

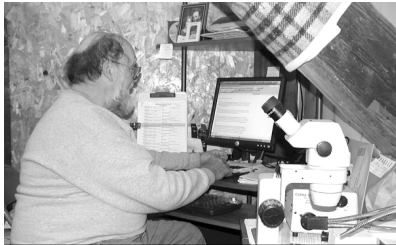
# The Maine Entomologist

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

The Official Newsletter of the Maine Entomological Society

Vol. 11, No. 4

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## President's Corner by Dick Dearborn

Summer might have been slow in coming, but it was even slower in wanting to leave. Those warm fall days were certainly welcome and saved on energy consumption but many insect species seemed to be confused as to whether or not to move along with their winter preparations or start another generation.

My first frost in Mt. Vernon was on October 17th, a good two to three weeks later than normal. We picked fresh beans on October 16th! Cluster flies and Asian lady beetles were still actively searching for winter quarters into late October. Then again, the woolly bears agree with The Old Farmers Almanac that we can expect a more old fashioned winter with lots of snow – PAYBACK – we'll see!

This has been another busy season for most of us and I thank those of you who pitched in to support MES amidst other activities. While events such as our Gouldsboro event in June, the Schoodic Blitz in July and Bug Maine-ia in September were very successful, weather and other conflicts resulted in lower than expected numbers at Rock Ridge in August and our annual meeting in September! In spite of some delays, our calendar for 2008 is about to come off the press, thanks to Bob Nelson, Chuck Peters and others. If the woolly bears are right, there should be some snowbound moments this winter to support our newsletter with those interesting things you observed this season. Our membership stands at 129 so there should be many stories of your association with our six-legged friends.

Looking ahead to 2008, our schedule has some exciting things to offer and some new places to check out. We start off with our annual winter workshop on January, 12th. There will also be some workshops planned for the Maine Butterfly Survey which will enter its second season. We move into the field in Mt. Vernon on June, 21st and Orland on July, 12th. The 6th annual Bioblitz at Schoodic moves to August 8 - 11, and will focus on Hemiptera and Homoptera. Bob and Nettie Nelson will host our Annual Meeting in Clinton on September 13th. Bug Maine-ia will undoubtedly take place again in September or October as well, although a date has not been selected.

So you can see that opportunities abound. Take a moment now to jot down some of these dates on your calendar or better yet order a copy of our unique and Maine-based MES calendar for 2008 with the dates already entered. They're only \$10 if picked up or \$12 mailed - a real bargain! And don't forget your

MES dues for 2008 or give a membership to a friend. Our dues are based on a calendar year. And we may have a new T-shirt available soon featuring the Great Golden Digger! My best wishes to you all. Have a wonderful Thanksgiving. We have a lot to be grateful for. And an enjoyable and reflective Holiday Season.

Dick Dearborn

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## ACADIA BIO-BLITZ 2008: BUGS!

by Dave Manski

Please mark your calendars for the 6th annual bioblitz at Acadia National Park's Schoodic Education and Research Center on August 8-11, 2008. This year we will be focusing our collecting efforts on the Homoptera and Hemiptera (leafhoppers, spittlebugs, and true bugs like stink bugs, etc.).

Interested naturalists and amateur and professional entomologists are welcome to participate. The Blitz will run from approximately noon Saturday to noon Sunday; however, there will be additional orientation and education sessions on Friday evening and Saturday morning. Details about the blitz will be forthcoming. For more information please contact: David Manski, Chief of Resources Management, Acadia National Park, 207/288-8720 or david\_manski@nps.gov

This blitz is sponsored by the: National Park Service, Maine Forest Service, Maine Entomological Society, University of Maine, and the George B. Dorr Museum of Natural History at the College of the Atlantic.

For updates, check the following web sites, where information will be posted as it becomes available:

<http://www.nps.gov/acad/serc.htm> (Acadia National Park)

<http://www.colby.edu/MES/> (Maine Entomological Society)

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## 2007 ANNUAL MEETING WAS A GOOD ONE!

by Chuck Peters

The Annual Meeting of the Maine Entomological Society was held on Saturday, September 15, at the home of Chuck and Ellen Peters in New Gloucester. Heavy rains doused any ideas of insect collecting (except for the indomitable young Brandon Woo, who managed to snag a few good records in the pouring rain!), but the time before lunch was well spent catching up with old friends and talking “bugs”. Cornell Barbecue Chicken and many other sumptuous side dishes were heartily consumed by all prior to the meeting itself.

