinning, and identifying collected specimens.

Registration information and more details will be forthcoming within the next couple of months - please continue to check the park's web site at:

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

or for immediate questions, please contact David Manski at Acadia National Park (david_manski@nps.gov or 207/288-8720).

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A New Shore Fly Species For Maine

by Chuck Peters

The natural world provides us with many opportunities to observe what others have rarely seen. While it would be a great pleasure to be able to study exotic habitats in far-flung regions of the world, our own back yards contain microhabitats that have been little studied and only require a close and thorough approach to observation to yield its hidden treasures. I was rewarded with such an opportunity after collecting a sample of duckweed, *Lemna minor*, from a roadside ditch in New Gloucester in September 2010.

After installing the duckweed on the surface of an aquarium in my high school Biology classroom, my students and I soon began to notice small (about 1mm) black flies walking on the surface of the duckweed. A literature search revealed that there are two known genera of Ephydriidae (shore flies) in the U.S. that live in association with duckweed, *Hydrellia*, which is restricted primarily to the western portion of the U.S., and *Lemnaphila*, with *Lemnaphila scotlandae* being the only member of that genus in North America.

With the kind help of Don Chandler, the flies were confirmed to be *Lemnaphila scotlandae* Cresson (Diptera: Ephydriidae). These flies represent a new record for the state of Maine, and a male and a female have been deposited in the

Maine State Insect Collection at The Insect and Disease Laboratory in Augusta, Maine.

First discovered by Minnie Scotland in Ithaca, New York, this new genus and species was described by E. T. Cresson (1933). *L. scotlandae* has since been found in Illinois, Michigan, New York and Ohio (Steinly et al. 1987), and Florida (Buckingham 1989) as well as Ontario, Canada (Mathis and Edmiston 2000). Three additional neotropical species have since been identified (Buckingham 1989). Due to its very small size and characteristic short flight when faced with intrusion, this fly would be very difficult to observe in its natural habitat and may explain why it has never been observed in Maine or in other states where it may indeed be present. In the confines of the surface of an aquarium, though, this fly becomes much easier to observe.

The diminutive duckweed plant provides an important component in the ecology of still waters. In addition to the photosynthesis it provides, its habit of growing in thick mats gives it the ability to shade and thereby cool the water beneath. With its 3 leaf-like fronds exposed to the surface and its single root extending downward, *Lemna minor* provides a 3-dimensional habitat for a wide variety of invertebrates, reminiscent of the canopy of a rainforest. I have observed hydra dangling from the roots of duckweed (Peters 2010) as well as colonies of rotifers, protozoans, turbellarians, and algae inhabiting the surface of the roots.

In her delightful writing style, Minnie Scotland described close insect associations with *Lemna minor* to include no fewer than 15 species in the following orders: Collembola, Hemiptera, Homoptera, Coleoptera, and Diptera (Scotland 1934). Duckweed clearly represents a rich habitat for further insect observation.



Fig. 1. Egg of *Lemnaphila scotlandae* on right side of frond and distinctive parallel gouges of adult feeding on the left.

Chuck Peters photo.

Even though its host plant, *Lemna minor*, is one of the smallest flowering plants, this fly is able to complete its entire life cycle in and on one individual plant (Scotland 1940). Females deposit yellowish, melon-shaped eggs on the outer margins of the leaf (Fig. 1) and hatching occurs in 4-6 days. The cream-colored larvae then mine through the mesophyll of the frond, often swimming from one plant to another. The larval stage is comprised of 3 instars and lasts about 10 days, with a pupation period of about four days occurring within the tissue of

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New Shore Fly Species for Maine (cont.)

the leaf. Adults have been found to live for up to 21 days (Mathis and Edmiston 2000). Another interesting characteristic of this fly is that the adults also feed on the same host plant as the larvae. Using spines on their labella, the adult gouges out very distinctive parallel rows of the upper epidermal tissue of the plant. These rows can be seen in Figure 1 on the left side of the leaf. A sample of duckweed will reveal these distinctive marks if adults have been present, and can be used as an indicator of the presence of the fly. I recently collected a sample of duckweed from the same source after the ice had formed. While I was unable to locate eggs, larvae or pupae, I did find evidence of adult feeding, most likely from the previous season.

