

The Maine Entomologist

A FORUM FOR STUDENTS, PROFESSIONALS & AMATEURS IN THE PINE TREE STATE

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From the President

As I travel around the State and observe the spectacular and somewhat early spring bloom of Daphne, forsythia and shadbush and watch restless bumble bee queens as they emerge from winter quarters to search for nesting sites, I also envision members as they try to find and assemble field gear for another season. And the field season has already begun! I've already seen Milbert's tortoiseshell (Fire rim!) butterflies flitting around still dormant patches of nettle. And Webmaster, BeetleBob Nelson has made a point of bragging about his first seasonal sighting of *Carabus maeander* on Rock Ridge! I'd love to hear from more of you. Even brief notes in our newsletter or emails to other members can whet the enthusiasm of others. Such observations could even support a Field Notes column in future issues of our newsletter. What do you think?

From what I'm hearing, many of you have lined up or are already involved in a wide variety of outside activities. Our list of monthly field events has hopefully been a consideration in your planning process. Our events start at the Delta Institute in Bowdoin on May 20th. We then move to Montville on June 17th. July is "The Month of the Fly" with our Schoodic Diptera Blitz July 14-17 preceeded by a Workshop at the Delta Institute. On August 26th we move to Rock Ridge in Clinton to try and find insect species that have escaped the watchful eyes of BeetleBob! Keep the dates of September 9th, 16th and 27th open for more interesting events. More will follow in our August issue. We need your support.

This issue is filled with items to lead you into the field season. I hope that you keep your cameras ready for those once in a lifetime pictures and keep our 2007 calendars in mind as a place to share them. A pencil and notepad should provide space for associated stories.

Thanks to all who have paid their dues and thus are receiving this issue of *The Maine Entomologist*. We are grateful for your support that can be further enhanced by attending one of our well-planned events or submitting a photo for our calendar or article for our newsletter. We all have something to share and something to learn. For those of you who have asked, our member count stands currently at 124.

I look forward to seeing many of you in the field.

-Dick Dearborn

IN THIS ISSUE



MAINE DIPTERA COLLECTING



DIPTERA BIO BLITZ



MONARCHS IN DANGER



PHOTO SUBMISSIONS



BUG WORD SEARCH

Diptera: What Might Maine Collecting Have in Store for Us?

The Diptera, or two-winged flies, constitute an amazing array of insect species. Their human impact, species richness, and variety of biological strategies have motivated entomologists for centuries. More than 100 families are present in the Nearctic Region, and most can be encountered in northeastern North America. Many families (e.g., Simuliidae or black flies, Culicidae or mosquitoes) are tied intimately to aquatic habitats. Others are more variable in their niche selection and are found in both dry and wet areas (e.g., Tipulidae or crane flies, Otitidae or picture-wing flies). Some families tolerate virtually any habitat accessible to insect activity. The Ephydriidae, or shore flies, are found in coastal, wetland, hot spring, stream-side, old field, mixed mesophytic forest, and other habitats. The genus *Petrophila* is known only from oil seepages, such as at the La Brea Tar Pits!

This diversity of habitat selection has led to vast adaptive radiation and speciation in the Diptera. Between 20,000 – 25,000 species occur in North America north of Mexico, and many species have been recorded from only a small geographic range. The avid collector focusing his or her efforts on flies will have no trouble extending known distributions, encountering new state records, and even periodically finding a new species.

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Of the 20,000+, most are going to be quite small, so bring your hand lens and keen eye for detail on your collecting trips.

Speaking of small, think about those pesky mosquitoes. The genus *Psorophora* has some big individuals rivaling some of the more modest crane flies, but most have body lengths around one centimeter. Black flies and no-see-ums (Ceratopogonidae) represent some of our more common “gnats,” and are much smaller than mosquitoes. This paints a picture of some of our more notorious biting flies (small, fast, and effective, but still diverse and an amazing example of dipteran diversity!). However, don’t let your guard down with larger fly examples, as our horse flies and deer flies (Tabanidae: *Chrysops*, *Tabanus*, *Hybometra*, et al.) range from >1 cm to nearly 3 cm long. *Tabanus atratus*, the black horse fly, is aptly named for its jet black to almost blue coloration (remember that old song that recommended “brush away the blue-tail fly”?), and is among the largest of Diptera of North America. While the pesky mosquito will pierce you with its hypodermic needle-like mouthparts, the horse fly is more violent, using a saw-like apparatus to lacerate your skin so it may lap up the puddle of blood that follows.

The biting Diptera are almost always associated with water (Culicidae, Ceratopogonidae, Simuliidae, Tabanidae). However, a few exceptions exist (e.g., stable flies [Muscidae: *Ceratomyia* spp.] which breed in livestock dung). Many references exist that review the health and economic costs of biting flies, and when one considers medical, agricultural (e.g., dairy), recreational, and control costs, the numbers grow in a fashion impressive for such small animals.

