# The Maine Entomologist

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

*The Official Newsletter of the Maine Entomological Society*

**Vol. 13, No. 2** **May, 2009**


## President's Corner

BY CHARLENE DONAHUE

Our dear editor is grinding his teeth waiting for me to submit my column to him. Unfortunately we have had too much beautiful weather for me to stay inside and write. But the deadline draws near so here I sit with the sun shining on what was suppose to have been a rainy day.

Spring is certainly here. For me it starts in late February when we tap our maple tree and see the snow fleas jumping into the sap buckets. There is a regular progression of insects that visit the bucket each season. The snow fleas are followed by a whole host of flies of various sorts - and a few hardy spiders. Next come sap beetles, ichneumon wasps and a few moths. These are followed by sawflies, more spiders, a wider variety of flies and wasps. Finally, the end of the season is heralded by moths in every bucket – and lots of flies if we do not get them off the trees quick enough.

This March also brought me to Bee School. Last year one of my sons worked for a commercial bee keeper and he regaled me each evening with bee lore. I have never kept bees and so I decided it was time to give it a go. There are a number of bee schools that run each spring around the state. My class in Waldoboro had 50 students, almost all of them first-timers like me. I have now bought my 'wooden ware' (an un-built hive - lots of assembly required), located the perfect spot in my yard for the hive and ordered my bees. I am getting a "nuke" or nucleus of a bee colony that I will pick up in mid-May. This beginning colony will have a queen, workers and eight frames with brood cells all ready to hatch out. Then I will become one of a growing number of backyard beekeepers. I can't wait.

Besides bees there are monthly MES field trips starting in May and running through the summer to look forward to. My goal is to attend all the field trips this year; I hope to see a lot of you, your friends and family out as well.

Putting on my professional hat for the end of this column, I would ask you to be on the look out this summer for the large black and white Asian Longhorned Beetle and the small iridescent green Emerald Ash Borer. Both are invasive species that we are concerned may have broached the borders of Maine in firewood, pallets or packing material.

Most of the infestations in other states and provinces have been found by homeowners, not by professionals. It is people who are outside, see something out of ordinary and ask questions that make the finds. Help be those eyes - take a photo, take a sample and ask questions.

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### Ready, Aim, SHOOT!

Don't forget that NOW is the time to be thinking seriously - if you haven't already been doing so - about getting that camera out to get the ultimate insect photos to submit for the 2010 M.E.S. calendar! Photographic excellence is one criterion, but something that tells an interesting story OR shows something unusual will also attract attention. Just remember the one key rule is that any photo has to be of taxa that do occur in the Maine fauna.

Good luck, and happy shooting!

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***In this issue:***



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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 2009!** ***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 "2008", please contact Dana to renew for 2009 or correct the record.**

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## Three Stinky Whelks and Some Carrion Beetles

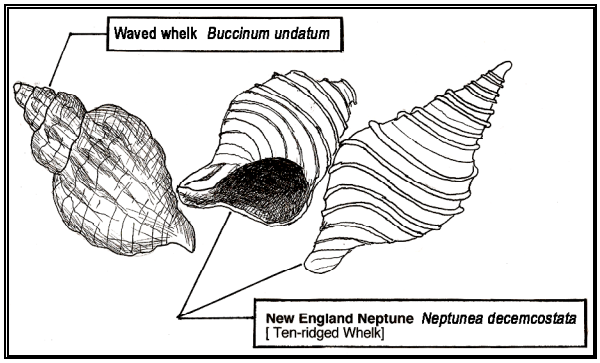
**by Richard W. Hildreth**

At my cabin in Steuben, Maine, during June 2008 (23-29), I have a visit from my good naturalist buddy Brian Cassie. Brian has come to downeast coastal Maine as part of a great quest: to find/identify, in 2008, as many marine mollusks as he can along the New England coast.

During this June visit to downeast Maine he finds 78 species. Every evening during the visit, my picnic table is piled high with shells which Brian is sorting and identifying. Two of the big shells (~3 inches) which Brian shows me are the Waved Whelk, *Buccinum undatum*, and the New England Neptune [a.k.a. the Ten-Ridged Whelk], *Neptunea decemcostata.*

Most of the shells Brain is working with are dry and clean. A few, like these big whelks, still have parts of the animal inside and are somewhat stinky. Brian tells me a "stinky whelk story"- he mentions that, back at his house in Massachusetts, he once put some stinky whelks out in the yard and that carrion beetles were quickly attracted. At the end of the visit Brian kindly leaves three stinky whelks for me to practice with.