Three species of wasps have been found to parasitize the pupae of *Lemnaphila scotlandae*: *Opius lemnaphilae* Muesebeck (Braconidae), *Trichopria anqustipennis* Muesebeck (Diapriidae), and *T. paludis* Muesebeck (Buckingham 1989). To date, I have collected one tiny braconid that had emerged from my colony of *Lemnaphila*. While it is likely *O. lemnaphilae*, and would probably be a new record for Maine, it has not yet been identified to species. Any readers with expertise in the Braconids are welcome to lend their assistance in its identification.

This little fly seems to be quite easy to rear under laboratory conditions and requires only a small amount of duckweed for the adults to appear comfortable. My aquarium has no top, but the flies seem content to remain on the surface of the *Lemna*. Mating has been observed on a regular basis, and has revealed a very interesting behavior. The male approaches the hind end of the female and pushes up on her wings with his fore legs, even lifting her hind legs off the leaf in the manner of a wheelbarrow, so that he can then mate with her. Figure 2 shows a male about to mate with a female.



Fig. 2. Adults of *Lemnaphila scotlandae* about to mate. Male on left, female on right. Chuck Peters photo.

Most of the *Lemna* fronds in my aquarium show some evidence of feeding or contain eggs, larvae, and pupae. All of the immature stages of development can be readily seen with a hand lens or a dissecting microscope. Transferring adults to smaller containers was at first difficult. I tried using an aspirator, but the adults hold on to the duckweed with all their might, requiring even greater suction on the aspirator. When they do finally let go, the force of hitting the vial is often lethal.

I have since discovered that they can be transferred by slipping a spoon under their duckweed and lifting both the plants and the flies together. As long as they have *Lemna* underneath

them they seem relatively comfortable. Using this technique I have been able to transfer adults to a petri dish for microscopic examination or to another aquarium. I have also successfully isolated larvae and pupae to small containers and reared them to adulthood. Based on these characteristics I believe *L.scotlandae* may have some value as a model laboratory organism.

It would be interesting to attempt to determine the range of this insect by sampling duckweed from various parts of Maine. I encourage anyone willing to collect small samples of duckweed to share their findings of this interesting little fly.

- Chuck Peters; chuckp@securspeed.net

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A note from Gail Everett

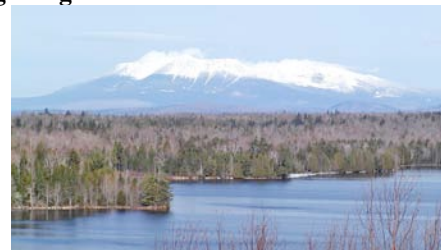
I am planning three weekend hiking and/or camping trips this spring and summer for personal reasons. The focus of these trips is not bug collecting, but at least two of them would be good opportunities for that, and I would welcome other MES members to come along. I don't have final dates yet, but here is a brief summary of plans:

Mid-June (weekend of 11th or 18th): Lost Pond, near Russell Mountain north of Moosehead. Limited parking, short hike to campsite. I do plan to collect for the Maine Butterfly Survey here.

Early August (probably the first weekend): Gulf Hags. We plan to hike the Gulf, but if you're coming for bugs only you don't need to. I understand the area is protected, but there are dozens of logging roads outside the immediate Gulf area. We could meet up in the evening to discuss our days!

Early September (first weekend): Baxter State Park/Katahdin. This will obviously be a photo-only trip.

If you are interested in any of these trips, please e-mail me at everett.gail@gmail.com or call me at 207-743-2840.



Mt. Katahdin from the scenic overlook on I-95 north of Medway; April, 2006.

Summer Seminars Announced at Eagle Hill

The Eagle Hill Foundation in Steuben, between Acadia National Park and the Petit Manan National Wildlife Refuge, has announced its Summer, 2011, Natural History Science Field Seminar schedule. A complete program, including numerous offerings in plant taxonomy of many groups, as well as in scientific illustration and art, can be found at their web site:

<http://www.eaglehill.us/programs/nhs/nhs-calendar.shtml>

In support of field biologists, researchers, field naturalists, faculty members, and students with interests in the natural history sciences, Eagle Hill regularly offers specialty seminars at different ecological scales for those who are interested in understanding complex natural history questions. Seminars range from watershed level subjects, and subjects in classical ecology, to highly specialized seminars in advanced biology, taxonomy, and ecological restoration.