When considering diversity, the small stuff is where the action is. Most adult species of fly measure 0.5 cm or less. In the families Ephydriidae and Chloropidae (frit flies), all individuals measure several mm at most. The remarkable Chironomidae (non-biting midges) can be represented by individuals measuring over a cm (such as the genus *Chironomus*, whose larvae are known as ‘blood worms’ because of the incorporation of hemoglobin in their bodies to enhance respiration in virtually anoxic aquatic habitats). However, most chironomids are much smaller, maybe just a couple of mm, and the diversity of each genus listed in [Aquatic Insects of North America](#) by Merritt and Cummins can only be given in approximate values because of the frequency of new species descriptions.

Not all of our most diverse dipteran families have only small individuals. The crane flies constitute some 1500+ North American species, and individuals of some genera exceed 3 cm in wing spread (e.g., *Tipula*, *Pedicia*). The larva of *Tipula abdominalis*, one of the largest and most common crane flies, is a dark olive color, and found in among leaf packs in small woodland streams. It shreds the decomposing leaves from hardwood trees, and respire by keeping its posterior spiracles at the water surface. Hydrofuge hairs keep the spiracles protected from being swamped while at the surface.

Many Diptera are general detritivores, feeding on decaying organic matter such as decomposing vegetation. Indeed, it is hypothesized that the ancestral flies had larvae that flourished in masses of rotting plant matter in wet habitats such as marshes. Fly maggots frequently lack much sclerotization, that is are overall very soft-bodied. Their general inability to withstand desiccation results in many taxa still strongly tied to aquatic environments, or areas of high humidity where morphology strongly resembling that of their aquatic cousins can facilitate their existence (e.g., within bored stems or mined leaves of plants, within rotting tree trunks or under tree bark, and under damp leaf litter in a forest).

With some 20,000+ North American fly species, there are more than 20,000 biological stories on flies in nature, including larval feeding habits. Much adaptive radiation in terms of feeding strategies occurred over time, as flies moved from the life of the decomposer to one of many other known trophic strategies. Many reviews of larval feeding habits among Diptera are available, and a few particularly interesting ones are highlighted here.

DECOMPOSER: Decomposition is, of course, not limited to vegetable matter. Some taxa, in particular the blow flies (Calliphoridae) are specifically adapted to consuming decomposing animal matter. This has led to much recent attention to calliphorids as they apply to the field of forensic entomology, particularly for determining the time between death and body discovery during criminal investigations of death under mysterious or suspicious circumstances. Larvae on a dead human or other animal feed and grow rapidly – an excellent adaptation for an unpredictable and ephemeral food source! The real advantage comes with the adult chemoreception, as female blow flies arrive at carrion within seconds if not a matter of a few minutes or hours after death.

HERBIVORE: Many dipteran families have herbivorous representatives. Two species families, the Chloropidae and the Agromyzidae, are largely herbivorous in the larval stages. A wide variety of strategies, including stem boring and leaf

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mining, have evolved over time, and some taxa are quite specific (monophagous) in their host plant preferences while others are more catholic (polyphagous). If you break open a damaged plant stem, you may find that it was attacked by a non-dipteran, but maggots are present as “secondary herbivores” that feed on decomposing plant tissue and larval frass in the safety of the hollowed stem. Plant-animal interactions do not end with herbivory among Diptera, as many species, particularly those from the Syrphidae and Bombyliidae, will seek pollen from flowering plants.

PREDATOR: Predators in both the larval stages and the adult stages are known in the Diptera. Predaceous adults capture other insects on the wing, and a popular example is the Asilidae or robber flies. They have spinose legs that facilitate grasping prey, and a stout proboscis capable of piercing the exoskeleton of their quarry. Instead of spines, the shore fly genus *Ochthera* has raptorial front legs that strongly resemble that of a praying mantis, species, and represent a brilliant example of parallel evolution. *Ochthera* spp. adults hunt on mud flats near the edge of streams and lakes.

PARASITE: Parasitic or parasitoid habits have developed among a number of families, such as the Sciomyzidae (mollusks), some Calliphoridae (birds [*Protocalliphora*], earthworms [*Pollenia*]), and Pyrgotidae (scarab adults). Some fly families are completely adapted for a parasitic life style, such as the Nycteribiidae whose flattened bodies can be found as ectoparasites feeding on the blood of bats.

This overview of dipteran biology is of course not comprehensive. For more information, I suggest starting with Oldroyd's Natural History of Flies, Ferrar's A Guide to the Breeding Habits and Immature Stages of Diptera Cyclorrhapha, and a variety of chapters in the recent Encyclopedia of Insects edited by Resh and Carde.

