

The Maine Entomologist

The Newsletter of the Maine Entomological Society



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

Volume 4, Number 4, November 2000

From the President

This year has been a good start (or finish) to the millennium! We successfully adopted a set of bylaws and a constitution, held five field trips (and our first joint one with the Vermont Entomological Society) and held our first official annual meeting with an election of officers. We are ending our 4th year with over 90 members and more than \$300 in our treasury! I'd like to thank all of the contributors who have submitted articles and notes for our newsletter, and I'm especially pleased with the four biographies of Maine entomologists that have been featured in the newsletter this year.

We now eagerly look forward to another successful season in 2001. A schedule of field events is already taking shape with plans to visit new and exciting areas of the state. A tentative schedule is on our attractive website (thanks again to Bob Nelson). If you don't have access to the Internet, I will gladly send you a copy of the field trip schedule. A more complete listing will be included in our February 2001, newsletter. There will be a couple of new faces at the helm of the MES in 2001. Two of our loyal officers have asked for a breather starting in January. Nancy Sferra is stepping aside as our newsletter editor, and Don Ouellette is stepping down as treasurer. We were fortunate to have Chuck Lubelczyk and Laura Stone step forward and volunteer to take over as co-editors of the newsletter, and Edie King willingly accepted the treasurer's job. I look forward to working with the new officers as we move forward with new ideas and plans.

I would like to take just a moment to say a warm thanks to both Nancy and Don for their years of service in helping mold our little ragtag group into the respected organization that it is now. Don was one of the founding three members, including Monica Russo and myself, who went from kitchen discussions in 1996 to a formal group in 1997. Nancy came on board in 1998 and brought order and electronic wizardry to our newsletter. Nancy was a very efficient editor and brought a new level of excellence and lightness to The Maine Entomologist. She often had me wondering what she did to my articles! My thanks to you both.

In closing I hope that you enjoy this expanded and final newsletter for 2000. We are fortunate to have Cassie Gibbs close our 2000 biography series with a tribute to one of Maine's foremost but often overlooked pioneering entomologists, Dr. Edith M. Patch.

Have a Great Holiday Season, and see you in 2001!

-Dick Dearborn

E-mail Kudos

The following e-mail was received by Bob Nelson and is presented in its entirety. Others in the entomological community are taking note of us.

"To ESC members: news item of interest (mainly if you are in the east). Bob Nelson just informed me of a new website for the recently formed Maine Entomological Society, at

<http://www.colby.edu/MES/>

After decades of erosion, shrinkage, reorganization and downright destruction of entomological departments and organizations, it is great to see places where the trend is being reversed!

Congratulations and best wishes to MES from ESC.

Dan [Johnson]
(President, Entomological Society of Canada)"

Inside This Issue:



Dr. Edith M. Patch by Cassie Gibbs



Shakespeare's Fondness for Insects



Walkingsticks on the Rampage



Variegated Fritillaries

EDITH M. PATCH

(1876-1954)

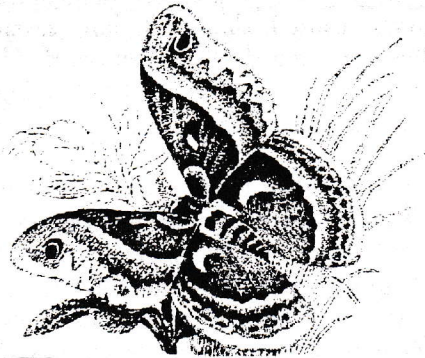
Entomologist, Environmentalist, and Children's Author

by K. Elizabeth Gibbs

Some of you may recall that in the spring of 1997 the University of Maine announced that a small wooden home on College Avenue known as the "Patch House" would be destroyed in a controlled burn as part of a firefighter's exercise. Most readers of the Bangor Daily News were probably unaware of any particular significance of this announcement. Others recognized the "Patch House" as the former home of Dr. Edith Marion Patch, entomologist, environmentalist and natural history writer for young people. The reactions of the public, both on and off campus, caused the University to reverse its decision to destroy the house. In 1997, Maine Preservation listed the "Patch House" as one of the ten Most Endangered Historic Properties in Maine. Since 1997, two University committees have met to discuss the future of the house, and early last summer a small group was given permission by President Hoff to explore possible uses for the property, and to raise funds to restore the house as a memorial to Dr. Patch.