Eagle Hill has long been recognized as offering hard-to-find seminars and workshops which provide important opportunities for training and meeting others who are likewise dedicated to continually learning more about natural history.

Eagle Hill field seminars and workshops are of special interest because they focus on the natural history of one of North America's most spectacular and pristine natural areas, the coast of eastern Maine from Acadia National Park to Petit Manan National Wildlife Refuge and beyond. Most seminars combine field studies with follow-up lab studies and a review of the literature. Additional information is provided in lectures, slide presentations, and discussions. Seminars are primarily taught for people who already have a reasonable background in a seminar program or in related subjects, or who are keenly interested in learning about a new subject.

Those that may particularly appeal to the entomological crowd might include:

- May 29 – June 4: Ecology and Management of Vernal Pools, with Elizabeth A. Colburn
- June 5 – 11: Introduction to Modern Phylogenetic Methods, with Brigid O'Donnell
- June 19 – 25: Applied Aquatic Entomology: The EPT Taxa: Ephemeroptera, Plecoptera, and Trichoptera, with Steven K. Burian
- June 26 – July 2: Scientific Illustration of Butterflies, Moths, and Other Insects, with Dolores R. Santoliquido
- July 3 – 9: Lepidoptera of the Northeast: Identification, Ecology and Sampling Techniques, with Hugh McGuinness
- July 10 – 16: Ants of New England, with Aaron M. Ellison
- July 10 – 16: Ecology of Streams and Groundwater Ecosystems, with Kevin Simon and Madeleine Mineau
- July 10 – 16: Forest Ecosystem Analysis for Sustained Forestland Values and Uses, with Norman A. Richards
- July 24 – 30: Integrated Ecological Restoration of Rivers and Streams, with John W. Munro.
- July 31 – August 6: Spiders: Identification, Diversity, Ecology, and Biology, with Matthias Foellmer
- August 14 – 20: Parasitoid/Predatoid Hymenoptera: Identification, Biology, Collection, and Curation, with Michael W. Gates, Matt Buffington, Robert Kula, James Pitts, and David Wahl.

Information on lodging options, meals, and costs may be found at

<http://www.eaglehill.us/programs/general/application-info.shtml>

There is an online application form at

<http://www.eaglehill.us/programs/general/application-web.shtml>

Descriptions and syllabi became available in January. Please let them know if they can help with questions. Prior discussions of personal study objectives with instructors are welcomed.

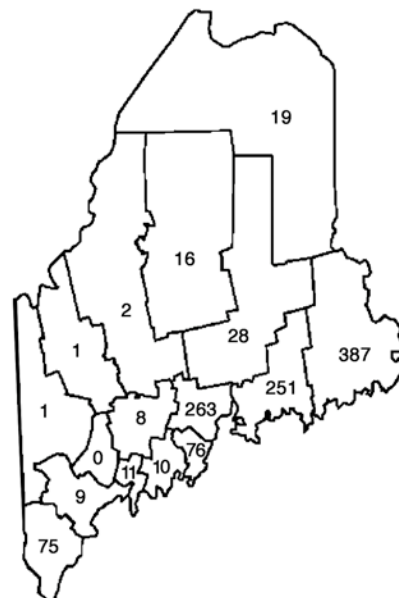
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Ant Help Wanted!

Aaron Ellison at Harvard Forest in Massachusetts is preparing a *Field Guide to the Ants of New England*, to be published by Yale University Press in 2012. In compiling records for the 130+ species that occur in the region, he has discovered that much of Interior Maine has indeed been very poorly collected.



The map below shows the numbers of any records, by county, for Maine. You'll see that Waldo, Hancock and Washington Counties are well-represented, but much of the remainder of the state is pathetically undercollected – note that there are ZERO records for Androscoggin County, and only a total of four for Oxford, Franklin and Somerset Counties combined!



Because the manuscript is not due to the publisher until October, there will be time for him to include records of any specimens he can see that are collected this summer, as long as he can see them before the end of August. He would very much like to see ant specimens from interior Maine in particular, but

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Ant Data Help Requested (cont.)

specimens from almost anywhere in the state will provide useful distributional information.