In July 2006, entomologists will descend on Acadia National Park for the 3rd Annual Bioblitz to catalog as many species within a 24 hour period as possible. This year's focus will be Diptera. A 1946 list given by Procter for Mt. Desert, Maine, included more than 1600 species. However, some 4000 species are known from the state of New York, showing a great diversity is awaiting blitz participants. We have experts who have agreed to identify those taxa we collect that we can not put a name on right away. These include individuals who will determine the nematocerous flies (such as Tipulidae and Culicidae), the brachycerous flies (such as Tabanidae, Therevidae, and Asilidae), and cyclorrhapha (such as Syrphidae, and the vast numbers of acalyptrate and calyptrate muscoid taxa). Undoubtedly, new records for Acadia National Park will be obtained, and it won't be surprising with such a focused effort that new species for Maine will be encountered.

-J. B. Keiper

Diptera Specialist, Cleveland Museum of Natural History

MDDS Update: Dragonflies and Damselflies

With record early ice out in some areas, rapidly warming waters, and unseasonably warm temperatures, we may see some record early emergences for some species this year. I've been patiently checking some of my little 'on-the-way-home-from-work' spots in the hopes of seeing some early migrating *Anax junius* - but nothing so far. Although I did manage a new personal best in terms of earliest blackfly bites - April 21!

However, Bronco Quick reported emerging *Helocordulia uhleri* yesterday while canoeing at Mud Pond in Old Town. This is a full 9 days earlier than the previous adult record for this species in Maine. Anyone else making observations of early appearances of adults should pass them my way so that I can share them with the rest of the group.

Regarding MDDS Phase II objectives: if you send me a list of 'new' locations you are considering visiting this summer, I will be happy to check the data base to see if these locales have been previously sampled. Also, if you need envelopes, voucher cards, site visit sheets, etc - please let me know.

I expect to be posting the results of 2005 sampling to the MDDS website in the next week or so.

- Ron Butler

Final Count for the 2005 Beetle Blitz

The beetle specimens from the 2005 Beetle Blitz at Schoodic Point in Acadia National Park have been deposited with the Park.

Final count:

326 species in 45 families

51 new species records for Maine

10 species not reported since the Procter list (an extensive survey from the early 1900's).

Corrections

A few caught the misspellings in the last issue, among them were 'Saturniidae' actually spelled Saturnidae and 'BugMain-ia' actually spelled Bug-Maine-ia. We are sorry for the confusion.

Field Notes

I saw my first butterfly of 2006 on March 30th while walking up the trail from Laudholm Beach at the Wells Reserve in York County. As I climbed an incline through a thin patch of deciduous woods, I spotted it flitting between two cobbles on the wide dirt-and-gravel path. I approached slowly and got very close as it held its wings out in a patch of full sun.

My mental index came up empty. This looked like no butterfly I had ever seen. Its most striking feature was a rich orange U-shaped band forming a wingtip-to-wingtip semicircle against wings of deep velvet brown. On the leading edge of each forewing were four patches. The innermost two were squares of the same orange, the next was a similar hue but washed out, and the last was whitish. The outer two patches merged somewhat with the band.

It had a sturdy-looking brown body, alert antennae, and a glossiness that shone like armor. I figured it was just about 2 inches across, maybe slightly more.

After a few long seconds it moved, its flight brisk and brief. I followed as it skipped purposefully ahead of me, moving from rock to rock as I attempted to pass.

After several yards, the butterfly landed trailside among grass and downed twigs and I went ahead to the Laudholm farmhouse. No bookshelf references showed me what I was looking for, so I went to the computer. Once again, the Butterflies of North America website, specifically its Butterflies of Maine listing, was a terrific resource (this online guide is maintained by the U.S. Geological Survey, Northern Prairie Wildlife Research Center).

Scrolling down the list of species names, it was easy to reject most, but I linked to a few to “ground” myself. I went to the Mourning Cloak account half expecting to find my animal there, but no: That was not it. I was looking for orange, not yellow, and a smaller insect. I’ve seen Mourning Cloaks and this didn’t look like one.

But maybe it was a close relative, another Nymphalid species. I went to Compton Tortoiseshell — not a chance. Then I went to Milbert’s Tortoiseshell and found my match.

The picture and species account were affirming, but the distribution map concerned me; it showed nothing for York County — no confirmed, unconfirmed, or dubious records.

I grabbed my camera and went back out, but of course the nymph was gone. I tried without luck for two ensuing days. That makes this an unconfirmed or — egad — a dubious report.

It was a great way to start spring, though!

For more information check out the following online resource: Butterflies of Maine (<http://www.npwrc.usgs.gov/resource/distr/lepid/bflyusa/me/toc.htm>)

-Scott Richardson

Diptera BioBlitz on Schoodic Peninsula

There’s still time to sign up for the Diptera Blitz to be held at the Schoodic Education and Research Center (SERC) in Winter Harbor July 14-17. Joe Keiper of the Cleveland Museum of Natural History will be the lead systematist.

