The Maine Entomologist

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

Volume 9, Number 2, May 2005

From the President

As I meet and talk with members excited about our pending season's activities I'm so grateful to see that entomophilia is still alive and well! Signs of spring renewal are everywhere and as I walk my "back forty" I see nearly all orders represented in their spring activity. When the frustrations of current local and world activities try crowding my thought I can always find myself refreshed by taking a stroll through the fields and woods looking for a busy beetle or butterfly whose only concern is starting the new season. There is certainly a lesson here.

Our first seasonal event was an insect interest day at the Fields Pond Audubon Center in Holden on April 21. In spite of the cool, somewhat wet weather we had a fairly good turnout of 60 interested visitors who had an opportunity to interact with the nine MES members present and to view seven exhibits dealing with beetles, endangered species, fly tying, "Hissing Cockroaches" (always a popular live exhibit), insect collectables (insects featured on cloth, coins and stamps), insect development and diversity, and, of course, MES! Thanks to all members who helped to make this day a success.

Now we need to focus on our six events scheduled for 2005. Please take a moment as you look through this issue to jot down these special dates on your calendar. Member support is critical to the success and enjoyment of each and every one ranging from our butterfly count in June to our Coleoptera Blitz in July, our regular field events in July and August and our Annual Meeting and of course Bug Maine-ia in September. Please also note the change of location for our July 23rd field event from Kennebunk Plains to New Gloucester.

I guess that I've rambled on long enough for now and will let you enjoy the rest of this interesting and educational issue. As you will soon see, there are a lot of new and exciting things to see even in your backyard. And to keep taxonomists busy, changes in insect nomenclature are going to present a real challenge (see our beetle family list)! Upgrading your reference books to reflect these changes will be a must.

Thanks to all of you who renewed your membership.- we're currently at 126! While I cannot thank all of you individually I would like to say that your support is much appreciated. I do hope to meet many of you at some point.

-Dick Dearborn

Inside This Issue:

A Budding Taxonomist

All amateur taxanomists should be required to have a sense of humor. One thing that can push an amateur taxonomist to the brink is the wonderful invention that taxonomists created called the dichotomous key. Couplets within the keys were meant to enable, through phraseology and terminology, the aspiring taxonomist to key specimens through the labyrinth of choices and arrive at a correct identification, but often they're just confusing.

The closer to species you get the more complex and involved the keys become. Orders are somewhat simple, but you still need to know terminology. After Orders are a complex series of keys for Families and Sub-families. Its sounds easy, but that depends on when the keys were written. Hopefully, you have the most up-to-date revisions, otherwise gnashing of teeth, cursing, and whatever else you do to alleviate stress and frustration is sure to follow because the specimen you were keying out took you to a family of insects only found in Florida (and you live in Maine).

The other two requirements necessary to become a budding taxonomist are patience and perseverance. Once you realize that the insect that you caught in Maine isn't in the family found in Florida, you have to go back to square one and find your mistake(s).

Continued on page 5

First National Records for Canada Whiteface (*Leucorrhinia patricia*) in the USA

Until recently, the diminutive *Leucorrhinia patricia* (Canada Whiteface) was known only from the country of its namesake where the species has been recorded at 51 locales in Quebec, Ontario, Manitoba, British Columbia, Yukon Territory, and Northwest Territories (Donnelly 2004). In June of 2003, *L. patricia* was collected for the first time in the USA – although not exactly south-of- the-border – in Maine (Somerset Co.) and Alaska (Southeast Fairbanks Borough) (Figure 1).

During the course of peatland invertebrate surveys in northwestern Maine, P. deMaynadier collected a mature female *L. patricia* on 18 June from an acidic, ribbed fen. The sphagnum-dominated fen had well-developed strings (dominated by heath shrubs, dwarf larch and black spruce) and flarks (mostly sphagnum-based depressions of variable depth, from saturated to ~10" depth). The specimen was collected while ovipositing in one of the shallow flark pools. Few other adult odonates were collected from the site including *L. glacialis* (Crimson-winged Whiteface), *L. hudsonica* (Hudsonian Whiteface), *C. interrogatum* (Subarctic Bluet), and *C. shurtlefi* (American Emerald), the latter likely having strayed from an adjacent beaver flowage. *Boloria eunomia* (Bog Fritillary), a specialist of open moss-lawn and ribbed fen peatlands, was present in abundance and should be considered as a potential butterfly indicator for *L. patricia* in the Northeast. Hopefully unique to this locale, and not indicative, was the scent of commercial hog farms traveling on the prevailing SE winds from Quebec!

