

The Maine Entomologist

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

The Official Newsletter of the Maine Entomological Society

Vol. 14, No. 1

February, 2010



I think entomologists in Maine and other northern climes are fortunate. After a season of observing and collecting insects we now have some down time to sort through the information, reflect on what was learned, identify and label specimens and meet with others to discuss our findings and learn more.

What if insects were active all year round? (Although we do get insect questions and specimens year round at the MFS Lab.) How do you keep up? I certainly don't worry about my mind not getting enough exercise. I have so many questions I want to answer, so many areas of entomology I want to explore, I feel like I don't know hardly anything at all.

So far this winter MES has hosted a winter hymenoptera workshop and visited Jim Nutting's Insect Museum in Lisbon Falls. Andrei Alyokhin, U of Maine, has invited MES to visit the University of Maine insect collection this April – before collecting season really gets into high gear. Another event that has been requested is an insect activity at one of the Maine State Parks to help celebrate their 75th anniversary. We are adding that into our busy 2010 schedule and you can read more about it in this newsletter. We are trying to provide people with insect related activities year round. I hope you can attend at least some – or even one of the activities planned.

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Hankering for e-Delivery of your Newsletter?

If you're one of those who'd like to get the Newsletter electronically but can't or have hesitated because of slow speeds and/or large file size, read on! A new software upgrade package has made it possible to shrink even the large, 12-page November issue, complete with all graphics, to a pdf file smaller than 1 Megabyte. The old software left this as a 7-Megabyte file, too large to download efficiently with a dial-up modem, and impossible to get if your e-mail server had a file size limit of 5 Mb.

If you'd like to change from paper to electronic delivery of the M.E.S. newsletters, please let us all know. A single e-mail addressed to all three of us will ensure that ALL M.E.S. records are updated, and you should get the next (May) newsletter electronically!

To make it so, just e-mail:

modear@prexar.com (Dick Dearborn)

BeetleBob2003@yahoo.com (Bob Nelson), and








Charlene.Donahue@maine.gov

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Don't Forget the Blitz this Summer!

The Hymenoptera BioBlitz, sponsored by the M.E.S., Maine Forest Service, University of Maine and Acadia National Park, will be held this coming summer from 30 July to the 2nd of August at the Schoodic Research and Education Center (SERC), despite what is expected to be a busy summer construction schedule. Watch for updates on the M.E.S. web page (<http://www.colby.edu/MES/>) as information becomes available.

In this issue:

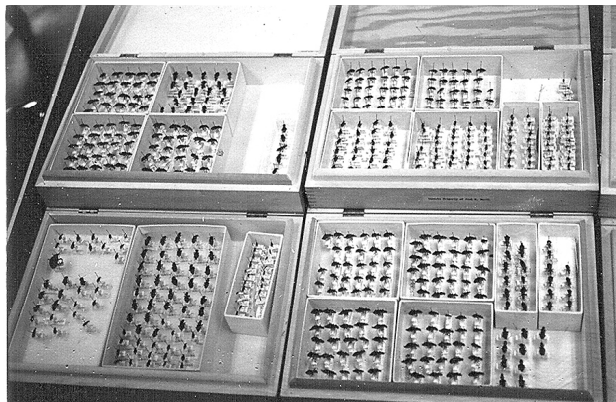
-  **University of Maine Seeks Insect Collection Input (p. 2)**
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IMPORTANT DUES REMINDER! M.E.S. dues are payable on a calendar-year basis. If you haven't already done so, please renew now for 2010! *Treasurer Dana Michaud's name and mailing address are at the bottom of the back page for your convenience.* Dues are \$10 per year, and may be paid up to two years in advance. If the year on your mailing label is "2009", please contact Dana to renew for 2010 or correct the record.

☛ SORRY, BUT THIS WILL BE YOUR LAST ISSUE OF THE NEWSLETTER IF DUES AREN'T PAID UP BY THE END OF APRIL !!!

The University of Maine Insect Collection: A Chance to See and Recommend

The University of Maine School of Biology and Ecology has invited the Maine Entomological Society to visit the University of Maine's insect collection on Saturday, April 24, 2010. The University is in the process of deciding what to do with the collection and input from interested parties would be helpful in making decisions. This is an opportunity to see the University collection. It has some beautiful and special specimens in it and is the largest public insect collection in Maine.



Some of the specimens from the University of Maine collection

We will meet in the parking lot behind Deering Hall on the University of Maine campus at 10:00 a.m. The collection is located in the attic of Merrill Hall, nearby. Wear old clothes and dress warmly, as the area is not well-heated and is quite dusty.