On 29 June 2008, I put out the three stinky whelks (one Waved Whelk and two New England Neptune). [see figure below]

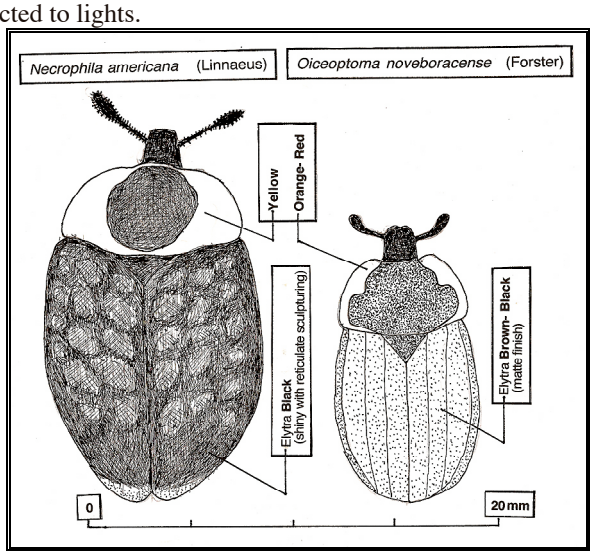



About midday on 2 July 2008, I notice a carrion beetle, *Necrophilia americana* investigating the stinky whelks. While I am watching, two more *americana* come flying in and go right to the stinky whelks. Two of the *americana* quickly clasp into the mating position. I photograph the beetles on the stinky whelks.

*Necrophila americana* is not attracted to lights, so I seldom find it at the Steuben property. I have usually found *N. americana* on the ground, near stinky dead animals. I have also found it three times associated with piles of feathers.

When a hunting Cooper's Hawk, *Accipiter cooperii*, visits the bird feeder area of the cabin yard, its favorite prey is the Mourning Dove, *Zenaida macroura*. After the kill, the hawk flies off with the dead dove several hundred feet along the trail into the woods. The hawk perches on the ground and plucks the dove. The hawk then flies off with the plucked carcass. The plucking process is very efficient. Only a pile of feathers is left behind (no other bird parts). On two occasions, when I examined these Mourning Dove feather piles, I found *Necrophila americana* in them. On one other occasion I found *N. americana* in a feather pile. That time it was a pile of gull feathers, found at The Petit Manan Point Division of Maine Coastal Islands NWR, in Steuben. The avian predator that killed and expertly plucked the gull was probably a Peregrine Falcon, *Falco peregrinus*. I wonder if the feathers can act as food for the *Necrophila americana* larvae.

On 28 July 2008, I notice two carrion beetles, *Oiceoptoma novaboracense*, investigating the stinky whelks. They are a mating pair. This species is usually found as a mating pair (Marshall, 2006). I collect the beetles. This is described as a common species in Maine (Dearborn and Donahue, 1993), but I have never found it before. It is another species that is not attracted to lights.




So, if you have any stinky whelks handy (or any other stinky animal parts) put them out, check them frequently and see what comes. At the cabin I have two mercury vapor lights. Under each light, on the cabin wall, hangs a white tarp. At the bottom of each tarp I have a piece of white, plastic gutter. Insects striking the vertical white tarp (day or night when the light is on) fall into the gutter where they can easily be seen. I put my stinky whelks in the gutter and checked them every day at least once. Check your stinky bait at night as well as in the day time. The two carrion beetle species mentioned above are mostly diurnal, but many carrion beetle species and other interesting things are nocturnal.

**References:**

Anderson, R. S. and S. B. Peck. 1985. The insects and arachnids of Canada. Part 13. The carrion beetles of Canada and Alaska (Coleoptera: Silphidae and Agyrtidae). Ottawa, Ontario, Canada.

Dearborn, Richard G. and Charlene P. Donahue. 1993 (reprinted in 2005). Forest Insect Survey of Maine. order Coleoptera, Beetles. Insect and Disease Div. Technical Report No. 32. Augusta, Maine.

Marshall, Stephen A. 2006. Insects, Their Natural History and Diversity. Firefly Books (US) Inc. Buffalo, New York.