Remarkably, only five days later and fully 8,000 km to the northwest *L. patricia* was collected in Alaska. J. Hudson and three other Alaskan ode enthusiasts had set out from their rainforest home in Juneau on a collecting/photography trip to interior Alaska in search of boreal species. On 23 June, while camped on Deadman Lake in the Tetlin National Wildlife Refuge, a male *L. patricia* was collected and photographed (Figure 2). Deadman Lake is a 200 hectare lake surrounded by a thick margin of sedges and horsetail. Bog habitat more typical of *L. patricia* was present less than 1 km from the lake. Other odonates collected at Deadman Lake included: *Coenagrion resolutum* (Taiga Bluet), *Enallagma boreale* (Boreal Bluet), *E. cyathigerum* (Northern Bluet), *Aeshna eremita* (Lake Darner), *A. interrupta* (Variable Darner), *A. juncea* (Sedge Darner), *A. sitchensis* (Zigzag Darner), *Cordulia shurtleffii*, *Somatochlora hudsonica* (Hudsonian Emerald), *Leucorrhinia borealis* (Boreal Whiteface), *L. hudsonica*, *L. proxima* (Belted Whiteface), and Alaska's official state insect, *Libellula quadrimaculata* (Four-spotted Skimmer). Later in the trip (27 June), two male and two female *L. patricia* were collected in a bog near the eastern border of the refuge. Also collected at this bog were *C. resolutum*, *C. interrogatum* (a new state record), *Nehalennia irene* (Sedge Sprite), *A. interrupta*, *A. septentrionalis* (Azure Darner), *A. sitchensis*, *A. subarctica* (Subarctic Darner), *C. shurtleffii*, *Somatochlora franklini* (Delicate Emerald), *S. semicircularis* (Mountain Emerald), *and L. proxima.*

Only 24 to 29 mm long, the Canada Whiteface is the smallest of its genus and distinguished in appearance from *L. hudsonica*, it's closest resembling congener, by reduction of dorsal spots on the middle abdominal segments to short linear dashes in the male, and absence of dorsal markings beyond segment 6 in the female (Needham et al. 2000, Dunkle 2000). Likewise, the larvae of these species are very similar. Kenner et al. (2000) provides several larval characters to separate *L. patricia* from *L. hudsonica* based on specimens collected in northern British Columbia. The species is believed to be restricted to peat bogs and fens, often with aquatic moss floating on or near the surface (Walker and Corbet 1975, Cannings and Cannings 1997). Females at a fen in the Yukon Territory oviposited in open water near the edge of floating moss (Cannings and Cannings 1994). This most boreal species of *Leucorrhinia* flies from May 31 (NB; Tingley 1999) to August 6 (ONT; Walker 1940), but possibly only for two weeks at any given locale (Dunkle 2000).

Until 2003, *L. patricia* was among only five North American odonates yet to be documented in the lower 48 states, along with *Somatochlora whitehousei* (Whitehouse's Emerald), *S. septentrionalis* (Muskeg Emerald), *S. sahlbergi* (Treeline Emerald), and *Aeshna septentrionalis*. Superficially similar in appearance to *L. hudsonica* and other congeners with peatland habitat affinities, *L. patricia* is probably easily overlooked. It is our hope that documentation of this species in Maine and Alaska will help stimulate further survey for the species at the edge of its range where, undoubtedly, new records await discovery.

-Phillip deMaynadier and John Hudson

Acknowledgements:
We thank Paul M. Brunelle and Dennis Paulson for confirming the identity of *L. patricia* specimens from Maine and Alaska, respectively. Nick Donnelly kindly provided distribution data used in the map. Funding for invertebrate surveys in Maine is made possible by contributions to the state's Nongame and Endangered Wildlife Fund, supported by proceeds from the Loon License Plate and Chickadee Check-off. Specific ecoregional survey work in NW Maine was supported by grants from the Maine Outdoor Heritage Fund and The Nature Conservancy.

Literature Cited:

Cannings, S.G. and R.A. Cannings. 1994. The Odonata of the Northern Cordilleran Peatlands of North America. Memoirs of the Ecological Society of Canada. 169: 89-110.

Cannings, S.G. and R.A. Cannings. 1997. Dragonflies (Odonata) of the Yukon. pp. 169-200 in H.V. Danks and J.A. Downes, editors, Insects of the Yukon. Biological Survey of Canada (Terrestrial Arthropods), Ottawa. 1034 pp.

Donnelly, N. T. 2004. Distribution of North American Odonata. Part II: Macromiidae, Corduliidae and Libellulidae. Bulletin of American Odonatology. 8(1): 1-32.