Although folks should collect specimens in the field into alcohol, for him to deal with them (ID, voucher, etc.), he needs to have them pinned (on points), and to have locality information - latitude and longitude and name/address/contact info of collector at a minimum, but any other habitat information (county name, town, vegetation, land-use/logging history, etc.) would also be useful. Site photos (as high-resolution .tif or .jpg photos) would also be helpful. Pinned specimens (ideally multiple workers from any given nest) with locality/collection data can be sent to him up until Aug. 31 at the address below. Specimens submitted WILL be returned to the sender after being identified and entered into the database.

Don't send specimens in alcohol through the mail, but for the hard-core ant collectors, bring them to Eagle Hill in Steuben, July 10-16, when Aaron will be teaching a week-long course on the ants of New England (see elsewhere in this newsletter for a story on the Eagle Hill seminars).

For additional information, or to submit specimens for inclusion in the story, please contact:

Aaron M. Ellison
Senior Ecologist & Senior Research Fellow
Harvard University, Harvard Forest
324 North Main Street
Petersham, Massachusetts 01366 USA
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aellison@fas.harvard.edu

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Save the By-Catch! **by Dana Michaud**

In the late winter of 2005, while working on identifying beetles in the Augusta Maine Forest Service (MFS) Entomology lab, Dave Bourque and I were talking "bugs" with Charlene Donahue. She informed us that she was doing a bark beetle survey, looking for both endemic and exotic species of Scolytids.

We asked what she was going to do with all the by-catch, once the Scolytids were removed. Her response was, "Throw it away, as it's beyond the scope of this project."

We asked if we could go through it, saying we'd dispose of unwanted material and return the vials for re-use. We promised that if we found rare or uncommon specimens, once they were identified, we'd put reference specimens in the lab collection. "Sure!" she agreed.

As spring rolled in, thawing away the dead of winter, the traps were placed: three to a site, over twenty sites in total, and using three lures: ethanol (for woodboring insects in deciduous hosts), a mix of Alpha-pinene + ethanol (for woodboring insects in coniferous hosts), and a three-component exotic bark beetle lure-baited trap that was more specific for conifer-feeding exotic bark beetles.

The project ran well into September, when Scolytid numbers drop off dramatically as adults of various species cease dispersal and enter into the winter mode of their life cycle.

Over the summer interns sorted out the bark beetles (later to include the Buprestids, to search for Emerald Ash Borer, and

Cerambycids, for the Asian Longhorn Beetles). They placed the unwanted by-catch in vials with data, and put it aside for us to pick up and go through.

Taking home the boxes of vials, we began sorting, pinning, triangling (pointing), and labeling specimens, trying to keep up with the volume. Sorting specimens by "morphospecies" into empty cases, we still discarded much more than we kept, as many vials contained common enemies of Scolytids that had been drawn to the traps by the lures. Clerids (checkered beetles) dominated many vials, sometimes with 20 to 50 of a given species, and often with 2 or 3 species per vial.

Depending on the time of year, different species emerge and disperse and appear in the traps - not lured in but merely bumping into the funnel traps and falling in. These groups proved to be some of the most interesting, both in rarity and variety. Also, if the traps sat too long before being emptied, Staphylinids and Silphids would both be drawn in by the odor of decay.

As mid-October of 2005 rolled around, we had finally processed most of the material, sorting it into families to be identified later during the winter. We initially concentrated on the larger families (like Carabids and Elaterids, with which we were already familiar), and grouped all the smaller families, including many unknowns, to be done later.

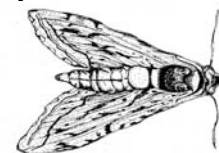
Taking the unknowns (as well as our Aderidae, Anthicidae and Pselaphidae) to the University of New Hampshire in Durham, we sought help from Dr. Don Chandler. He not only helped us work through many groups, but identified many of our specimens to species himself.

Although many specimens turned out to be common beetles, there were also plenty of uncommon to rare species as well. One which caught us by surprise was *Cupes capitatus* (Cupedidae). No species of this family had ever been recorded from Maine (Dr. Chandler verified the identifications). Three specimens, from two sites in southern Maine, showed up near the end of the bark beetle survey.

Then Charlene informed us that an expanded (more sites) bark beetle survey for 2006 was planned. Later a *Sirex* woodwasp survey was added, plus there was material from an ongoing pine shoot beetle survey. Dave and I knew then that we'd have our hands full processing so many beetles plus what we went out to collect on our own.