Who was Edith Marion Patch? Her story takes us through her struggles to secure an education, find a professional position, win the respect and confidence of her colleagues, and become the first really distinguished full-time professional woman entomologist to have risen to the top of her profession. Her skills as a writer and public speaker and her knowledge of all phases of natural history allowed her to reach a diverse audience. Scientists, governmental decision makers, university students, children at school and at home, farmers, gardeners, foresters, and amateur naturalists in the US and abroad all came under her influence.

Born in 1876 in Worcester, Massachusetts, Patch was the youngest child in a farming family. In 1881, her parents moved with their



four surviving children to the Minneapolis area where her father established a market garden. There she roamed the woods and fields, becoming familiar with the plants and animals, and developing a special interest in insects. While at school, an event occurred that would guide Patch throughout her life. In later life she recalled, "When I was a child attending country school in Minnesota, a kindergarten teacher in Minneapolis gave me a paper containing a story of an ignoble little cabbage 'worm' that grew up to be a gorgeously colored butterfly that fluttered through sunny hours sipping 'honey' from flowers. The story was illustrated with a picture of the Cecropia moth - the largest of our native moths. As it chanced, I knew that the cabbage 'worm' transforms to a small whitish butterfly, that it has nothing in common with the Cecropia moth, that the Cecropia moth is a night insect, and that it does not visit flowers, being tongueless in the adult stage. This was my first acquaintance with nature-faking literature. I was angry that a grown person should lie to children most of whom would not know about insects themselves and thus be misinformed. It seemed so very outrageous to me that I can still recall the quiver of rage with which I declared 'When I grow up, I will write stories about outdoor things for children and they shall be true stories!'"

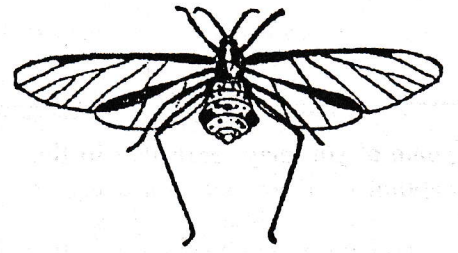
In the spring of 1886, in her senior year in high school, the monarch butterfly became her subject for an essay contest. With part of her prize of \$25 she was able to purchase "A Manual for the Study of Insects" by John Henry Comstock, Professor of Entomology at Cornell University, and Anna Botsford Comstock, illustrator and author of natural history books for children. Patch dreamed that she would someday know the Comstocks and study at Cornell.

Patch graduated from the University of Minnesota in 1901 with honors in English and a strong background in biology. There she began her career as a published author, with several short stories and poems appearing in the Minnesota Magazine. One of her English teachers wrote of her, "Miss Patch is a student of extraordinary ability in English literature, perhaps the finest work of the year has been done by her. Not only is she full of appreciation and intelligent insight, but she also possesses a distinct gift as a writer of verse and prose. I can hardly say too much of my admiration of her work and character." Her life-long fascination with insects was given focus by Professor Oscar William Oestlund and she determined upon a career as a professional entomologist. From 1901 to 1903, she taught English in high school in Minnesota while flooding the country with applications for a job in entomology. The only response that was not an unqualified "no chance for a woman entomologist", was the peculiar offer that finally came from Maine. That was the position of "voluntary assistant without compensation" from September 1903 to July 1904 at which date a department of entomology was to be opened at the Maine Agricultural Experiment Station, with Patch as entomologist if she made good. To the horror of her Minnesota friends, she accepted.

The Maine Experiment Station provided an environment that allowed Patch to work and develop her potential to the mutual benefit of herself and entomology in Maine. The exceptional personality of Dr. Charles D. Woods, then director of the Station, probably made that possible. Patch later recalled that he had told her, "It made no difference whatever to him whether the Station entomologist wore trousers or skirts (that was of course in the days before women commonly wore trousers) - Just so the person did the work. He backed me through the start. When the aggrieved Maine agricultural papers started the hue and cry, 'What we need is a treeclimbing entomologist', Dr. Woods grinned when I remarked that it was not my ambition to be 'up a tree' or even 'stumped'. When one of the leading Bureau of Entomology men remarked to Doctor Woods during a stay in Washington, 'I hear you have appointed a woman as entomologist. Why on earth did you do that? A woman can't catch grasshoppers,' he received the drawled reply, 'It would take a lively grasshopper to escape Miss Patch.'"