The deadline for application is June 16, and there is a \$25 registration fee. Housing is provided by SERC, and meal plans range from \$32 to \$82 depending on the number of days of your stay. A lobster dinner is also available for July 16. For more information about the Diptera Blitz or to request a registration application, please contact Chuck Peters (207) 926-4806 or chuckp@securespeed.net or Dick Dearborn (207) 293-2288 or modear@prexar.com.

We hope to see you there!

Resource Acadia Program Announcement

Title: Biodiversity and BioBlitzes for Beginners: Inventorying Acadia’s Insect Population

Date and time: Saturday, July 15, 9 am – 12 pm

Presenter: Dr. Cassie Gibbs, University of Maine, emeritus and Lynn Havsall, George B. Dorr Museum of Natural History, College of the Atlantic

Location: Schoodic Education and Research Center, Acadia National Park

Those who are curious about insects and their importance in the natural world around us are encouraged to participate in a special session for beginners as part of Acadia’s fourth annual BioBlitz. Co-sponsored by the Maine Entomological Society, Maine Forest Service, University of Maine, and the George B. Dorr Museum of Natural History at College of the Atlantic, the BioBlitz is a rapid snapshot assessment of a specific group of insects living in the Schoodic section of Acadia National Park. This year’s BioBlitz will focus on Diptera (flies, mosquitos, etc.). This half-day workshop for beginners will include a discussion on general biological classification, the significance of biodiversity, and the important ecological role of Diptera. Training includes insect collecting techniques and hands-on specimen collecting in the field.

For more information on this, or other Resource Acadia programs, contact Jim McKenna (Jim_McKenna@nps.gov or (207) 288-8733) or visit the Schoodic Education and Research Center website (<http://www.nps.gov/acad/serc/education/resourceacadia.htm>).

Some New Gall Flies In Maine

Galls are peculiar growths on various plant parts produced by the plants when infested by gall insects or other organisms. Gall wasps (family Cynipidae) cause many galls, particularly on oaks, including a variety of oak apple gall wasps, oak wool sower gall wasp (*Andricus seminator*) and mossy rose gall wasp (*Diplolepis rosae*). Commonly observed galls caused by gall mites are maple bladder gall mite (*Vasates quadripedes*), maple spindle gall mite (*Vasates aceriscrumena*) and the red fuzz maple erineum mite (*Eriophyes elongatus*). Some fungi and bacteria can cause plant galls, such as the pink azalea gall (*Exobasidium vaccinii*) and crown gall (*Agrobacterium tumefaciens*).

Gall midges (family Cecidomyiidae) are a major group causing unusual plant growths. The common ball gall on goldenrod stems, however, is caused by the tephritid fly *Eurosta solidaginis* (larvae of the gelechiid moth *Gnorimoschema gallaesolidaginis* cause the more elliptical gall on goldenrod stems). Common gall midges include willow pine cone gall midge (*Rhabdophaga strobiloides*), balsam fir gall midge (*Paradiplosis tumifex*), honeylocust pod gall midge (*Dasineura gleditschiae*) and spruce gall midge (*Mayetiola picea*).

The rhododendron tip gall midge (*Clinodiplosis rhododendri*) has been occasionally found in Maine since the 1980's. This midge causes the newest growth on rhododendron to twist and curl severely, eventually turning brown. To see if damage is caused by the midge, peel back the curled margins of damaged young leaves and look for tiny whitish maggots. Two other species of *Clinodiplosis*, not previously reported from Maine, were found in the summer of 2005. The phlox tip midge (*Clinodiplosis phlox*) infests young terminal leaves of phlox causing deformed, twisted terminal growth and poor flowering (unfold the twisted leaves of suspect plants and look for numerous tiny maggots). This midge has been found in Northeast Harbor and Brunswick. The verbena midge (*Clinodiplosis verbenae*) also attacks young terminal leaves and those of side shoots on Verbena hastate causing deformed and twisted growth. Plants were found infested in Cumberland, Poland Springs and South Berwick. The *Clinodiplosis* midges have several generations a year.

These midges and others are described and the plant damage or galls are pictured in [The Plant Feeding Gall Midges of North America](#) by Raymond J. Gagne, Cornell University Press, 1989. A good publication on gall mites is [An Illustrated Guide to Plant Abnormalities Caused by Eriophyid Mites in North America](#) by Hartford Keifer and others, USDA Agriculture Handbook Number 573. An older book to help in identification of galls is [Plant Galls and Gall Makers](#) by E. P. Felt, Hafner Publishing, 1965.

-Dick Folsom

The Needle in a Haystack

In the summer of 1966, while 'bugging' down by the Kennebec River in Waterville, Maine, I was unaware that day that I was to find a "needle in a haystack." The low-lying area south of the now-defunct Hathaway Shirt factory floods almost every spring, leaving silt and logs strewn about. As the river recedes from this sandy spot, ferns, nettles, and a variety of herbaceous plants sprout beneath the willow-dominated area. The banks that descend into this shrinking area, much of it a dump a few years ago, are covered with concrete, bricks, and slate used to expand the encroaching parking lots to the north and west.