The School of Biology and Ecology is interested in getting answers to the following questions:

1. The extent to which different taxonomic groups are represented.
2. The completeness of labeling and identification (including finding lot number descriptions in log books).
3. Presence of damaged and/or unlabeled specimen that can be thrown out.
4. Presence of any collections of particular historic or educational value (e.g., collected or identified by Edith Patch).

Contact Andrei Alyokhin with any questions about the collection. Please let Charlene Donahue know if you are planning on attending, so we will be sure to wait for you.

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Rare Butterfly Rediscovered in Maine – the Spicebush Swallowtail

by Phillip deMaynadier and Mark Ward

With 120 species native to Maine, butterflies contribute a colorful and conspicuous component to our state's biological diversity. Butterflies play an important ecological role by serving both as pollinators of many flowering plants and as prey (both caterpillars and adults) to larger species ranging from dragonflies to migratory birds. Butterflies are also sensitive ecological indicators of ecosystem stress due to habitat fragmentation, succession, pollution, and climate change. Their potential economic contribution as "watchable wildlife" is difficult to estimate, but clearly no other group of insects has attracted as much attention from amateur naturalists and ecotourists, a group whose ranks increasingly includes a combination of bird and butterfly watchers armed with close-focusing binoculars.



Rare Spicebush Swallowtail caterpillar as it was found on the leaf of its Spicebush host plant (September, 2009)

Unlike most invertebrates, butterflies are relatively well-studied in Maine with observations and collections dating back to the 19th century. This historic data combined with recent statewide atlasing efforts by the Maine Butterfly Survey (<http://mbs.umf.maine.edu/>) has enabled a careful assessment of the group's conservation status (Webster and deMaynadier 2005). Of special note is the high proportion (20%) of the state's butterfly fauna that is currently listed as Endangered, Threatened, or Special Concern (19 species) and Extirpated (5 species). While still present elsewhere in their geographic range,

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Spicebush Swallowtail (cont.)

extirpated species are those now considered extinct in Maine – a dubious status that all biologists work hard to avoid for species managed during their career. Unfortunately, with only a single previous adult observation dating from 1934, the Spicebush Swallowtail (*Papilio troilus*) seemed destined to join the ranks of Maine’s other butterfly ghosts.

In an effort to confirm the status of this mysterious insect in Maine, IFW embarked on targeted surveys during the summer of 2009. Most butterflies and moths (Order: Lepidoptera) are restricted as caterpillars to foraging on specific plant species, which in the case of the Spicebush Swallowtail includes only two plants, both also rare in Maine: Sassafras (*Sassafras albidum*) and Spicebush (*Lindera benzoin*).

To increase the chance of success, survey efforts were directed solely at the few remaining rich hardwood forests in York and Cumberland Counties containing healthy populations of the host plants, and only during periods when mature caterpillars were predicted to be most visible by the silky cocoons woven for diurnal shelter. Patience and planning were finally rewarded in mid-September when several occupied swallowtail caterpillar nests were discovered in two spicebush swamps in Berwick and Wells, providing the first evidence of breeding residency for this butterfly in Maine.



Enriched hardwood swamp habitat of the Spicebush Swallowtail butterfly in Wells (September, 2009)

Significant in its own right, the Spicebush Swallowtail is also a faunal indicator of the integrity of enriched, mesic hardwood forests – a diverse natural community that is increasingly threatened by conversion and fragmentation in the rapidly developing landscape of southern Maine. Indeed, one of the newly discovered populations above is already bordered by a busy highway and two commercial developments. With only a small number of forest patches remaining that can possibly host additional Spicebush Swallowtail populations, mostly on unprotected lands, IFW will make it a priority to conduct further surveys. Now that breeding populations have been documented, and upon further survey in 2010, the Spicebush Swallowtail could become a candidate for state Endangered or Threatened listing status.

Funding for this and other rare invertebrate surveys in Maine is made possible by contributions to the state’s Nongame and Endangered Wildlife Fund, supported by proceeds from the *The Maine Entomologist*

Loon License Plate and Chickadee Check-off, and by a grant from the US Fish and Wildlife Service (State Wildlife Grant). IFW also acknowledges the Maine Natural Areas Program (Dept. of Conservation) for sharing valuable habitat data and rare host plant localities, thus greatly improving the efficiency and success of our rare butterfly surveys.