Thirteen active MES members were in attendance at the meeting, which began with a review of the Treasurer’s report followed by election of officers and board members for 2008. Officers will be: Dick Dearborn, President; Chuck Peters, Vice President; Dana Michaud, Treasurer; Gail Everett and Charlene Donahue, Board Members at Large, and Bob Nelson, Newsletter editor and Web Guru.

Our newsletter, *The Maine Entomologist*, was a topic of discussion, and it was felt that Bob Nelson is doing a fine job as Editor. A concern that we all have is the need for more articles from a wider variety of our membership. So, please help us out in this regard and submit a piece for inclusion in the newsletter...it can be as simple as a “field note” reporting something interesting you observed, or a book review. Bob also brought a draft of the 2008 MES Calendar, which will be sold for \$12.00 if mailed, or \$10.00 if picked up. It was decided to continue with a calendar next year, and to award contributors of photos with a free calendar.

MES participation in both Bug Maine-ia and the Schoodic Spider Blitz was reviewed by Charlene Donahue. Both of these events have been widely supported by our organization and will most likely continue to be. The next Blitz will be held August 8-11 and involve the order Hemiptera.

A discussion of the Scholarship Committee revolved around the difficulty of providing adequate funds to support a true scholarship, and it was decided to scale back the approach and try to provide a “grant” type of opportunity to active MES members to attend workshops, the Blitz, or individual course work. The Grant Committee will consist of Domenica Vacca, Gail Everett, Charlene Donahue, and Chuck Peters, and will begin developing application standards and consider fund-raising ideas.

The date of January 12, 2008 has been set aside for a Winter Workshop to be held at the Maine Forest Service Insect Laboratory in Augusta, the topic of which will be announced soon. Other field-type events were also established for 2008, and are summarized on page 8.

It was decided to try to continue offering an MES t-shirt, and new designs provided by Monica Russo were considered. We are now in the process of getting pricing for the production of new shirts, so stay tuned.

It was also agreed to provide monetary support to Dan Jennings to aid in his publication of an article to appear in the Northeast Naturalist on spiders and pitcher plants.

Bob and Nettie Nelson graciously agreed to host the 2008 Annual Meeting at their new home at Rock Ridge in Clinton on September 13. We hope that this more centralized location will attract more members from the northern areas of our range, so

mark your calendar (or, better yet, buy an MES calendar with the date already listed)...see you there!

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## SIREX WASP A NEW STATE RECORD

One of my many duties with the Maine Forest Service (MFS) is monitoring the Lindgren funnel traps which I’ve placed at various locations throughout southern and central Maine. The purpose of these traps is to detect wood-boring beetles (Coleoptera: Scolytidae, Cerambycidae, Buprestidae) which may have come into Maine. A fringe benefit of this program is the large by-catch of non-target species that I routinely examine for insects relevant to other current MFS studies.

So it was that on September 24, 2007, while in Sanford making my second collection of the day, I happened to notice what appeared to be a woodwasp (Hymenoptera: Siricidae) mixed in with the catch. Not unusual really, as a few of these wasps are caught in early fall every year. What was unusual was what awaited me at my last stop of the day in South Portland. When I emptied the contents of my final trap I was astounded to see that the container appeared to be nearly full of Siricid wasps. This was not only unusual but in my experience quite unique. I became quite intrigued.

Later, back at the lab, as I was working my way through my recent collections I “rediscovered” that first woodwasp from Sanford. I should note here that another of our ongoing projects at the MFS is to closely monitor for the invasive and highly destructive exotic woodwasp *Sirex noctilio* (Fabricius). With this in mind I grabbed my trusty Siricid key and set to work identifying the specimen. Thankfully it was not *S. noctilio* but *S. edwardsii*. How interesting. Later that morning I came to the South Portland sample which contained an unprecedented thirteen woodwasps. Again, thankfully none were *S. noctilio*. However, there were three more specimens of *S. edwardsii*. I painstakingly searched our extensive collection and not finding a physical specimen, searched our electronic database as well, but alas, to no avail. I could not find one record of *S. edwardsii* from anywhere at anytime, in Maine. Now this was indeed getting very interesting.