Exploring for beetles, we overturned many rocks and logs, in search of anything unusual. Many ground beetles inhabit this area. *Branchinis*, *Pterostichus*, and *Agonum* were plentiful. Turning over one log, I found what I thought was a small caterpillar hunter species I had never before seen. Collecting it, I took it home, mounted and labeled it. Unable to identify it, I put it in with the ground beetles and there it sat unnamed for many years.

A few years ago, knowing that Dick Dearborn likes carabids, I took the beetle to him for identification. After telling him where I had found it, he looked at me skeptically. I could sense his disbelief by his questions. He identified it as *Blethisa jullii*, a rare ground beetle known only from Baxter State Park. I then understood his skepticism but assured him I had a witness to the event.

Upon realizing its rarity, I returned to the same in area in search of another. The encroaching parking lot from the north, had filled in some of the low-lying area near the site where I first collected the beetle. I've searched the area more than once but never found another beetle. I did, however, find another uncommon ground beetle nearby, *Anisodactylus verticallis*. I managed to find a few specimens of this species, of which there are few records from Maine.

So whenever I am out collecting now, I realize more than ever, that randomness is the element that comes into play here. If you are in the right spot at the right time, anyone can find the proverbial 'needle in the haystack.' The key is to keep looking and let luck find you.

-Dana J. Michaud



A Book Review: A Girl of the Limberlost by Gene Stratton-Porter

Winter is a great time to catch-up on your reading but little did I expect to slip back to 1909 in the process. While perusing the library for something to read I came across the video of Girl of the Limberlost (GLL) that PBS aired a few years back. I was fascinated with the review when lead to read it after the word "insects" popped up! I watched the video and was hooked. I then read GLL and then other works by and a biography of the author. The story is somewhat historical fiction and revolves around the experiences of a young girl, Elnora Comstock, who grows up on a subsistence farm on the edge of the 13,000 acre Limberlost swamp/marsh in northeastern Indiana very early in the 20th century. Elnora makes up for the lack of her mother's love by turning to the fascinating natural wonders of the extensive wetland! She is befriended by The Bird Woman, who characterizes the author, and insects, and, in particular, the yellow emperor (actually known now as the Imperial Moth, *Eacles imperialis*) become Elnora's focus.

The entomology in GLL is good and although many of the names are not those commonly in use today, you will recognize most from their description. What fascinated me even more I think was that Elnora's experiences paralleled those of my mentor, Dr. Auburn E. Brower who grew up in southern Missouri during the same time-frame (See *The Maine Entomologist*. 4(1): 2-3, 2000). In researching the life and works of Gene Stratton-Porter, I was also pleased to see why she was led to write such a book and how her devoted followers today are actively pursuing a course to restore at least some of the Indiana wetlands destroyed at the time of GLL. GLL presents a vision of the natural beauty of such areas as the Limberlost, often undervalued by those who exploit them.

The book is great reading of the period style and deals with the difficulties faced by a young person growing up under trying circumstances. She finds great joy in nature and in the end her fascination with insects not only provides her with income but leads to her future friendships and vocation. I'd love to tell you more but hope that you will be lead to read this book which was very popular. The moral of the story is good and it should be interesting for all ages both male and female. There is none of the superfluous shock garbage so common in most novels today. Thanks to Indiana University Press and the Limberlost support groups the book has been reissued as an "Library of Indiana Classic." It is available through Amazon.com or the Indiana Univ. Press, (Ph. (800) 842-6796 or email iuporder@indiana.edu).

-Dick Dearborn

Bye Bye Bugs

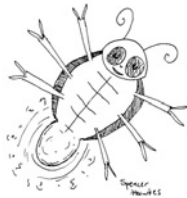
Twenty hundred bullybugs
Came in my house to dine
"Do not be afraid," they said
"We do this all the time."

"We've just been into every house
In your neighborhood
And if you give all your food
We promise to be good."

Since I don't like bullies much
I called up the police
'Our hands are tied," they just replied
"Dealing with some fleas."

So I put them in letter
And mailed them to the moon
No return address, I confess
They won't be back too soon.

David Ladd



Bye Bye Bugs



This poem appears courtesy of author David Ladd. Illustrations by Spencer Hawkes. Mr. Ladd is a teacher at Gorham High School and Spencer is a senior at Gorham High School. More of their poems and illustrations can be found in their collaborative book, Beagles in My Bed, which is available at many local bookstores: For more information, contact Davidladdpress@yahoo.com.