Phillip deMaynadier, Wildlife Biologist,
Reptile, Amphibian, & Invertebrate Group, MDIFW
&
Mark Ward, Consulting Invertebrate Zoologist

Literature Cited:

Webster, R.P. and deMaynadier, P.G. 2005. A Baseline Atlas and Conservation Assessment of the Butterflies of Maine. Technical Report submitted to the Maine Department of Inland Fisheries and Wildlife, Bangor, ME.

The Spicebush Swallowtail Butterfly is the state insect of Mississippi.

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**Winter Workshop – Hymenoptera
by Charlene Donahue**

On December 5, 2009, the M.E.S. hosted its sixth taxonomy winter workshop. Don Chandler, from the University of New Hampshire, once again wowed us all with his clear presentation, awesome photos, pictorial key and specimens. Eighteen people attended: from seasoned entomologists and collectors to novices who are just starting to get interested in insects and all their myriad forms. This year we moved from the Maine Forest Service Lab to the Maine Department of Agriculture building to give us a bit more elbow room. There were a few problems with directions, and one GPS unit sent a participant to a dirt road in Monmouth! But we did have more space.

Hymenoptera includes the sawflies, bees, ants and wasps. Some of these are relatively easy to identify while others are very poorly described or understood. The parasitic wasps in particular have not been well-studied. In the workshop we covered the 38 major families that would be encountered in Maine.



The Winter Workshop on Hymenoptera on December 5th was so well-attended it was moved to larger quarters in the Department of Agriculture building in Augusta.

The workshop followed the same format as past ones. Participants had outlines, pictorial keys designed by Don and representative specimens of each family covered. Everyone had

(continued on next page)
February, 2010

Winter Workshop (cont.)

access to a microscope for examining specimens in detail. Don would introduce the family, show key distinguishing features and generalize the life history of the group. The presentation was accompanied by photos and anecdotes that kept everyone's interest. Then we would inspect the insect specimens and see how each fit the key. The workshop was informal, with people asking questions as we went along and helping one another find the salient features on the insects.

One of the newcomers to MES said she did not understand everything that was covered, but let the experience wash over her and just enjoyed the time celebrating such a diverse and interesting part of our world. An old timer enjoyed the company and a refresher on an order he had not spent much time working on. Many attendees are planning on participating in the Hymenoptera Bioblitz at Acadia National Park this summer, and this was a primer for that event.

These workshops are an incredible bargain. For \$15 you get six hours of an expert's time to learn all you can about a highly specialized area of science. Plus, you get an opportunity to share a passion for insects with a group of like-minded people. Tell me, where else does this happen?

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Butterflies, Beetles and Glass Bedazzle in Lisbon

by Bob Nelson

The weather cooperated and permitted access, and a hardy group of M.E.S. folks ventured forth on Saturday, January 23rd, to the Maine Art Glass studios and museum in Lisbon. Those who didn't make it missed out on a most wondrous exhibit of works that combine the natural entomological bent of Jim Nutting with his incredible artistic talents in stained glass.

male and female of a given species. Those looking for Maine native species in these will be disappointed for now, however – the Maine native taxa cases are almost all on display in the State House in Augusta.

Then there are the large kaleidoscopic works with butterflies arranged in geometric patterns, and other similar artworks, suitable for wall display. He also has large exhibit panels on display with identified and labeled varieties of butterflies, moths, cicadas and tropical beetles. And you can add to this a Luna Moth and Swallowtail Butterfly in stained glass, and stained-glass window panels with motifs including insects and hummingbirds. A large spider is depicted in one of the stained glass windows over the front entry door, and an even bigger specimen – a Western Black Widow some 8-10 feet across – lurks in a closed stairwell to attack the unwary.

The highlight for some was his collection of live walking sticks, tarantulas, millipedes and exotic cockroaches. The hardier souls who wanted could hold his pet Chaco golden-knee tarantula while she crawled about enjoying the attention (and probably hoping for a fat cricket), or a husky walking stick from Texas. Those with quicker hands tested their own quickness against some of the exotic cockroaches. Jim is quick to point out, though, that he has the requisite permits for all the live exotic insects and arachnids in his collection, and his tropical butterflies were all farm-raised rather than captured in the wild.