Although the position of Entomologist at the Experiment Station was not supposed to begin until 1904, there is every indication that Patch immediately set to work in 1903 to organize an entomology department, and to become familiar with the insect fauna and entomological problems of Maine. There seems to have been no question but that she would remain at Orono as Entomologist in the Experiment Station. A review of publications of the early 1900s reveal three overlapping areas of effort: she provided answers to the entomological problems of the citizens of Maine, initiated the aphid research which was to be her most important entomological work, and pursued graduate degrees at Maine and Cornell. Her initial efforts were directed to the insect problems of Maine's farmers and foresters. She identified specimens sent to her, responded to inquiries and prepared informational bulletins. The brown-tail moth (*Euproctis chrysorrhoea*) was one of the most serious pests in Maine at the

beginning of the century, the larvae defoliating orchard trees and also attacking oak, elm and many other shade and forest trees. In addition to damaging trees, the barbed hairs of the larvae caused skin irritation, severe illness or even death (when accidentally swallowed by young children). The recommended control measures were destruction of neglected orchards and fruit trees that might serve as breeding places for this pest, and destruction of the nests in which overwintering caterpillars were found. The apple maggot (*Rhagoletis pomonella*) was a well established pest of orchards (seventy-one varieties of apples were reported grown in Maine in 1904). Here Patch recommended the meticulous destruction of maggots contained in windfalls and picked fruit in order to prevent infestation of the succeeding years' crop. This could be accomplished by maintaining sheep or hogs under the trees to eat the windfalls or, in small orchards, hand gathering them and destroying the apple refuse from cooking or storage. Other insect pests of that time included the strawberry crown girdler (*Otiorynchus ovatus*), the cottony grass scale (*Eriopeltis festucae*) causing damage to the hay crop, and insects attacking the expanding acreage of potatoes. Chemicals such as arsenate of lead and Paris Green, and emulsions of kerosene and soap were used for control of insects pests and Patch recommended them occasionally. However, the methods that she favored were elimination of a vulnerable stage in the life cycle by cultivation, hand picking, destruction of refuse containing overwintering forms by burning or feeding to livestock, and encouragement of parasites or predators. She had confidence that parasites, pathogens, and predators such as ground beetles or birds would eventually bring a relief from high densities of pests. Her philosophy of insect control is reflected in the title of an article written for Garden Magazine in 1920: "Fall Plowing, Fewer Cats and More Birds"! She kept informed on the pest situation in neighboring states of New Hampshire and Massachusetts, as well as in New York and Canada. She established the Depart-



ment of Entomology at the University of Maine, became its head, organized the insect collection and directed graduate students. During her time at the University, specialists from other parts of the country such as Herbert Osborn (leaf hoppers), Alexander MacGillvary (sawflies), Charles P. Alexander (crane flies) and Edna Mosher (pupae of Lepidoptera) were invited to spend summers at the University where they conducted research, lectured, and contributed to the insect collection. Their publications added to our knowledge of Maine insects.

Soon after coming to Maine, Patch began work on aphids, the group of insects that was to be her specialty. There were probably two reasons for choosing this group: aphids were the specialty of Professor Oestlund in Minnesota and they were serious pests of economic crops in Maine. Their complex life cycles, use of alternative host plants and potential to transmit pathogens made them a challenging group to study. Patch published on the identification, biology and ecology of this group and, for many years, was considered the world's authority on aphids. Aphid specialists named two genera, five species and one subspecies of aphids in her honor. Her "Food Catalogue of Aphids of the World", published in 1938 as the Maine Agricultural Experiment Station Bulletin No. 393, is considered her most lasting contribution to the study of the Aphidoidea. Her important aphid collection is now on loan to the Canadian National Collection in Ottawa.

Patch wrote about 80 scientific articles on insects, and 40 popular articles on insects and natural history. Her scientific articles were published in the Annals of the Entomological Society of America, Science, Entomological

News, the Journal of Economic Entomology and as Maine Agricultural Experiment Station Bulletins. Popular articles were published in horticultural magazines and the Atlantic Monthly Magazine, Natural History, the Maine Naturalist and the Scientific Monthly Magazine.

During the early 1900s, Patch pursued graduate work at the University of Maine and regularly traveled to Cornell University to study under Professor Comstock. She received a MS degree from University of Maine in 1910 and a PhD from Cornell in 1911. Professor Comstock was her advisor and the topic of her thesis was "Homologies of the Wing veins of the Aphidae, Psyllidae, Aleurodidae, and Coccidae." She later recalled the happy time at Cornell with stimulating interactions with entomology faculty and graduate students, and a lively social life centered around the Comstock household.