Devoting time to further research over the next few days I found that *Sirex edwardsii* is indeed indigenous to Eastern North America. It has been found from Quebec to Georgia and Alabama, west to Saskatchewan, Wisconsin, Arkansas, Louisiana, and Mississippi but apparently never reported from Maine. I took several digital photographs of my specimen and sent them to Dr. E. Richard Hoebeke, the taxonomist at Cornell University in New York, asking for verification of my determination. Dr. Hoebeke wrote back and told me there would be no need to send any specimens as there was no doubt whatsoever that what I had were indeed *S. edwardsii*.

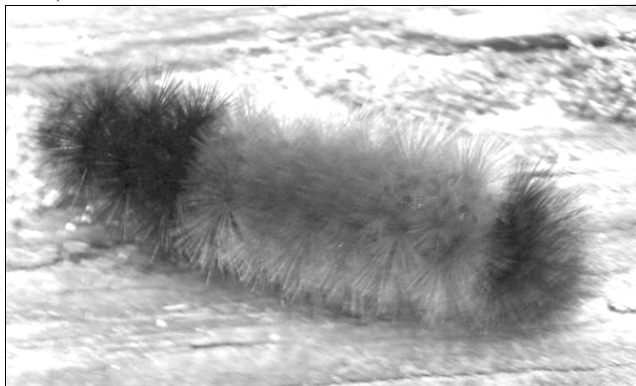
These four female wasps are the first documented representatives of the Siricid woodwasp *Sirex edwardsii* Brullé I could find after extensive research. So, unless or until proven to be incorrect, they are a new state record.

William S. Urquhart  
Maine Forest Service  
Insect and Disease Laboratory, Augusta, Maine  
24 October 2007

## AN AMPHIBIOUS WOOLLY BEAR

By Richard W. Hildreth

Everybody (well, all Maine Entomological Society members and hordes of Maine school children) knows about Woolly Bears. This is mostly due to the persistent and determined efforts of MES president, old "Woolly Bear" himself, Dick Dearborn.



We know that Woolly Bears (Black-ended Bear) are the caterpillars of the Isabella Tiger Moth, *Pyrrharctia isabella*, that they are the subject of a famous weather-forecasting legend, that they are easy to identify and that they are very endearing, wonderful little creatures. Even the most determined insect haters will probably like Woolly Bears (at least a little).

My only knowledge of Woolly Bear behavior comes from trying to rescue them. You commonly find them in late summer and autumn, in open places, crawling resolutely along. Often you find them in parking lots or busy highways headed for probable destruction. Many times I have tried to rescue them; I gently pick them up and head them in some safe direction. Alas, "herding" Woolly Bears is a difficult or usually impossible task. They are just too darned willful, and persist in going the direction they were going.

On 26 September, 2007, I visited the Petit Manan Point Division of Maine Coastal Islands NWR in Steuben, Maine. I hiked the Birch Point Trail to the west shore of the peninsula. Near the far end of this trail is a salt marsh which has several very interesting salt marsh pools. At the highest tides, the pools are flooded by sea water; during very dry periods, between the highest tides, evaporation leaves these pools super-saline, during very wet periods, between the highest tides, the pools are nearly fresh.

These pools harbor many interesting organisms; e.g. the Seaside Dragonlet breeds in these pools. I approached one of the pools which is elliptical (~15' x 30'). In the middle of the pool, on the water surface, I see a dark something which seems to be moving. I quickly "get on it" with my 8.5X binoculars. It is a Woolly Bear caterpillar. Is the movement I see its last thrashings before it drowns? I wondered how it got into the pool. It is too far out to reach with my net, so I gave up the idea of trying. So I watched.

The movement I saw was the caterpillar making a regular sinuous movement. This movement seemed to be propelling the caterpillar over the water in a definite direction. The caterpillar moved slowly toward the W-SW in a remarkably straight line. It soon reached the far shore, and climbed out of the water. I could see through the binoculars that the caterpillar was thoroughly wet. It crawled right into the dense marsh grass.

*The Maine Entomologist*

About 10 minutes later, I located it again on the other side of the pool, about 20' from the pool, still headed W-SW. It had crawled through very dense marsh grass all the way. I found it in an area of low grass and mud. It headed on W-SW and vanished into more dense marsh grass. When I got back to the parking lot, I found another Woolly Bear, headed W-SW across the pavement. I watched it until it disappeared into thick cover on the far side.

David Wagner, in his wonderful caterpillar guide\*, had the following to say about Woolly Bear wandering: "Why they wander is puzzling because the Woolly Bear can eat virtually anything and place themselves at risk when moving around." Good question! Possibly an interesting project for MES members would be to look at the wandering behavior of Woolly Bears.