For those who might like to visit the museum and see this all on their own time, the museum is open Monday through Saturday. Their hours and other information are posted on their web site:

<http://www.maineartglass.com/>

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BELLFEST-2010 Scheduled for June in Vermont

BELLFEST-2010 will be a celebration of the 50-year career of Ross and Joyce Bell (Department of Biology, University of Vermont) in biological education and insect systematics. Colleagues and other friends will gather in Burlington on 9-12 June, 2010, to participate in a symposium, banquet, and a day in the field for insect collecting, *etc.* The symposium will feature two days of scientific presentations (talks and posters). Within a year of the meeting, a Festschrift will be published, based primarily on the presentations offered during the symposium, but open to later contributions.

All are welcome to attend. The advance registration fee is \$50.00 (U.S.), payable by 15 May, by check, to **BELLFEST-2010**. Please send to the Treasurer:

Jessica J. Rykken
Museum of Comparative Zoology
Harvard University
26 Oxford Street
Cambridge, MA 02138

After 15 May, the registration fee is \$75.00 (U.S.), payable at the time of on-site registration.

The cost of the banquet has yet to be determined. Tickets will be available for purchase at the time of on-site registration.

Further information will be provided as it becomes available, and will appear in the May newsletter.

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Jim Nutting discussed some of his tropical butterfly displays with Charlene Donahue, Dana Michaud and Dave Bourque.

It's hard to know where to start describing his works. First and foremost are the large glass display cases, with color-coordinated stained-glass bases, housing anywhere from a half dozen to twenty or more butterflies and other entomological specimens in natural settings, with wood, stone, moss, lichens, mushrooms and dried flowers. Those who went to Bug Maine-ia will have seen an example of these in the middle of the event.

Smaller cases, such as those pictured above, will have two or three butterflies or large beetles on display, often a matched

More on Slug Caterpillars in Maine

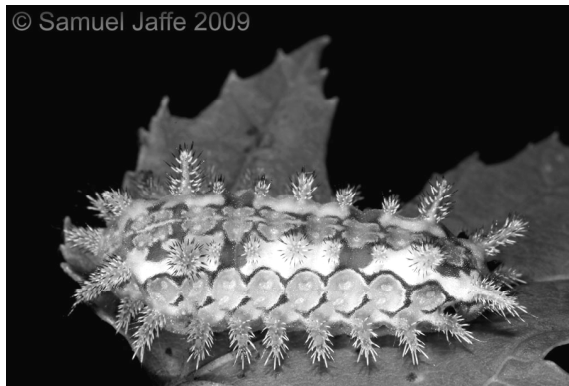
(building on ideas from our last issue)

by Dick Dearborn

Thanks, Allison for your great article in our last newsletter on slug caterpillars (Lepidoptera: Limacodidae) in Maine, and *Isa textula* in particular. Few are fortunate enough to find two new records and weave them into an excellent account as you did. Over the past 50 years I have seen a lot of moths and their caterpillars, but the limacodids have eluded me for the most part. All told I have seen only about six that I felt comfortable pinning a name on. Most of these I found as both adults and larvae on my farm in Mt. Vernon. This is not to say that I have not seen them elsewhere as well.

Once someone has seen a slug caterpillar they generally recognize it. All species are small (under 1.5 cm long), slug-like in shape and except for the monkey slug are bright green and spotted with red and yellow, and often with colorful spines as well. Some have stinging spines, so handle with care. It is doubtful that the one with the worst sting, the Saddleback Caterpillar (*Achardia stimulea*) will be found Maine.

Most adult limacodids are not as striking as the caterpillars and are often difficult to separate from many other small brown moths. Those species followed by a (* D) in the list below do have distinctive adults however.



© Samuel Jaffe 2009

Caterpillar of the Spiny Oak Slug Moth, *Euclea delphinii*.
(from http://www.pbase.com/spjaffe/massachusetts_caterpillars;
used by permission of the photographer)

Much more needs to be known about these fascinating insects in Maine. When all is said and done I would not be surprised to see 20 species of limacodids in Maine. Brower in his extensive list of the Lepidoptera of Maine lists 13 species. Six species are listed for Maine in the New Hampshire collection database. The following species have so far been recorded from Maine and I would expect all of these to be found throughout the SW quarter of the state:

Maine Limacodidae

- Apoda biguttata* (B-D-NH)*
- A. y-inversum* (B-D)
- Euclea delphinii* (B-D-NH)
- Isa textula* (Allison Kanoti)
- Lithacodes fasciola* (B-D-NH)
- Packardia albipunctata* (B-NH)
- P. elegans* (B)
- P. geminata* (B-NH)
- Phobetreron pitheciium* (B-D)
- Prolimacodes badia* (D)

Tortricidia flexuosa (listed as form *caesonia* by B)

T. pallida (B)

T. testacea (B-NH)

Natada nasoni (B) and

Heterogenea shurtleffi (B).