Patch was a charter member of the Entomological Society of America, held various offices in the Society, and was elected President in 1930, the only woman to hold that office until quite recently. Letters of congratulation on her taking office indicate that there had been resistance to having a woman in this position. R.W. Harned, Entomologist with the State Plant Board of Mississippi, wrote in 1929 that, "I am almost certain that the only reason you were not elected president at least seven or eight years ago was because so many entomologists are too conservative. The fact that you are not a man was the only excuse. I am glad that we are making progress."

After finishing her PhD at Cornell, Patch initiated her career as a writer of natural history for young people. Although nearly 40 when she began this activity, for the next 25 years she was a prolific and respected author of nature literature for juveniles. In all, she published over 100 articles for magazines and wrote or contributed to 17 books for children. She wanted to give scientifically accurate information that would stimulate youthful curiosity. To do so, she spent hours observing

wildlife, especially around her Orono home. She devoted the same intensity of observation, verification and study that went into her scientific studies. She had two objectives: to write in an interesting way for children, and to keep faith in her own scientific traditions. In 1913, she published her first book for children "Dame Bug and her Babies" - eighteen fanciful but accurate stories about insects written so that the smallest children could wander through fields or explore crevices with their parents and notice the minute signs of insect presence.

The excitement of discovery that Patch experienced as a child is still felt by readers whose eyes are opened by her descriptions of the natural world: "It was so surprising to find a little clay jug sitting on a willow branch....Just then a queer little creature alighted on the branch....She held something in her mouth and walked up to the jug with a restless shake of her wings and dropped it right in....It was a little green caterpillar." Thus begins the story of how a wasp, *Eumenes fraternus*, provides food for its offspring. The child broke off the twig holding the "jug", took it home and watched until an adult wasp emerged later. The story related the unseen events within the jug. "Dame Bug...." was followed by a book of poems, "Laddie Tells the Time of Day". These books were published by Pine Cone Publishing Co. in Orono which appears to have been her own publishing company.

In 1915, Patch began to publish stories and articles on natural history in various children's magazines and newspapers. Little Folks Magazine, Red Cross News, and John Martin's Book no longer exist, but the Christian Science Monitor also carried many of her stories in their children's section. Her next two books, one on insects and one on birds, published by The Atlantic Monthly Press, were written to supplement elementary school science classes. In the introduction to the book on insects, "Hexapod Stories", she wrote, "The Hexapods are funny folk who have six feet....They have wings, the grown-up ones do, wonder-

ful wings of many shapes and colors....And let me tell you this, for this is very important: although hexapods are common and easy to find, there is not one among them all that does not have a story about his life so strange and interesting that his is worth watching just to find out what his story is."

By the mid-1920s, she had established her reputation as an author of children's nature literature. In 1926, Macmillan became her publisher for fifteen books: the "Holiday Series", focusing on animal and plant life in meadow, hill, seashore and mountain habitats, "The Neighbor Series", describing animals in their natural settings, and the "Science Readers", covering scientific topics for primary to eighth grade levels.

Well known nature illustrators provided sketches and line drawings for Patch's books while local photographers are credited with many of the photographs. It is estimated that over two million copies were published. Schools throughout this country used her books and many were sold abroad.

When her scientific and literary careers were well established, Patch purchased the property associated with the house now known as the "Patch House." At the time of purchase, it was associated with a small farm consisting of 50 acres and stretching back from frontage on the Stillwater River. Built in the 1840s, the house is one of the older homes in the area and perhaps the oldest building on the University of Maine campus. Patch called it "Braeside" and contemporaries describe it as filled with antiques and paintings, many of natural history subjects. Outside the livingroom window was a bird feeding station which attracted large numbers of birds, winter and summer. She maintained a wildflower garden about her home where, to the last, milkweed grew. In time Patch built a small, screened summer house near the river which she called "Ledge House", and it was here that she did much of her writing in fine weather. Although the land associated with the river frontage is now privately owned, "Ledge House" remains in use as a family summer house.