When you find a wandering one, note the direction it is going. If possible, follow it (all day if time allows). Does it continue in a straight line? How long? How far? How does it cope with various obstacles? Be sure to make detailed field notes. and report your observations!

### Reference

\**Caterpillars of Eastern North America*, by David L. Wagner, Princeton University Press, 2005, ISBN 0-691-12144-3 .

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## ANNUAL WOOLLY BEAR WINTER WEATHER FORECAST

by Dick Dearborn

The woolly bears and the Old Farmers Almanac agree: bundle up and expect more snow this winter. Unlike the Almanac, however, the woolly bears indicate a slight rollback in temperatures as well. Of course, this survey was done in Kennebec County and may reflect my interpretation. We'll just have to wait and see.

The familiar, friendly, fuzzy, and black-ended caterpillars, larvae of the Isabella Tiger Moth (*Pyrrharctia isabella*), were again the focus of my attention during September for my 11th winter weather forecast. Although the process is based on folklore, it provides enthusiasts with another opportunity to interface with each other and with disbelievers as well. And there are some skeptics - just ask our treasurer, Dana Michaud. But it's fun and the children attending Bug Maine-ia certainly enjoy having the fuzzy creatures crawl over them.

As for our "statistics," we tallied up the average number of red-haired segments from our sample population and came up with an average of 4.13. The number for a normal winter forecast would be 4.33, or roughly one-third of the total of 13 segments. This doesn't sound like much but it is "statistically significant" to devotees like me! The remaining two-thirds of the segments should be black-haired. The last time we had a red segment count equal or lower than this was in 2001!



## LEAVING THE GROUND FOR THE TREES: ARBOREAL CARABIDAE IN MAINE

By Richard Dearborn

In the last issue I shared briefly the results of an early project of mine on salt marsh insects. Now I would like to share another early interest as I began employment with the Maine Forest Service: ground beetles as tree climbers.

Entomologists with the Maine Forest Service (MFS) began surveying for forest insects very early in the 1900s. In order to acquire records throughout the State, by the early 1940s forestry field personnel at all levels were expected to collect insects from their districts through a series of eleven seasonal tree beating collections each year. Insects from these tree beatings were identified and the records as well as some of the specimens were kept at the entomology lab in Augusta.

In 1966 I began summarizing the results from the MFS insect survey field slips and became fascinated with records of carabids, also known as ground beetles (Coleoptera: Carabidae), a favorite group of insects for me. I had previously collected most of my carabids on the ground but through the MFS collection records I began to see carabids in a different light; as tree climbers.

Although many carabids can occur in trees and shrubs occasionally by climbing or more often by flying and landing, others such as species of *Dromius*, *Lebia* and *Platynus* are known climbers. And, of course, the classic example of a large tree climber is *Calosoma frigidum* Kby.

In the following list of arboreal carabids from MFS records I have included some of these plus a few others which can be considered frequent tree climbers. This list does not include other species of ground beetles such as *Mioptachys flavicauda* Say and several species of *Tachyta*, which can also occur under tree bark flakes on the bole but which were not collected in tree beating samples. Those species that I consider truly arboreal in nature, feeding and living above ground in the tree canopy or on the tree bole, make up less than 4% of the 404 species of carabids recorded from Maine!

- \* *Calathus ingratus* Dej.
- \*\* *Calosoma frigidum* Kby.
- Cymindis limbatus* Dej.
- \* *Dromius piceus* Dej.
- \* *Lebia viridis* Say
- Lebia fuscata* Dej.
- \* *Platynus decentis* Dej.
- Platynus mannerheimi* Dec
- Platynus tenuicollis* LeC
- Sericoda obsoleta* Say
- Sericoda quadripunctata* DeG.
- Syntomus americanus* Dej.
- Synuchus impunctatus* Say

\* species of greatest abundance in tree beating collections

\*\* collected by shaking or banding hardwood trees - common

### References:

- Larochelle, A. and M. C. Lariviere 2003. A natural history of the ground beetles (Coleoptera: Carabidae) of America north of Mexico. Sofia, Moscow. Pensoft 583pp.
- Maine Forest Service. 1941-1975 (approx.). Forest Insect and Disease Survey. Insect Collection Records. Augusta, Maine.