The Warren Island State Park Insect Survey will take place on August 5, 2006. Experience a summer day on a coastal Maine island and collect insects at the same time. The Warren Island Park Manager has invited the MES to survey the island for insects. She will meet us at the Isleboro ferry in Lincolnville and transport intrepid collectors across the cove to Warren Island for the day. People desiring to camp on the island will need their own boat and must make reservations with the Maine Bureau of Parks and Lands as this is a very popular park. Contact Charlene Donahue for more information at (207) 549-7241. More information on this trip will be in upcoming issues of the newsletter, although reservations should be made as soon as possible.

There's still time to submit your insect or entomology-related photos to the calendar committee for the 2007 issue of the calendar. The success of the calendar depends on a good mix of subject matter; close-up photos of insects found in Maine are always helpful and good pictures of people (or the kids) enjoying a day of collecting can really help convey the enthusiasm and fun that we all have with bugs! So, take a moment to go through your photos and please e-mail any submissions to Dick Dearborn (*modear@prexar.com*) by the July 15th deadline.

Photos should be in digital format, landscape orientation, and of suitable resolution to be enlarged to 8 X 10. Please submit only photos that have not been previously published. They will be used only once for the 2007 calendar. See the February issue of the *Maine Entomologist* for more details, or contact Dick Dearborn or Chuck Peters (*chuckp@securespeed.net*). Thanks for your help!

2001 Warren Island Pitfall Trap Survey

One of the unexpected projects Dave Bourque and I had last year was to go through the material from a survey using twenty pitfall traps on Warren Island (Islesboro) and conducted from July 14-September 14, 2001 by Sunshine Hood, the ranger for Warren Island State Park. Charlene Donahue, having done a few jars of specimens, asked if we'd like to do the rest as she was busy working on the 2005 bark beetle survey and other projects. All that was expected was a general list. We could keep anything we wanted and if any unusual specimens appeared, put duplicates in the Maine Forest Service Insect and Disease Lab's collection.

Dave took the boxes of jars home and began the task of dumping each out, removing plant debris and unwanted creatures (spiders [1,100], sowbugs [941], and crickets [593] among others). Some jars were fine, but many were unsalvageable because of the condition of the antifreeze protecting the contents, leaving behind decomposed material. In spite of this, I tediously sorted through; pinning, triangling, and labeling what was worthwhile, yielding primarily beetles (1,716), flies (193), and wasps/ants (1,340). As we morph sorted and tabulated, certain dominant species and groups became apparent. All the carabids (1,231) were put aside, as they were the dominant beetle group.

Taking the carabids home, I identified them to species while removing the bad specimens. This was done with the intention of keeping two pairs from each species for our purposes and two for the forestry lab's collection. Once the jars were finished and the carabids done, the task of tabulating and eliminating took place. Of the carabids, specimens of *Synuchus impunctatus* (220) and *Pterostichus stygicus* (97) were recorded. A few nice surprises, like *Harpalus caliginosus* (1) and *Badister obtusus* (1) (few state records of both) and the flightless *Myas cyanesceus* (13) were found too.

Dave tackled the Silphids (85), including six species, of which *Nicrophorus orbicollis* (34) and *N. tomentosus* (37) were most common. Next came the Elaterids (47). We tentatively identified six species, *Conoderus auritis* (32) was the most common. The Histerids (37) yielded eight species (this is tentative, as these can be tricky!). One of these histerids is *Psilocelus harrisii* (1), an unusual species that lives in ant colonies in logs.

As we were headed to the University of New Hampshire to work on beetles, we brought many of the smaller beetles with us. Many were Anthicids (28) and Pselphinae (Staphylinidae) (12). Dr. Don Chandler identified the Anthicids to two species, the Pselphinae to one, and many of the other smaller beetles to families or genera. The Pselphinae turned out to be a new state record, *Eupsenius glabra*, primarily known from the southern and eastern United States. We gladly gave Don Chandler a few specimens for the UNH collection (a small price for his expert identifications).

Although we haven't finished identifying all of the beetles to species, we have come up with a working list of what Sunshine Hood collected. I'm sure that she'll be glad to know that not only did she manage to collect a few uncommon carabids but that her name resides on the labels for a new state record for the Pselphinae, *Eupsenius glabra*, in three collections: ours, the state lab's in Augusta, and UNH!

-Dana J. Michaud

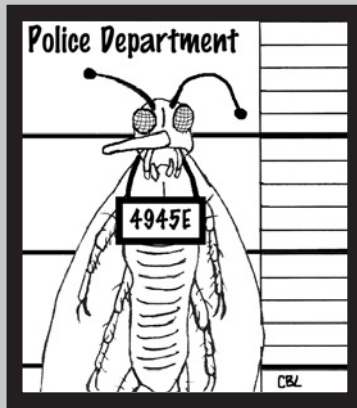
Monarchs in Grave Danger

A March 2006 article from the Association for Tropical Lepidoptera forwarded by Tony Roberts presents a stark account of the status of monarch butterflies in Mexico. Author J. B. Heppner predicts that “in only a few more years” the annual eastern migration “probably will” cease completely due to pesticide use and genetic engineering of crops in the Midwest (the primary breeding grounds) and rampant deforestation in the Mexican overwintering sites.