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## Beneficial Insects in Your Maine Back Yard

An informative web page at the University of Maine Extension Service describes numerous groups of beneficial spiders and insects occurring in the typical Maine back yard - including subgroups in orders normally associated with plant damage (e.g., predatory stinkbugs). The web page (which, if reproduced intact, would equal an entire issue of this newsletter!), can be found at

**http://www.umext.maine.edu/onlinepubs/htmpubs/7150.htm**

## The Maine Butterfly Survey Wants *YOU!*

The Maine Butterfly Survey (MBS), a citizen-science atlasing project, is beginning its third field season. The MBS is a five-year project to document the diversity, status, and habitat relationships of butterflies and skippers across our state. We are seeking additional volunteers to help with the effort.

The first two years of the survey produced five new state records. New county records were obtained for 40+ species. We clearly have much to learn about the distribution and abundance of our Maine butterflies.

We ask that all volunteers attend a training workshop. The next (and only) scheduled workshop in 2009 will be held at Colby College in Waterville on Saturday, May 9, from 9:30 a.m. until 3:00 p.m. Hot lunch, data forms and butterfly collecting equipment will be provided free to each workshop participant. Please contact me if you are interested in reserving a spot in the May 9 workshop, as space is limited.

Please consider becoming an MBS volunteer. Hiking, birding, or botanizing all coexist nicely with butterfly watching. The MBS provides a great way to expand your knowledge of the natural world and to contribute to an important survey of one of Maine's most conspicuous and ecologically important insect groups.

More information on the project can be found at the MBS website:

**http://mbs.umf.maine.edu/**

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## A New European Butterfly Invades Canada

Richard Hildreth recently forwarded a piece from *Ontario Lepidoptera 2006-2007*, reporting on the apparent establishment of the European Common Blue butterfly (*Polyommatus icarus*) in southern Quebec. [The story was also picked up and reported in the newsletter of the December, 2007, issue of the Entomological Society of Ontario.] The species has been observed since 2005 in the greater Montreal area, and the identification has been confirmed by Don Lafontaine at CNC, Ottawa.

The butterfly is perhaps the most common blue in western Europe, and larvae feed on many of the introduced legume species (particularly the Common Bird's-foot Trefoil, *Lotus corniculatus*) that are common roadside plants throughout North America. It thus seems only a matter of time before the species arrives in Maine - probably not too many years off.

Numerous images of the species can be found on-line for those who would want to keep an eye out for this new invasive.

## Got Cranberry Pests?

An informative web page for cranberry insect pests, including fact sheets and "first appearance" dates, can be found at the University Maine Extension Service web page at

**http://www.umaine.edu/umext/cranberries/insects.htm**

## Impact of Warming on Maine Insects

**by Andrei Alyokhin**

(*This piece originally appeared at the University of Maine's Climate Change Institute web site:*
**http://www.climatechange.umaine.edu/Research/MaineClimate/Insects.html**
*and is reproduced here with the author's permission.*)

The projected increase in mean annual temperature due to global climate change ("global warming") should be expected to have a considerable impact on insects in Maine. Both physiological and ecological mechanisms are likely to be involved. Because insects are poikilothermic (or cold-blooded) animals, their development is strongly dependent on temperature. Therefore, for existing species a warmer climate may result in the increase in the number of generations per year, earlier occurrence in the spring, a reduction in winter mortality, and an increase in summer mortality due to heat stress and desiccation. Species that were previously excluded from Maine by low temperatures may become able to establish self-sustaining populations. At the same time, decreases in snowfall and snow pack may be detrimental for the organisms that once relied on this resource to insulate them from extreme weather.

Insects are also strongly dependent on interactions with other organisms on a variety of trophic levels. Differences in the pattern of response to temperature changes may alter relationships between insects and other members of an existing ecosystem. For example, an herbivorous insect may emerge from overwintering diapause before a sufficient number of its host plants become available, or a prey species may have a smaller increase in the number of generations per year than its predator, resulting in increased predation. The arrival of new species that are no longer excluded by low temperatures will also influence insect populations by supplying new resources and new natural enemies. On the other hand, the decline of species from a variety of taxonomic groups that are unable to adapt to new conditions may cause the decline of associated insect species, including the ones physiologically capable of functioning under the new temperature regime.