It's now been six years since we began processing the by-catch of the various surveys. The volume of beetles has been impressive. The numbers of beetles retained for our collections, the MFS collection, and the UNH collection, based on the variety of families and the numbers of species in each, is incomplete but numbers in the thousands. Many unidentified specimens will remain so for some time, but at least they're prepared and labeled. Nearly every beetle family is represented.

So, before you throw away what seems to be a lot of useless by-catch, find someone willing to sort through and process it - like us. Who knows what may show up in those vials? Chances are there'll be something new or rare lurking, waiting to be discovered. "Save the by-catch!"



Movie Note: Blue Butterfly

Blue Butterfly is a movie to warm your soul and bring tropical thoughts on a cold winter night. This delightful movie is based on a true story of a young Canadian boy terminally ill with cancer, who has a dream to catch a Blue Morpho butterfly. He and his mother convince a renowned entomologist to take him to Central America, even though the season for the butterfly is about over.

The movie was produced in 2004; it's available on DVD and through the Maine State Library. I'd recommend it.

- Charlene Donahue

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Can *Dendroctonus ponderosae* spread eastward?

An article in the October, 2010, issue of *The Canadian Entomologist** presented the results of an assessment of the potential for the mountain pine beetle, *Dendroctonus ponderosae* (Scolytidae) to expand its natural range from the western states and Canadian provinces eastward from the Continental Divide, to attack the conifers of the northern boreal forest. The species has killed thousands of square miles of lodgepole and ponderosa pines in the western states and provinces in the past decade.

The species has expanded its range in the west in the past two decades, due to less severe winter conditions and drier summers producing stressed host trees. The research team found no reason to expect that it could not continue at least a gradual eastward expansion. Mountain pine beetle is now found in lodgepole pine stands that are adjacent to and intergrown with Jack Pine, which ranges eastward to Maine and New Brunswick, thus providing an avenue for range expansion. Given stressful summer conditions, they believe it is conceivable that a major epidemic outbreak could ultimately lie in the future.

* Safranyik, L., A.L. Carroll, J. Régnière, D.W. Langor, W.G. Riel, T.L. Shore, B. Peter, B.J. Cooke, V.G. Nealis, and S.W. Taylor, 2010. Potential for Range Expansion of Mountain Pine Beetle into the Boreal Forest of North America. *Canadian Entomologist*, v. 142(5), p. 415-442.

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Oedemeridae, Anyone?

Chris Majka is continuing his march through the entomological fauna of Arctic Canada with a new paper on the Oedemerid fauna (Coleoptera) of the provinces.* The relatively soft-bodied adults feed on pollen and are commonly encountered on flowers, particularly on sunny days. Larvae feed in moist to wet decaying wood.

There were three previously recognized species in the region, a number which has now been increased to five. All of these species occur as well in Maine. The paper can be downloaded (in pdf form) from the Acadian Entomological Society web site at (<http://www.acadianes.ca/journal.html>), and includes a key to identification and excellent color plates of the individual species, which can be very helpful in identifying Maine specimens as well.

* Majka, C. G., and D. Langor, 2011: The Oedemeridae (Coleoptera) of Atlantic Canada. *Journal of the Acadian Entomological Society*, v. 7, p. 1-6.

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Obituary

Though he was neither an entomologist nor a member of the M.E.S. (of even a resident of Maine), someone who did a great deal to stimulate interest in carefully observing insects passed away all but unnoticed in California on January 16th. Milton Levine, who as a Pennsylvania child collected and observed ants in glass jars, was the inventor of Uncle Milton's Ant Farm. Over 20 million units have been sold since they were first introduced in the 1950s.

When one purchased one of the units, it came uninhabited. One had to return a coupon by mail to get the ants – 25 workers of the California red ant *Pogonomyrmex californicus*. Since queens could not be legally shipped across state lines, ant students had to either collect their own or order a new supply when the original workers died after several months.