Although I tend to be skeptical of claims of imminent demise of just about anything, I fear that Heppner, who is extrapolating from remarks by monarch expert Lincoln Brower, is not overstating the situation at all. He describes “cosmetic enforcement of the [monarch] reserves . . . by the government of Mexico” during the tourist season, but “come spring, they all leave with the last of the tourists and the loggers move in.” Although Heppner criticizes the Mexican government severely for lack of political will, to me the virtual sterilization of the Midwest breeding grounds by U.S. agribusiness is equally destructive.

Heppner has no specifics for an effective remedy other than “large amounts of money by conservation groups” and writing letters to the editor. Monarchs don’t taste good and aren’t the source of any natural medicine. Lacking any obvious economic value to humans, they have little leverage, and those of us who love them will need to rely on our memories as fewer and fewer of them make the long trip.

-Gail Everett



The Bug Mug Shot: *Ixodes uriae* a.k.a. the seabird tick

Order: Ixodidae (hard ticks). Fourteen species of hard ticks (from five genera) occur in Maine. No records of Argasid (soft ticks) ticks have been found in Maine. While many ixodid ticks are of medical or veterinary importance, all are

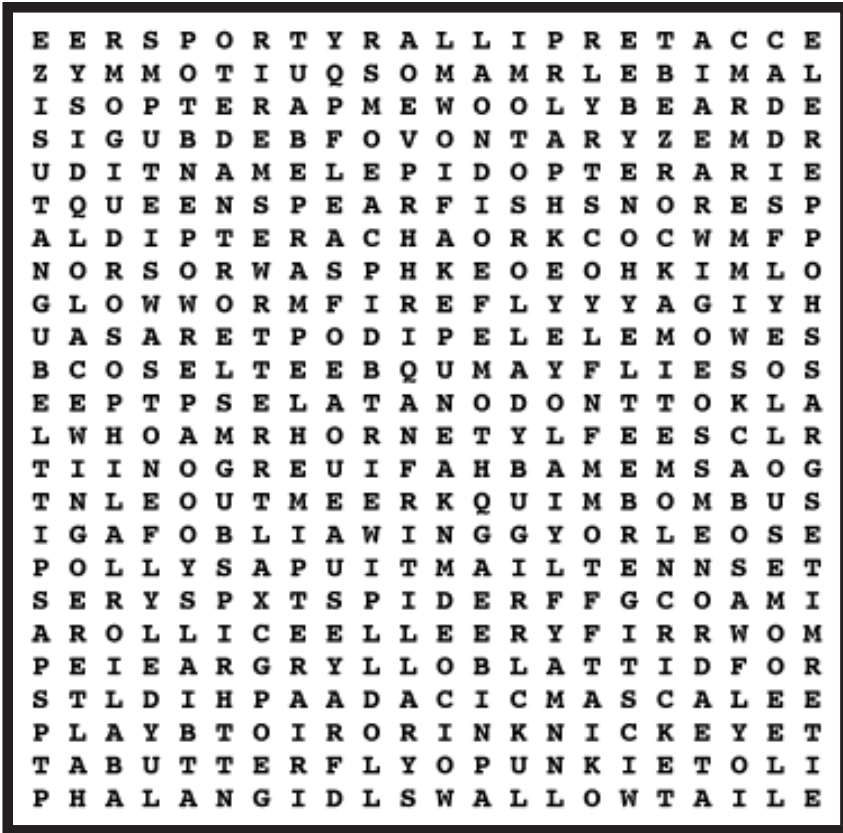
ectoparasites. Members of this order may either be catholic in their choice of hosts while others are severely restricted in their preferences. Likewise, some species are nidicolous (living solely inside the host’s burrow) while others actively quest for a host. Larvae have six legs, while nymphs and adults have eight. Species in the genera *Dermacentor*, *Amblyomma*, *Rhipicephalus*, and *Haemaphysalis* have eyes while *Ixodes* species use CO² and other chemical cues to find hosts.

Taxonomic Status: *Ixodes uriae* White 1852 is one of nine species in the genus occurring in Maine. Like other members of the genus *Ixodes*, the scutum is darker than the rest of the body. Unlike other members of the genus, *I. uriae* is characterized by a fine growth of cilia along the posterior margin. Its primary hosts are seabirds, including gulls, terns, auks, puffins, and kittiwakes.

Life History: Little is known about the seasonality and life history of North American *I. uriae* population but European researchers have documented seasonal peaks for all three life stages for the species as May–July. This coincides with the breeding season for the bird hosts and young birds can be particularly parasitized by the ticks. When seabirds take to the sea in fall and winter, *I. uriae* will hibernate in the rock and sand substrate under the seabird nests. Some investigators have found that this species of tick, like others in the genus, may complete its life cycle in two years, although this may be lengthened if diapause occurs during any of its life stages.