Overall, with rising temperatures we should expect an increase in the overall diversity of insect species with concurrent losses in local endemism. Currently, more species inhabit warmer areas of the world compared to colder areas. It is reasonable to suggest that a considerable number of them would expand their ranges into Maine once the climate becomes warmer. The fossil record from the previous periods of global warming supports this suggestion. Some of these new arrivals may cause a reduction in numbers or eliminate some native species through predation, parasitism, competition, etc.

The economic consequences of climate-driven changes in insect populations are difficult to predict. Most likely, there will be a significant increase in insect herbivory, both due to new pests arriving to Maine, as well as higher pest survivorship and growth rates. More pest generations per year would mean quicker evolution of resistance to insecticides. In addition, there could be declines in some pollinator populations. At the same time, we may also experience the establishment of new and more efficient natural enemies and pollinators. There could also be an increase in plant and animal (including human) disease due to higher vector activity and the establishment of new vectors.

## Gear up for the BioBlitz at Acadia!

The National Park Service, Maine Forest Service, and the Maine Entomological Society will be holding the 7th annual Acadia National Park BioBlitz August 7-10, 2009. Hosted at Acadia National Park's Schoodic Education and Research Center, this year's blitz will be focusing on a variety of Minor Orders of Insects. According to former MES President, Dick Dearborn, out of the 30 Insect orders represented in the US only 26 could occur in Maine and of these, he considers the following list of 16 minor orders that could be found at Schoodic:

| | | |
|---|---|---|
| Collembola | springtails | < 50 species |
| *Diplura | diplurans | 1 species, if that |
| Microcoryphia | bristletails | 1 coastal species |
| Thysanura | silverfish | 2 species possible |
| Ephemeroptera | mayflies | est. 6 species** |
| Orthoptera | grasshoppers & crickets | < 75 species |
| *Phasmatodea | walkingsticks | 1 species, if that |
| Dermaptera | earwigs | < 5 species |
| Plecoptera | stoneflies | est. 6 species** |
| *Isoptera | termites | 1 species, if that |
| Mantodea | mantids | 1 species, if that |
| Blattodea | cockroaches | < 10 species |
| Thysanoptera | thrips | < 30 species |
| Psocoptera | psocids or barklice | < 50 species |
| Neuroptera | lacewings, fishflies, etc. | < 75 species |
| Trichoptera | caddisflies | est. < 30 species** |
| Mecoptera | scorpionflies | < 15 species |
| Strepsiptera | twistedwing insects | < 5 species |

* Diplura, Phasmatodea and Isoptera are unlikely.

** The EPT taxa (Ephemeroptera, Plecoptera and Trichoptera) are represented in Maine by numerous taxa, but most are either spring-active as adults, or associated with streams larger and/or more permanent than those at Schoodic. Numbers listed here are estimates of the numbers of species that potentially could be found in the Blitz at Schoodic.

As in the past, the National Park Service will provide housing at no cost to participants on a first-come, first-served basis. The only fees to participate include $35 for registration and food costs. If you are interested in participating, please complete a registration form available at the park web site:

**http://www.nps.gov/acad/naturescience/bioblitz.htm**

Registration forms should be sent to Melissa Rice, Acadia Partners for Science and Learning, at P.O. Box 277, Winter Harbor, Maine 04693.

For individuals and families interested in a shorter and more general introduction to the BioBlitz, we also plan to sponsor public, hands-on Resource Acadia workshops on the Minor Insect Orders on Sunday, August 9, 2009. For more information, contact: David Manski at david_manski@nps.gov or (207) 288-8720.

During last year's Hemiptera (True Bug) bioblitz, park staff created two short movies about the event. These are posted on the park's web site:

**http://www.nps.gov/acad/naturescience/truebugblitz.htm**

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## HELP WANTED WITH RESEARCH PROJECT

I am conducting a research project on the Spotted Tussock Moth or Yellow-Spotted Tiger Moth, *Lophocampa maculata* (Lepidoptera: Arctiidae: Arctiinae). It is apparently found across North America on both sides of the US/Canadian border, and south within the US in mountainous areas.

***Lophocampa maculata* Harris (1841)**

There are two parts to the project and I would welcome help with either or both:

1) biology of the organism: any information on specific locations where it has been found, larval host plants, flight period, descriptions or photos of the instars or adults
2) specimens for genetic analysis using the RAPD-PCR method. I would like to obtain material (eggs, caterpillars in any instar, or adults) from as many locations as possible across the continent this coming season.

I am hoping to enlist the help of a network of collectors who are willing to send me material. Possibilities for providing useful material include trapping of females and egg collection using the "brown paper bag" method, or collection of adults or caterpillars later in the season.