Dunkle, S.W. 2000. Dragonflies Through Binoculars: A Field Guide To Dragonflies of North America. Oxford University Press, New York, NY.

Kenner, R.D., R.A. Cannings, and S.G. Cannings. 2000. The larva of *Leucorrhinia patricia* Walker (Odonata: Libellulidae). International Journal of Odonatology. 3(1): 1-10.

Needham, J.G., M.J. Westfall, Jr., and M.L. May. 2000. Dragonflies of North America. Scientific Publishers, Gainesville, FL.

Tingley, S. 1999. *Leucorrhinia patricia* in New Brunswick. Argia 11(3): 8.

Walker, E.M. 1940. Odonata from the Patricia Portion of the Kenora District of Ontario with Description of a New Species of Leucorrhinia. The Canadian Entomologist 72: 4-15.

Walker, E.M., and P.S. Corbet. 1975. The Odonata of Canada and Alaska. Volume 3, No. 3. University of Toronto Press, Toronto.

*Note a version of this article will also appear in the journal Argia, Vol. 17(5).

Discovery of "Autumn Leaf Caddisfly"

On October 13th 2004, I visited our most productive vernal pool with a class of college students. (Most productive because of the very large number of Spotted and Blue-spotted Salamander eggs and larvae). We were trying to find signs of life that late in the season. There were just a few green frog tadpoles swimming. The frantic activity of predacious diving beetles, whirligig beetles, dragonfly and damselfly nymphs, water tigers, and various other micro-aquatic swimmers seemed to be absent.

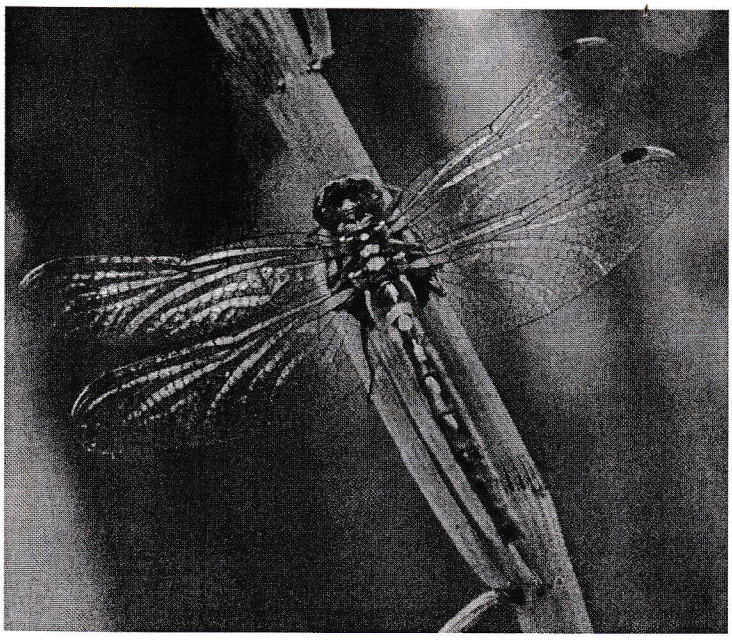
One student spotted some tiny Fingernail Clams. (Several of these would fit on your little finger nail.) These little fellows are also called pea or pill clams. The wee shells are a uniform color, cream to light brown, some with darker-colored bands following the curve of the shell. The clams have a muscular ambulatory "foot." They also have two siphon tubes for filtering the water for detritus and leaf litter broken down into small pieces by other animals. Fingernail Clams are hermaphroditic, and the young are brooded on the inner gill of the parent. When the young are developed enough, they are expelled as free-living juveniles.

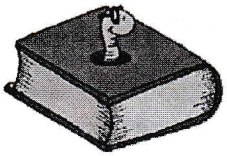
While looking closely at these minute clams, motion caught my attention. A circular piece of orange leaf was moving on the bottom. The orange disc was about the size of a nickel. Then I began to see more. Scarlet discs, yellow ones, tans ones. The pond was littered with newly fallen bright autumn leaves. I managed to reach down and extract one of the colorful moving objects. Caddisfly larva! Encased in brown leaf parts, but with an awning of fresh leaf over the head end. A group of them made a colorful display! We see a large variety of caddisfly cases in the summer, including hollow stems, sand and tiny pebbles, and pieces of sedge stacked like a log cabin. This was my first sighting of the "autumn leaf" caddis. I wondered what they eat so late in the season, since most of the tadpole and other larvae had matured.

I have not been able to identify these caddisflies. I do have some of the larvae in alcohol. The bright color of the awning has been lost. Hopefully, someone can make an identification of the species. For now, it is the "Autumn Leaf Caddis."