### Insect Note:

## ORANGE-SPOTTED ANTS? NOT REALLY!

Velvet ants, Family Mutillidae, are not ants at all but wasps. While males are most often black, fuzzy and winged, the females are ant-like, fuzzy, wingless and often have red or orange spots. It is the female that is most often seen running rapidly over the ground in search of prey.

*Dasymutilla vesta* is probably the most common and largest (roughly 12 mm long) velvet ant in Maine. While it should occur throughout southern Maine, this past season was the first time that I have seen it from northern Kennebec County. Several were spotted at my place in Mt. Vernon and others brought to me from nearby Readfield in August. It was the striking orange spots and rapid movement that brought them to the observers' attention. This species preys on ground-nesting bees and wasps. While several females may occur in any given area, they nest separately. And they can and do sting!

- Dick Dearborn

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## BUG MAINE-IA WOVES THEM ALL!

by Dick Dearborn

On September 19th, over 2100 schoolchildren and adults descended on The Maine State Museum in Augusta to participate in the 5th annual insect extravaganza! Over twenty exhibitors showed how widespread insects are involved in our lives from pollination of crops to controlling pests, from food for birds and fish to pests of crops, and how insects in art add beauty to our lives and in folklore make life interesting.

The value of insects as indicators of environmental quality was also demonstrated, as was the enjoyment of insects in biological studies or simply as pets or creatures of fascination. The atmosphere at Bug Maine-ia was filled with excitement as many children saw insects as something more than ugly creatures to be squashed but as fascinating little creatures to be watched! Oh, and there were films as well.



Exhibitors came from many state agencies and from the University of Maine. In addition, 18 MES members took time from busy schedules or work to provide exhibits of special interest to them or simply to support the event and answer questions about insects. For the first time in five years my wife and I attended as observers but we made sure that our woolly bears were there and that Dana Michaud was an able ringmaster for them. Hopefully Bug Maine-ia will continue as an annual event, but it does require a large commitment of Museum staff and exhibitors so those who attend or participate need to voice their support. The strong support for events such as this just proves again that insects can be a source of great enjoyment and enlightenment for children of all ages.

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## BOOK REVIEW by Chuck Peters

**The Songs of Insects**, Lang Elliott and Wil Hershberger. Houghton Mifflin Company, Boston and New York, 2007. 228 pages with audio CD.

My acquaintance with this book began as one of those "NPR Parking Lot Moments" as I was listening to an interview on National Public Radio with the authors describing their work on this book, and I just had to sit listen to it in its entirety before I got out of my car! You can hear the interview at: <http://www.npr.org/templates/story/story.php?storyId=10661663>.

Some 77 species of Crickets, Katydid, Grasshoppers, and Cicadas occurring in the Eastern and Central U.S. and Canada are profiled in this book. Each species is presented on two pages, which include a description of the insect and its song, a photograph taken on a white background for easy identification of features, one or more photographs taken in the field, a sonogram, a range map, and a recorded sample of its song on the enclosed CD. The photographs themselves are well worth the \$19.95 price of the book: They are truly stunning and represent the state of the art in current digital photography.

The authors also give a very good overview of the biology of insect sounds, classification of singing insects, and include a section on the appreciation and aesthetics of these insect musicians. Technical details on how they went about photographing and recording the insects is included, as well as a bibliography.

The enclosed 70-minute CD includes all of the featured species and is keyed by track to the sequence of the species in the book. Each recording begins with the common name, followed by the scientific name, and a sample of the song. In many cases, two or three different songs are given for each insect. The recordings are exceptional in their sound quality and each is of sufficient duration to get a good feel for the song. The end of the CD also includes three insect "concertos" with extended recordings of a chorus of insects in three different habitats.

This book is a delightful introduction to the singing insects, and the author's infectious enthusiasm for the group has been a real inspiration for me to get out there and learn more about the identification of Orthoptera. If you have an interest in crickets, grasshoppers, katydids, and cicadas, you won't be disappointed.

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### INSECT TRIVIA:

The goliath beetles in Africa are the heaviest insect in the world (up to 1/4 pound and 5 inches long). There are five species of the genus *Goliathus*; they belong to the same family (scarab beetles, Scarabaeidae) as the eastern hercules beetle, which is about 2 inches long, including the horn.



*This goliath beetle in Bob Nelson's collection is ~ 3 inches long.*

The South American giant cerambycid, *Titanus giganteus*, is a beetle measuring up to 17 cm. (about 6.5 inches) long. The largest specimens can command \$200-\$500 on the market.