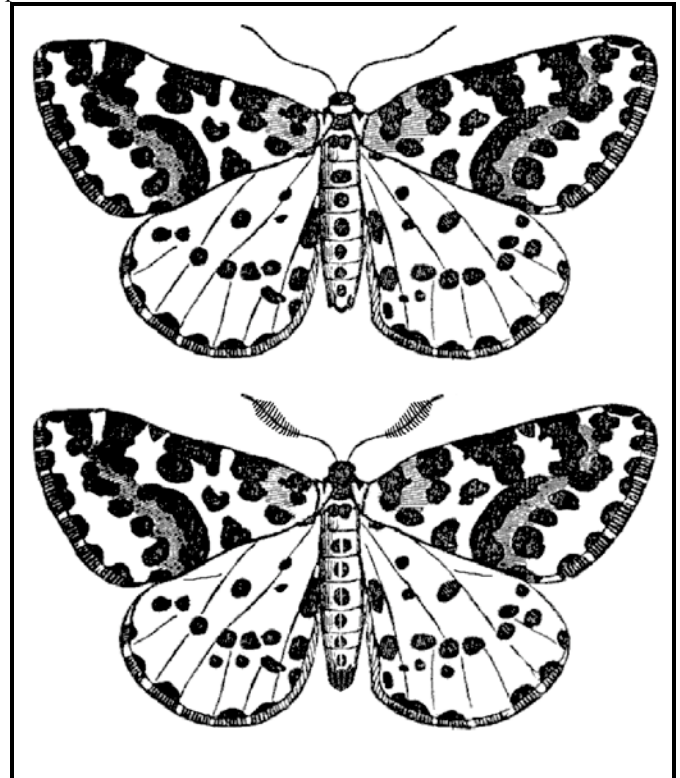
The physical feats of ants are legendary, but Mr. Levine noticed one particular achievement for his *Pogonomyrmex*. "I found out their most amazing feat yet," he is reported to have said. "They put three kids through college."

Mr. Levine was 97 years old as of his passing.

* * * * *

KIDS' CORNER!

The two moths shown below are different in **NINE** different ways. Can you find all the differences between them? Some are more obvious than others – but all are the kinds of differences that could potentially be important in distinguishing different species from one another.



ANSWERS: Differences show in (1) Antennae; (2) heads; (3) abdominal spots - solid on one, split on the other; (4) terminal abdominal segments; (5) inner forewing shading; (6) front margins of forewings; (7) second spot row on hind wings; (8) additional veins on hindwings; and (9) marginal spots on hind wings.

BioBlitz in Falmouth

Falmouth is looking for insect collectors and identifiers to assist with their Bioblitz. If you would like to participate, please see the below notice.

BIOBLITZ - Falmouth Conservation Commission / Falmouth Land Trust June 24-25, 2011 -- River Point Conservation Area

Goals: (1) Identify as many species as possible that inhabit this site, demonstrating that biodiversity exists everywhere, even in our own backyard; (2) educate the public to the flora and fauna on this property; (3) use the results to inform our management plan.

Site: The 41-acre River Point property, abutting the Presumpscot River and East & West Branches of the Piscataqua Rivers. Diverse habitat, including fields, upland forest, orchard, ponds & wetlands.

Taxa: *Expert leaders are needed* for needed for the following taxa: Mammals, birds, herptiles, fish, **terrestrial and aquatic arthropods**, mollusks, trees, shrubs, non-woody plants, fungi, ferns, and mosses.

Schedule (tentative): 9:00 p.m. on Friday, June 24th to 4:00 p.m. on Saturday, June 25th. Volunteers, with expert advice, will collect and identify as many species as possible in the allotted time and display their specimens for the public. Activities will vary during the time period and include owl walks, moth lighting and specific collecting periods during the daylight hours.

To volunteer, contact Bob Shafto, 878-8933,
openspace@maine.rr.com
or Ellen Klain, 878-2380, eklain@maine.rr.com

May Field Day: Tatnic Hills Preserve, Wells

The first field day of the 2011 season will be leading off at Tatnic Hills Preserve in Wells, in York County. This preserve has an abundance of different habitats: old farm, old logging area, oak/pine granitic outcrops, and wetlands. More details will be forthcoming in the May newsletter and on the M.E.S. web site. Domenica Woo (207-967-6159) will be coordinating this trip.

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] |
| 25 June | Field Day in Mount Vernon (Kennebec Co.); contact person: Dick Dearborn [207-293-2288] |
| 22-25 July | Schoodic Blitz on Lepidoptera - Moths. Contact person: David Manski [207-288-8720] |
| 20 August | Field Day on Saddleback Mountain, Oxford County; contact person: Bob Nelson [207-426-9629] |
| 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.)



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

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