If Science Wipes Out Insects, She Warns,
GARDENERS MUST RAISE BUGS



Vegetables and Fruit Will Die Off,
 Meat Prices Soar, Even Birds Vanish,
 Says Entomologist Who Points Out
 Most 'Pests' Are Not Only Harmless,
 but Needed to Pollinate Blossoms



Patch's knowledge of all aspects of natural systems made her unusually conscious of the potential widespread damage of chemical pesticides. She always remembered, and frequently quoted, the words of Professor Oestlund of the University of Minnesota that she had first heard in

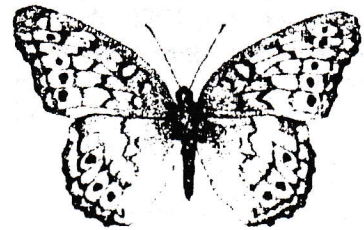
1901: "In the large economy of nature insects are beneficial." Her most public proclamation of these views came when she delivered "Without Benefit of Insects" as the annual public address of the Entomological Society of America at Atlantic City, New Jersey in 1936 (published in 1938 as the Bulletin of

the Brooklyn Entomological Society 33(1):1-9). In the address, Patch discussed the wholesale slaughter of insect life that had resulted from the attempts to control injurious insects, its effect on the production of various crops which require insects for the pollination of their flowers, and the possibility that some time in the future entomologists would be as much or more concerned with the conservation and preservation of beneficial insect life as they now were with the destruction of injurious insects. An address on a similar theme was delivered to the annual meeting of the American Association for the Advancement of Science in Detroit in 1937. From retirement in 1945, she wrote letters warning of the possible negative effects of DDT.

When Patch retired from the Experiment Station in 1937, she was awarded an honorary DSc by the University of Maine. She died in Orono in 1954, and was buried in Worcester, Massachusetts.

The Variegated Fritillary, *Euptoieta claudia*, in Maine

Euptoieta claudia, the variegated fritillary, is an invader from the south to New England, thought to never survive the winter here in any stage. In Massachusetts, the abundance of *E. claudia* varies greatly from year to year; some years scarcely any can be found, and in other years they can be quite abundant. Auburn Brower, in his 1974 list of Lepidoptera of Maine, shows only three records for *E. claudia*, all from southern Maine. Anthony Thomas, in his 1996 Atlas of Butterflies of New Brunswick, does not show this species at all there.



1999 was a big invasion year for *E. claudia* in Massachusetts. They arrived on May 22 and were around in record numbers all season, with one individual seen at Quabbin Reservoir on November 21. In July, 1999, 75 *E. claudia* were seen on the NABA butterfly census in Massachusetts, with 60 seen on the Essex County count.

At least seven *E. claudia* were found in Maine in 1999, including the following records:

- | | | |
|---|----------------|---|
| 2 | 24 July 1999 | Steuben (Tom and Cathy Dodd on NABA count) |
| 1 | 6 August 1999 | Lubec (Richard Hildreth - nectaring on sea lavender on the beach) |
| 1 | 20 August 1999 | Somerville (fide Guillemot) |
| 1 | 20 August 1999 | Union (fide Guillemot) |
| 1 | 27 August 1999 | T29 SD (Richard Hildreth, resting on gravel logging road) |
| 1 | 28 August 1999 | Jefferson (fide Guillemot) |

This year, Tony Roberts found a fresh specimen nectaring in his garden in Steuben on September 27. This is a species which in late years apparently has been invading the region more frequently and in greater numbers. *E. claudia* is a very distinctive, easy to identify butterfly, and it would be good to report occurrences of this species in Maine.

- Richard W. Hildreth

To Bee or Not to Bee

The following are references to insects and spiders in some of William Shakespeare's plays (I am reading his complete works).

THE TAMING OF THE SHREW

If I be waspish, best beware the sting.
My remedy is then, to pluck it out.
Ay, if the fool could find it where it lies.

Who knows not where a wasp does wear his sting?
In his tail.

Thou flea, thou nit, thou winter-cricket thou!

HENRY VI, PART I

So bees with smoke and doves with noisome stench
Are from their hives and houses driven away.

Him that thou magnifiest with all these titles
Stinking and fly-blown lies here at our feet.

RICHARD III

Why strew'st thou sugar on that bottled spider,
Whose deadly web ensnareth thee about?

HENRY VI, PART II

Thus are my blossoms blasted in the bud,
And caterpillars eat my leaves away.

My brain more busy than the labouring spider
Weaves tedious snares to trap mine enemies.