## TECH TIP: USING INSECT RECORDINGS IN THE FIELD

by Chuck Peters

If you're at all like me, the bright side of every new repair project around the house is that it provides another good reason to justify the purchase of a new power tool! This article may just inspire you to go out and buy a new "power tool" for insects: an iPod (or any other portable mp3 player). To complete this Tip you'll also need a copy of *The Songs of Insects* by Lang Elliott and Wil Hershberger (see the review at left).

When I first got this book and its accompanying CD of insect songs I struggled with the difficulty of hearing an insect somewhere out in the field, and then once I got home, having to search through all 77 of the recordings to find what might have been the insect I heard. My solution to this dilemma involved two steps. First, I used all of the range maps in the book to determine which species on the CD have a range that includes Maine. I then inserted the CD into my computer, and "ripped", or in non-computer geek lingo, copied those songs into a separate file on my computer. I then connected my mp3 player to the computer, and copied them onto the player. Now, I can easily take the mp3 player with its tiny ear buds out into the field, where I can quickly narrow down the playing field of recorded suspects, and compare them to the actual bugs in real time. In fact this technique could be used for copying bird or amphibian calls for field identification, as well.

On second thought another thing you might need is a teenager to help you with the computer and mp3 player...a perfect way to involve a young person in entomology!

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## A VIGOROUSLY VIBRATING CHRYSALIS

by Richard Hildreth

On 9 August, 2007, I visited the Petit Manan Point Division of Maine Coastal Islands National Wildlife Reserve, in Steuben, Maine. I hiked along the Hollingsworth Trail to the east shore, and then followed the beach south to the point and returned by the same route.



On the return trek, late in the afternoon, along the beach just south of Chair Pond, I noticed that one of the tall beach-side grass plants was vigorously vibrating. The wind was **not** blowing. At first I guessed that possibly a spider web had caught some flying insect that was struggling to escape.

I quickly "got on" to the vigorously moving grass plant with  
(cont. on next page)

### Vibrating Chrysalis (from previous page)

my close-focus binoculars. A chrysalis was suspended from the upper part of the grass plant and was very **vigorously shaking**, shaking the entire plant! I was quite sure that the chrysalis was that of the Painted Lady, *Vanessa cardui*. Instantly, this scene brought to mind a remarkable old tale that I had read regarding vibrating Painted Lady chrysalids. I collected the chrysalis and brought it back to the cabin for rearing.

When I got back to the cabin, I checked *The Butterflies of West Virginia and Their Caterpillars* by Thomas J. Allen (1997) to be sure that the chrysalis was really that of the Painted Lady; it was. It took a little thinking to remember where I had read the remarkable vibrating chrysalids tale. I finally managed to remember that the account was in *Migration of Butterflies* by C. B. Williams (1930).

Luckily, I had a copy of this interesting, out-of-print book at the cabin. This is a great classic book on butterfly migration; Williams collected all the world-wide literature that he could find regarding migratory butterflies, from that of early medieval times through ~1929. In 1930, it was known that the Monarch in North America was a migrant, but few details were available.

The migratory butterfly that was the focus of most interest at the time was the Painted Lady. Each year, they flew north into Europe from North Africa. Exactly where they came from was one of the key questions. Williams discussed this as follows: "Although individuals of *V. cardui* may spend the winter in S.W. Europe, and even perhaps in England, it is further away that we must look for the source of the main migrations. In the W., swarms enter Algeria from the S. and, one is tempted to think, must originate south of the Sahara. Further E., swarms enter Egypt from the S. in the spring, and once more must originate south of the desert belt.

"Here, by good fortune, we have actual evidence of the origin of a flight in the Sudan, which is of sufficient interest to quote in full. Skertchly (1879) writes as follows, 'Some at least of the swarms of *V. cardui* originate in Africa, one which I witnessed a day's march west of Sowakin, in Nubia [i.e., Sudan], in March 1869. Our caravan had started for the coast, leaving the mountains shrouded in heavy clouds, soon after daybreak. At the foot of the high country is a stretch of wiry grass, beyond which lies the rainless desert as far as the sea. From my camel I noticed that the whole mass of the grass seemed violently agitated, although there was no wind. On dismounting I found that the motion was caused by the contortions of pupae of *V. cardui*, which were so numerous that almost every blade of grass seemed to bear one.