I would appreciate hearing from anyone who might be able to help with either part of the project, or from anyone who knows of a collector that might be willing to help. I would be happy to reimburse individuals for shipping costs and provide interested participants with further information. Contact me at:

email: kgs@lclark.edu
address: Prof. Kenneth Strothkamp
Department of Chemistry
Lewis & Clark College
0615 SW Palatine Hill Road
Portland, OR 97219

Additional information on what is currently known of the species, including color images of adults and a caterpillar, may be found at

**http://www.butterfliesandmoths.org/species?l=3782**

(*That's a lower-case "L" after the question mark, not an "I."*)

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The Asiatic silkworm moth (*Bombyx mori*) has been so domesticated over the centuries that it probably does not exist in the wild anymore. It has been reared in China for 4,000 years.

## Anting ?! A New One for me!

**by Dick Dearborn, with details by Monica Russo**

Just when you think that you have a handle on the variety of associations in the insect world, up pops a new one (for me). This past winter I was asked to do some ant identifications and to fill in with some details on species habits. I finished with the requested material and as usual I went a little further than required with my research on the fascinating ant associations.

In skimming through a favorite reference on ants, a 1965 bulletin on House Infesting Ants of the Eastern United States by Marion R. Smith, my eyes picked up on a gem! To quote a couple of Sam Ristich's favorites: Hoooeeee! A real Wonderment of Nature! In the glossary of Smith's work was a short mention of "anting." In all of my rambling through the literature and discussions with a wide variety of insect enthusiasts and birders I had totally missed this fascinating association. It was a new one for me. Soooo – I called my favorite source of wisdom on hymenoptera and birds, fellow MES member Monica Russo who graciously provided the details as far as is known. Her reply follows:

"Any hard core bird watcher is likely to see birds anting. If you spend a lot of time looking at birds and watching their behavior and activities, you are probably familiar with all the grooming procedures in a bird's life. You've seen birds vigorously splashing around in a bird bath. And if you watch House Sparrows, you know that they take dust baths frequently. If you hunt turkeys, you would be thrilled to find a shallow depression in loose dirt where the big birds take dust baths and then you'll know their haunts. Some biologists think the fine dust may clog the breathing ports (spiracles?) in bird lice (Mallophaga) and cause them to drop off. And probably everyone has seen a bird preening, cleaning every feather carefully with its beak.


"A bird also uses anting as part of its feather maintenance. An anting bird settles down on the ground and spreads out its wings and tail. It may look like it's sunning, or you may think something's wrong with it. Birds will actually sit right on or next to a big anthill to do this. The disturbed ants can be seen crawling all over the bird's feathers, and may possibly be killing the lice and mites as they go. The ants may also be so agitated as to spray formic acid, which could repel parasites. Maybe the ants help to scratch the itch of new feathers growing in, or perhaps they collect the flaky dander along the larger feather shafts. Unfortunately, the birds can't tell us exactly what the benefit is so we're left to speculate.

"I have a large Allegheny Mound Ant hill (of *Formica exsectoides*) along my driveway, and at least once every summer, I can see the crows fly up and away from it if I disturb their anting. They leave slight claw and wingtip marks on the mound, which is about 16" across and at least a foot high. They don't ever take the hill apart, or destroy it.

"Some ornithologists define two types of anting. Passive anting is described above: the bird simply settles down on or next to an anthill, and allows ants to crawl onto its body. The second type is active anting, when the bird deliberately picks up individual ants to "apply" to its feathers. Active anting is described in the 1908 book, Guide to Nature, where a Blue Jay picks up ants with "eagerness" and puts them on its back and under each wing.

"The crow expert Lawrence Kilham writes about a juvenile hand-raised crow that found a column of ants, and flattened itself against the ground to take advantage of them. This suggests anting might be instinctive, if no adult crows ever showed the youngster how to do this. Kilham also noted crows tucking ants under their wings.

"At least 200 bird species from around the world are recorded to go anting. And about 20 species of ants have been used by birds. So, just as you shouldn't ignore the forest for the trees, don't ignore the birds for – Um ! - - , the ants!"

Thanks Monica!

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## GOT BUCKS? NEED BUCKS?

The Entomological Foundation (http://www.entfdn.org/) in Maryland has announced an opportunity to apply for a scholarship or fellowship through the Foundation. The **deadline** to apply for all of the Entomological Foundation's awards is **July 1, 2009**.