The commons, like an angry hive of bees
That want their leader, scatter up and down,
And care not who they sting in his revenge.

Drones suck not eagles' blood, but rob bee-hives.

Some say the bee stings
but I say, 'tis the bee's wax; for I did but seal once
to a thing, and I was never mine own man since.

TITUS ANDRONICUS

But when you have the honey ye desire,
Let not this wasp outlive us both to sting.

Alas, my lord, I have but kill'd a fly.
But! How, if that fly had a father and mother?
How would he hang his slender gilded wings,
And buzz lamenting doings in the air!

Poor harmless fly.

We'll follow where thou lead'st,
Like stinging bees in hottest summer's day,
Led by their master to the flowered fields.

A MIDSUMMER NIGHT'S DREAM

Weaving spiders, come not here;
Hence, you long-legg'd spinners, hence!
Beetles black, approach not near;
Worm nor snail, do no offence.

The honey-bags steal from the humble-bees,
And for night-tapers crop their waxen thighs,
And light them at the fiery glow-worm's eyes,
To have my love to bed and to arise;
And pluck the wings from painted butterflies,
To fan the moonbeams from his sleeping eyes.

Get you your weapons in your hand,
and kill me a red-hipped humble-bee on top of a thistle;
And, good mousieur, bring me the honey-bag.

-Dick Folsom (with help from William Shakespeare)

Book Review Alien Species of North America and Hawaii by George W. Cox (1999), Island Press.

The topic of invasive and exotic species is hot in biology circles right now, and Cox provides an in-depth book that is not too technical or slow. Insects, as well as plants, diseases and fish, are covered between the covers of this book. The chapters devoted to eastern forests and the eastern seaboard are particularly relevant, but his discussions on the Great Plains and the problems faced by

America's grassland communities are very fascinating, too.

For the entomologist, the rogues gallery of problem species ranges from the European honeybee (*Apis mellifera*) to the winter moth (*Operopthera brumata*). There is a wide cast of characters in this little drama, though, and by the end of the book it can get to be a little overwhelming. Cox does not provide much in the way of graphs or charts, but is very thorough in his lists of invasives for each geographical area of the U.S. One added bonus is the



long list of Internet sites dealing with invasives at the end of the book.

-Chuck Lubelczyk

Bogged Down in August

The August 12th MES field trip to Oyster River Bog in Rockland took us to an immense tract of marsh and bog surrounded by tamarack, white pine and red oak. From one vantage point in the bog, the Camden Hills rise in the northeast.

After a coffee-related stop at the Thomaston Bakery, a dedicated group of eleven started the march into a red oak stand where paper wasp nests were disturbed (only by the author, of course!). Dick Dearborn located burrows where sphecid wasps, *Crabro monticola*, were caching one of their favorite prey items, tabanid flies. A masked shrew (*Sorex cinereus*) found near a stream yielded a larval *Ixodes scapularis* tick. We watched ants on an oak branch herding mealybugs along on a day of weekend labor, and a regenerating clear-cut turned into a prime spot for dragonflies, grasshoppers, locusts, and butterflies.

After a quick peek at a mosquito trap containing a healthy collection of *Aedes* and *Culex* mosquitoes, we made our way to the bog proper. The rocky substrate prevented good pitfall trap results, only giving us a couple of ants, one cricket, and one harvestman (daddy long-legs). With the aid of a local pooch, Bob Nelson immersed his feet in the murky waters in an effort to procure beetles as they came up for air. A casual glance by one of the group led to the discovery of a *Lethocerus americanus* (giant water bug) relaxing on a lily pad. In the acid soils of the area, pitcher plants and sundews were waiting for a lunch of neighborly bugs. One final treat was the appearance of a praying mantis questing for prey on the roadside.

The day turned out to be a gem (warm and sunny) and the only biting flies were deliberately trapped. And most important of all, no one disappeared into the Bog.

-Chuck Lubelczyk

Butterfly Notes and Queries

As a mothman, I don't generally "do" butterflies, but the following unusual sightings forced themselves on my notice. On a trip to Kennebunk Plains and vicinity, 17 August, I observed: 1) a specimen of the Buckeye (is this southern species becoming more frequent in Maine?); 2) a worn but actively nectaring Canadian Tiger Swallowtail (is this remarkably late record an indication of a second brood for this species in southern Maine in '00?); and 3) in nearby Wells, an almost totally dark intergrade (form "*proserpina*") between our northern Banded Purple and the southern Red-Spotted Purple (has the intergrade zone between these races been shifting northward?).