"The effect of these wiggings was most peculiar - as if each grass stem was shaken separately, as indeed was the case instead of bending before the breeze. I called the attention of the late J. K. Lord to the phenomenon, and we awaited the result. Presently the pupae began to burst and the red fluid that escaped sprinkled the ground like a rain of blood. Myriads of butterflies, limp and helpless, sprinkled the ground. Presently the sun shown forth and the insects began to dry their wings, and about half an hour after birth of the first the whole swarm rose as a dense cloud and flew away eastwards towards the sea. I do not know how long the swarm was, but it was certainly more than a mile, and its breadth exceeded a quarter mile."

The chrysalis I brought back to the cabin hatched early on 12 August, 2007, producing a beautiful Painted Lady. When the

chrysalis hatched it released the red blood-like fluid. This fluid fell on a paper label I had placed in the rearing container. Consulting the *Ridgway Color Standards and Color Nomenclature*, my poor old eyes make the lighter stains to be between Carrot Red and Vinaceous-Tawny, and the darker stains Nopal Red. Whatever the color really is, the fluid does look like blood.

Many species of nymphalids release this red fluid when they hatch. Large numbers of nymphalids hatching and releasing this fluid are surely the source of many of the "showers of blood" legends. Some of this lore was described in a little piece by Frank Cowan in *The Butterfly Book* by W. J. Holland (1916).

So, right here in Maine, without the need of camels, waterless deserts, etc., I was able to experience (in a very tiny way) Skertchly's epic entomological adventure with *V. cardui*. Here in Maine, the Painted Lady is a regular migrant, some years being quite abundant (e.g., 2005) and other years being hardly present at all (e.g., 2007).

The Painted Lady arrives here in Eastern Maine in late April - early May. Along the beaches at Petit Manan Point, eggs are laid on thistles. The favored species is Canada Thistle, *Cirsium arvense*, but Bull Thistle, *Cirsium vulgare*, is also used. There is one, possibly two, generations per year here.

In late August and all through September, the southward movement occurs. The winter stronghold of the Painted Ladies we see in Maine is probably the Mexican Plateau. Rick Cech, in *Butterflies of the East Coast* (2005), very nicely sums up the nature of this remarkable species as follows:

"It is a tribute to nature's untiring inventiveness that the Painted Lady - a species entirely lacking in freeze tolerance - should be the world's most widespread butterfly. Painted Ladies breed on all continents except Antarctica, and on many islands in between. The keys to their success are migratory ability and an extremely broad palate. This combination allows them to reach far-flung destinations each summer and survive on the host plants found there."

### References

- Allen, Thomas J., 1997: *The Butterflies of West Virginia and Their Caterpillars*. University of Pittsburgh Press; paperback, ISBN 0-8229-5657-8. [This very useful book contains 7 plates, excellent color photographs, depicting many species of butterfly pupae. Many, but not all, of the chrysalids of Maine butterfly species are shown.]
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\* \* \* \* \*

## WORD SEARCH

RUMEFBRTRICHOBOTHRIAQSBP  
 ETOCELLIGRITARSUSMILUEAR  
 DWTRICHOPTERAAPWORKEREO  
 IASMTPIMBEHSTFIREFLIESTB  
 PNAAMHYMENOPTERAMBLENBEE  
 SNPNOEOEEBRBBBARANEARCAR  
 FEATHRIPSXNERSCHALCIDADM  
 LTLIEOCSTREEALLETAPTIBIA  
 ONPSSMLARETPONEMYHLINKDY  
 WASPOOYWACRABSPIDERSSSIF  
 EARINNPFCSSBOPOMUNYGIPEHL  
 EGFDBEELHSETIMDFLIESHIPY  
 VEATESUYEBEWMROSOPHILAB  
 INSECTSPANTENNOMEREWNFBE  
 LAASWIFLEASBEENBARCOXAEA  
 SEMELBIDNAMOOPEIDIPALPDER

**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. Some letters are in more than one word. "Bee" appears at least 10 times ... I lost count!