*BioQuip Undergraduate Scholarship*

Students must attend college in the U.S., Canada, or Mexico and be pursuing a degree in entomology or pursuing a career as an entomologist. For more information, see:

**http://www.entsoc.org/awards/student/bioquip.htm**

*Larry Larson Graduate Student Award for Leadership in Applied Entomology*

This leadership award acknowledges final year Master's students or first year Ph.D. students who exhibit exceptional interest in the study and application of entomology through outstanding research and leadership skills. The student must be an ESA (Entomological Society of America) member. For more information, see:

**http://www.entsoc.org/awards/student/larson.htm**

For more information on all Foundation awards, including mini-grants for teachers and research awards and grants, see http://entfdn.org/awards_scholar_fellow.php .

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**Insect flight trivia worth considering:** The male deer bot fly is reputed to develop flying speeds of several hundred miles per hour, but this is probably an exaggeration. A species of tabanid related to horse flies, has been clocked at 90 miles per hour. Hawk moths have been timed at 33.5 miles per hour. A dragonfly of the species *Anax parthenope* has been clocked at almost 18 miles per hour. Honeybees fly at about 7 miles per hour, and have to beat their wings 190 times per second to do it.

When it gets hot, some dragonflies point their long abdomens right at the sun. This way the sun's rays only hit the tip of the abdomen and not the whole length, keeping the dragonfly much cooler.

## May Field Day at Wells National Estuarine Research Reserve

Spring has arrived! Join us for the first field day of the 2009 season on Saturday, May 23 from 10:00 a.m. to 3:00 p.m. at the Wells National Estuarine Research Reserve.

This is a very special opportunity to visit a salt marsh environment and experience the unique insect fauna of this habitat. We will also have a chance to see nesting areas of several species of fossorial wasps. Fields and wooded areas are also present at the reserve, allowing for a variety of collecting possibilities. Our findings will also contribute to the ongoing research conducted at the reserve.

Directions to the reserve can be found at www.wellsreserve.org. We will meet in front of the Laudholm Farmhouse. Bring a bag lunch, tick repellant and an abundance of enthusiasm for a fun-filled day of collecting!

Please call Domenica Woo at [207] 967-6159 for further information. RSVP would be helpful for planning purposes. See you there!

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## June Field Day in Rangeley

June 20, 2009 - Join Dick, Dave and Dana for a day of collecting and observing insects in the Rangeley area. Plan to meet at 10:00 a.m. at the boat landing on the lake side of Rte. 4 as you enter Rangeley village from the south. Watch for an MES sign. Bring your enthusiasm, collecting gear and a bag lunch. We'll take it from there. If you have questions or collecting suggestions call Dick Dearborn at (207) 293-2288. We plan to collect until 3:00 p.m. or thereabouts! Hope to see you there.

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## July Field Day in Smithfield

The Maine Forest Service will be hosting a field day on Saturday, July 18 in Smithfield. We will meet at 10 a.m. at the gravel pit just south of town on Route 8/137 (just ask Dave and Dana how good the collecting is in a gravel pit). In addition to collecting, those who come will be able to participate in a hands-on demonstration of biosurveillance with *Cerceris fumipennis*, the wasp that hunts emerald ash borer.

If you are coming from I95, take exit 127 west. Follow Rte. 137 until it intersects with Rte. 8. Then follow 8/137 north for about 3 miles until you see a gravel pit on each side of the road. If you reach the village, you've gone just a few yards too far. See you there.

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## COMING M.E.S. EVENTS in 2009:

**(See http://www.colby.edu/MES/ or articles above and left for more detailed and contact information.)**

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|---|---|
| **23 May, 2009** | **M. E. S. Field Day, Wells National Estuarine Research Reserve at Laudholm Farm (York County)** |
| **20 June, 2009** | **M. E. S. Field Day, Rangeley Lakes area (Franklin County)** |
| **18 July, 2009** | **M. E. S. Field Day, Smithfield** |
| **7-10 August, 2009** | **Minor Order BioBlitz, Schoodic Point, Acadia N.P.** |
| **12 September, 2008** | **Annual Meeting, Rock Ridge, Clinton** |
| **16 September, 2009** | **Bug Maine-ia at Maine State Museum Wednesday, from 9 a.m. to 3 p.m.** |

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

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