Notes: Like many of its hosts, *I. uriae* has a circumpolar distribution and is found in both southern and northern hemispheres. It was rarely reported from passerine birds and the occasional coastal mammal in Europe. A vector of Lyme borreliosis in Europe, *I. uriae* is believed to complete a silent cycle of the disease with a different spirochete than that found in North America, where its public health importance is yet to be determined. This tick was first reported in Maine in 1998, where it is found on offshore islands with colonial seabirds including Matinicus Rock, Petit Manan Island, and Machias Seal Island.

Entomology Word Search



FIND THE WORDS! In the diagram above, find each of the following entomological terms. Words can be forwards, backwards, vertically up or down, or diagonally in the matrix! Watch out for the word “fly”, which occurs in numerous combinations!

cicada	sawfly	fly	bedbug
mantid	halteres	Isoptera	caterpillar
blackfly	Lepidoptera (2)	cockroach	Diptera
fleas	ladybug	beetles	bug
Hemiptera	Phalangid	gnat	queen
spittlebug	fritillary	tiger beetle	earwig
mayfly	honeybee	Bombus	backswin
Odonata	drone	Drosophila	mosquito
scale	grasshopper	wing	stonefly
woolybear	glowworm	moth	firefly
hornet	wasp	mayflies	spider
caddis fly	mite	termites	lice
cricket	ant	aphid	bee
swallowtail	butterfly	louse	lacewing
thrips	punkie	grylloblattid	

Insect Personals

SLENDER AND ATTRACTIVE

Female walkingstick enjoys quiet walks amid the branches and lush foliage. Seeking a well-proportioned, non-smoking male. Call Twiggy.

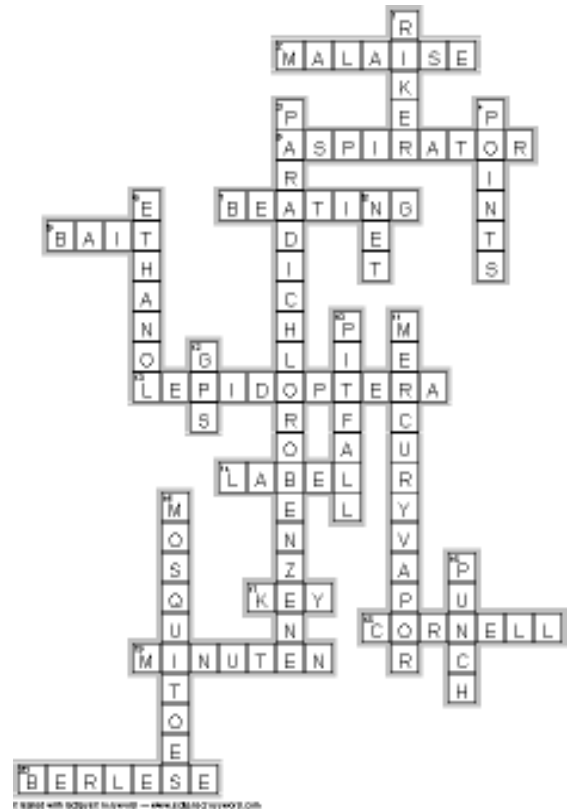
TRUST ME...

Recently widowed, gentle and affectionate praying mantis seeks adventuresome, caring male for long-term relationship. Are you ready to lose your head over me?

TODAY'S THE DAY

Freshly emerged mayfly male imago desperately seeks a female for an evening of romance. No long-term commitment necessary. Time's a-wasting!

February Crossword Answers



2006 MES Events and Field Trips

Below is a list of the 2006 events for the group. More details on the events will be listed in the newsletter or on the website as they become available.

May 20. Diptera Workshop. Delta Institute of Natural History. Bowdoinham, ME. Contact Tom Vining at (207) 266-5748.

June 17. MES Field Day, Frye Mountain Wildlife Management Area. Montville, ME. Contact: Gail Everett (207) 743-2840.

July 14-17. Diptera (Flies) Bioblitz @ Schoodic Point. Contact: Dick Dearborn (207) 293- 2288. More information on this event is in this issue of the newsletter.

August 5. MES Field Day, Warren Island State Park Insect Survey. Contact: Charlene Donahue (207) 549-7241. More information on this event is in this issue of the newsletter.

August 26. MES Field Day, Rock Ridge, Clinton, ME. Contact: Bob Nelson (207) 859-5904.

September 9. MES Field Day – Lepidoptera migration trip, Coastal York and Cumberland Counties. Contact: Richard Hildreth.

September 16. MES Annual Meeting, New Gloucester, ME. Contact: Chuck Peters (207) 926-4806.

September 27. Bug Maine-ia, Maine State Museum, Augusta, ME. Contact: Jon Bailey (207) 287-2301.



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