These observations, along with the appearance of the Variegated Fritillary in Maine, detailed elsewhere in this issue, definitely seem to suggest extensions of range and phenology consistent with an alteration in climate. Information, pro or con, from butterfly watchers out there would be appreciated.

- Tony Roberts

Walking Sticks in Maine

This fall I was privileged to investigate an infestation of walking sticks in coastal Maine. I was alerted to the phenomenon by a landowner who was concerned about the effect these insects would have on her stand of white oaks. Having never seen a walking stick infestation and having seen only one of the insects in the wild, I set off for Woolwich.

It was already the very tail end of September when I received the call and most areas of the state had already had a hard frost. Woolwich is protected by the moderating influence of the ocean though and it had not yet dropped below freezing there so the insects were still alive. I visited the area on a cool, sunny afternoon and found walking sticks everywhere. In less than ten minutes I had four males



and four females. The creatures were primarily on the oak but also on ferns, lowbush blueberries and other ground cover plants. The blueberry plants had been pretty much stripped of foliage and light feeding was evident on the oaks as well. The landowner said she thought the walking sticks spent the night beneath the underbrush because when it warmed up in the morning the insects were most prevalent low to the ground. She had no idea if the walking sticks had been around other years and only noticed them this year after one was on a window and stuck its leg out when she tried to brush the 'stick' off the screen. She then started to look around and found them all over the place. The area infested by the walking sticks covered a few acres. It will be interesting to return next summer and see if they are there again.

I kept the walking sticks in a cage in the lab for three weeks until they all finally died. They fed on the oak I provided, mated and the females laid eggs. The walking sticks were also a main attraction at the school talks I gave during this time.

-Charlene Donahue

Woolly Worm Weather Forecast for 2000/01

Those familiar, fuzzy red and black banded caterpillars, larvae of the Isabella tiger moth (*Pyrrharctia isabella*), have been the subject of weather predicting folklore for more than 100 years. Folklore has it that when the red makes up more than one third of the color, the upcoming winter will be milder, less than one third foretells a harsher winter. Snowfall amounts are somewhat irrelevant. Even though this method may lack scientific justification, it's fun. We now pit the woolly worms (woolly bears, if you will) against the weather bureau for the upcoming winter and the woolly worms say mild! The following is a summary of our survey since the winter of 1997/98.

Normal = 4.33 red segments on average, based on 13 segments per caterpillar
1997/98 = 4.73 red segments on average - mild winter predicted
1998/99 = 5.05 red segments on average - milder winter predicted
1999/00 = 4.3 red segments on average - slightly colder than normal winter predicted
2000/01 = 5.14 red segments on average - noticeably milder winter predicted

-Dick Dearborn

Maine Aquatic Biodiversity Project Underway

With the hiring of Peter Vaux as the Director, the Maine Aquatic Biodiversity Project is up and running. This two year project is aimed at compiling information on the aquatic biodiversity, including invertebrates, of Maine. Under the direction of a steering committee, Peter will begin to sort through the mountain of information on aquatic organisms and develop a database to catalogue Maine's aquatic species. The project is funded through a grant from the Maine Outdoor Heritage Fund with matching contributions from the Maine Department of Inland Fisheries and Wildlife, the Maine Department of Environmental Protection, and The Nature Conservancy. Peter will be working at the MDIFW offices in Bangor. If you think you have any information to contribute to the project, call Peter at 941-4459.



The deadline for the next newsletter is January 15, with a mailing date of February 15. Send your newsletter items to Chuck Lubelczyk and Laura Stone.

The Maine Entomological Society Newsletter is published quarterly by the Maine Entomological Society. Send newsletter items to Chuck Lubelczyk and Laura Stone, editors, at 25 Spring Hill Road, Springvale, ME 04083 or via e-mail: naturbuf@gwi.net. Dues are \$5.00 per year. Checks should be made out to Maine Entomological Society and sent to Edie King, Treasurer, at 7 Salem St., Waterville, ME 04901. Dues are paid through the year printed on the mailing label.

Maine Entomological Society

c/o Nancy Sferra
HC-33, Box 350
Bath, ME 04530



Charlene Donahue 2000
Insect & Disease Laboratory
50 Hospital Street
Augusta, ME 04330 NOV 29 2000