- |               |                 |                 |
|---------------|-----------------|-----------------|
| orthopteroid  | hymenoptera (2) | tracheae        |
| spiracle      | antennomere     | tarsus          |
| fireflies     | ocelli          | araneae         |
| mantispid     | drosophila      | aphididae       |
| fleas         | chalcid         | sphinx          |
| thrips        | pheromones      | wasp            |
| wolf spider   | hornet          | weevils         |
| drone         | queen           | crab spider     |
| trichoptera   | insect          | mites           |
| palps         | pedipalp        | femur           |
| patella       | tibia           | setae           |
| trichobothria | mayfly          | worker          |
| genae         | epigynum        | sawfly          |
| antenna       | web             | mandible        |
| flies (2)     | coxae           | bee (10 times!) |
| clypeus       |                 |                 |

\* \* \* \* \*

*Tony Roberts, micro-lepidopterist extraordinaire from Steuben, was taken by the seeming dearth of both blackflies and mosquitoes this summer in his area. What follows is a slightly edited version of a letter he sent to a colleague at Acadia documenting his observations and thoughts on the subject. It's offered up here in hopes of stimulating additional consideration and discussion - is this an early symptom of a significant impact of global temperature rise? Did anyone else notice this or something similar either DownEast or elsewhere in the state?*

## ECO-COLLAPSE NOW? AN OPEN LETTER TO A NATURALIST AT ACADIA NATIONAL PARK

Steuben, Washington County, Maine  
 November 2007

Dear L.G.:

As you may remember, 2005 was here a year without a coniferous cone crop of any kind. I believe you were able to confirm that this was essentially the situation on the Island as well. While cones were back in 2006, 2007 appears to be another fruitless year, and two years of this sort out of three is likely to signify that something systemic is afoot. (As Wilde says, losing one parent is a misfortune, but losing two begins to look like real carelessness.)

To this I now wish to add my observation that 2007 marked a virtual COLLAPSE of the insect population in Steuben. It was hard to get a black fly or a mosquito bite here. Moths, my own specialty, were all but nonexistent, and other orders seemed similarly thin. Insectivorous creatures responded in kind. Phoebes and swallows showed up in the spring as usual but promptly moved on. I never saw a bat on the wing. Migrating night hawks, which usually crowd the skies making high circles for days in the fall appeared in scant numbers and were on their way in hours. Odonates were almost absent. Parasites one must suppose have been knocked back drastically, preparing a way for pest outbreaks to come. A vacuum has been created and what will arise to replace it is anybody's guess.

Needless to say, I have seen nothing mentioned about any of this locally and therefore take the liberty of inquiring about the situation in your neck of the woods. You will, I suppose, have access to naturalists of various kinds and may be in a position of confirm or falsify my findings.

I will not conceal from you my own suspicion that we may be coming to the end of the long postglacial period during which our strip of coastal land has constituted an outlying relict of the boreal ecosystem of the Canadian zone. A few degree days of extra warming, and the seemingly benign extension of our short summer season by some weeks at either end, may have crossed a line beyond which our fragile "northern" species mix can no longer subsist at these latitudes.

The fact is that numbers both of species and individuals of moths have been declining here for two decades. And for two decades, I have been temporizing with a series of improvised excuses to account for the shortfalls. One year has been too dry, one too wet, one spring delayed, one fall marked by untimely killing frosts. I no longer think these explanations will do. I wish

*(cont. on next page)*



Check out what's happening with the Maine Butterfly Survey!  
 For the latest information, go to:

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

*Downeast Eco-Collapse? (cont. from previous page)*

now instead to hypothesize that we are coming to the end of an era, and that that end will be rather abrupt than otherwise.

Still unpublished work by Miller in Minnesota demonstrates clearly that slightly lower than normal temperatures lead to increased body mass, fecundity and general fitness in moths and form a precondition for population outbreaks. It may be that we are seeing a widescale demonstration here that the inverse is also true. This may be one way in which incremental global warming will be found to work, at least in certain liminal cases.

Thank you for letting me extend this feeler to you. It is the first tentative I have made to reflect my thoughts on the season past, and I hope you will find a moment to share your thoughts and findings from across the water.

Regards,  
Tony Roberts

\* \* \* \* \*

**COMING M.E.S. EVENTS in 2008:**

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

- |                    |  |
|--------------------|--|
| 12 January, 2008   | Winter Workshop, Maine Forest Service Lab, Augusta                 |
| 21 June, 2008      | Field Day at Dick Dearborn's, Mt. Vernon                           |
| 12 July, 2008      | Field Day, Orland  |
| 8-11 August, 2008  | BioBlitz, Schoodic Point, Acadia N.P.                              |
| September, 2008    | Bug Maine-ia at Maine State Museum (exact date not yet determined) |
| 13 September, 2008 | Annual Meeting, Clinton  |

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