*Sources: B = Lepidoptera of Maine by A.E. Brower; D = personal observations by R. G. Dearborn; NH = records from the UNH insect collection database.

As you venture forth late this summer and fall in hardwood stands across the state, keep your eyes open for these little jewels. Adult moths occur in July and August, but the caterpillars occur later, as Allison's article shows. The caterpillars are easiest to spot in the early fall in stands of beech and oak, which still hold their foliage. At this time, they are moving down to the litter to form their pupal cells. I urge you to refer back to the article by Allison Kanoti in our last newsletter (Nov. 2009 – vol. 13, no. 4 – p. 7) as an excellent guide. See also:

Brower, A. E. 1983. A List of the Lepidoptera of Maine, Part 2: The Microlepidoptera, Section 1: Limacodidae through Cossidae. Maine Agr. Exp. Sta. Tech. Bulletin, 60 pp.

Chandler, D. 2001. Univ. of N. H. Lepidoptera; Limacodidae in the Insect Collection Database.

(<http://tinyurl.com/ya7626h> will get you to the Lepidoptera search page; you'll have to drop-down the family name to get these).

Wagner, D. L. 2005. Caterpillars of Eastern North America: A guide to identification and natural history. Princeton University Press, Princeton, N.J. 512 pp.

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Acadia National Park Seeks Science Coordinator

Acadia National Park is seeking an energetic individual to take on the responsibilities of coordinating the Park's science programs, including oversight of the Schoodic Education and Research Center (SERC), where the M.E.S.-sponsored entomological Bioblitzes have been held each year.

The individual hired will be the National Park Service's principal liaison to champion and forge multi-disciplinary (natural, cultural, and social) science alliances with government entities, academic institutions, and non-governmental organizations to assist the NPS with its applied conservation needs at Acadia National Park, and to promote the park as a natural outdoor laboratory for other scientific endeavors.

Deadline for applications is February 19th! For additional information and a thorough description of the position, go to

<http://tinyurl.com/yerxv8x>

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

Among the smallest insects are fairyflies, which are actually Chalcidoid wasps (family Mymaridae) that are egg parasites on other insects. There are some 120 known North American species in 28 genera; some species are aquatic, and can remain submerged up to 15 days. The smallest known fairyfly is only 1/5 of a millimeter long, about the size of a large *Paramecium*. The largest known fairyfly has a wingspan of about 3 mm. See <http://www.sel.barc.usda.gov/hym/chalcids/Mymarid.html>

Celebrating Insects Day at Sebago Lake State Park

On Saturday, June 12, 2010, the Maine Entomological Society will team up with the Maine Forest Service to give the public an opportunity to celebrate insects at Sebago State Park. Meet us there at 10:00 a.m. and stay as long as you can. Bring collecting gear, enthusiasm and any cool insect stuff you have to display.



You will be one of the 'scientists' showing off the amazing world of insects that is right in our own backyard. Let people tag along as you look for insects, let them look over your shoulder or through a microscope as you identify specimens. Show them how to collect their own insects, where insects spend their days and what they are doing. We will set up various traps ahead of time to provide material to sort through.

Even if you think you do not know much about insects, if you have been reading these newsletters you know much more than the average person. Can you tell if something is a butterfly, beetle or fly? Do you recognize caterpillars as insects? Do you know that mosquito larvae live in the water? Answer basic questions, then help people find more answers in books and from others at the event.

Please contact me if you can help out. There are lots of different ways to help: collect insects, go on bug hunt walks, sort specimens, pin & label, answer questions about displays etc.

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COMING M.E.S. EVENTS in 2010:

24 April	U. Maine Insect Collection Day (see p. 2)
22 May	M. E. S. Field Day, Limerick (York Co.)
12 June	Celebrating Insects Day, Sebago Lake State Park (see above)
19 June	M. E. S. Field Day, Hope (Knox Co.)
10 July	M. E. S. Field Day, Rangeley (Oxford Co.)
30 July – 2 Aug.	Schoodic BioBlitz, Acadia National Park (Hymenoptera) (Hancock Co.)
11 September	Annual Meeting, Clinton (Kennebec Co.)
15 September	Bug Maine-ia, Maine State Museum, Augusta

(See <http://www.colby.edu/MES/> for more detailed information.)



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

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