-Gale Flagg

Figure 1 (left). Range map with Canada Whiteface locales indicated in black . Figure 2 (right). The Canada Whiteface, *Leucorrhinia patricia* . Both images courtesy of Phillip deMaynadier.





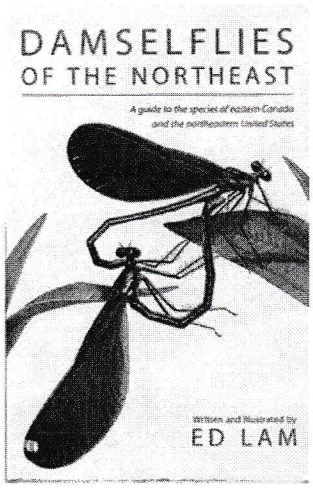
Book Review:

Damselflies of the Northeast Written and Illustrated by Ed Lam

Published by Biodiversity Books in 2004.

On April 17, 2004, I attended the New England Odonate Conference in Athol, Massachusetts. This fine meeting turned out to be the largest odonate meeting ever held in North America. One of the highlights of this meeting was being introduced to Ed Lam's new book Damselflies of the Northeast (it actually arrived from the printer a few days before the meeting!). We got to meet Ed and see some of the original paintings from which the book plates were made – some of the finest entomology artwork I have ever seen. I, of course, bought a copy of this truly spectacular book right away.

All species of damselflies which occur in the northeast are illustrated with spectacular color paintings. The northeast, as the book defines it, extends from southern Canada south to Cape Hatteras and west to the western edge of Lake Erie. The book would probably be useful for much of the eastern USA. Each species is shown on its full page plate. Each plate shows a dorsal view of the male and female, often with more lateral views to show color variations. Each plate also contains enlarged, detailed views of anatomical features critical for identification. The range map is given on the plate as well. Actual size-silhouettes are also given on each plate. One very useful feature contained in the plates is little symbols which show the difficulty of identification for both male and female – that they can be identified with binoculars, identification requires examination with a hand lens, or that examination with a microscope is needed.



At last, here is a book which will provide anyone, beginner or more advanced student of odonates, the tool needed to identify surely and quickly the damselflies of the northeast. Even if you don't care about identifying damselflies, you will want this beautiful book for the artwork!

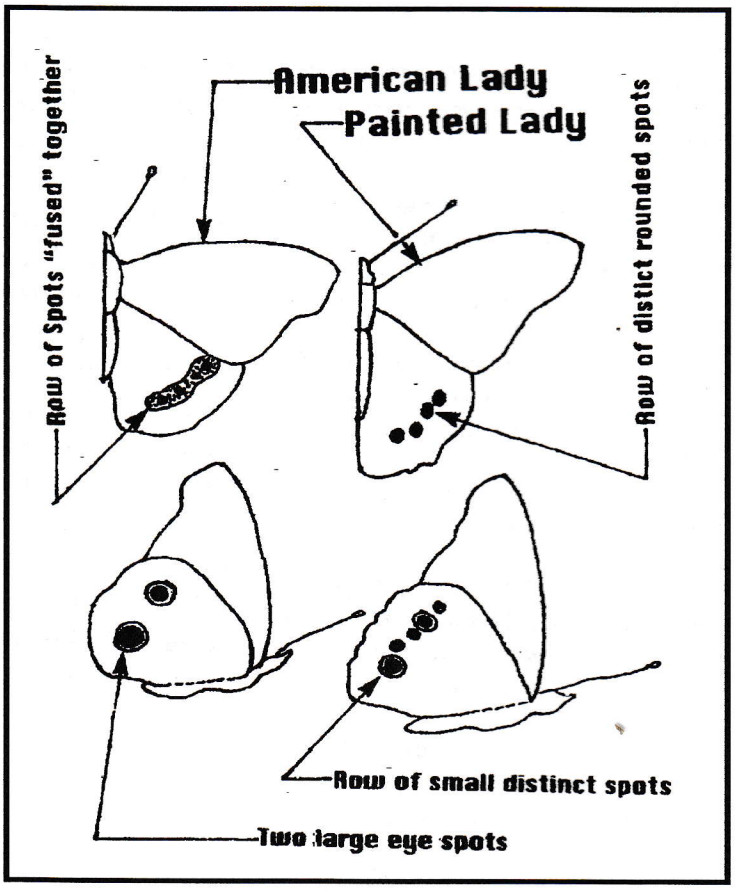
-Richard W. Hildreth

Identifying the Painted Lady

Two species of somewhat similar-looking 'ladies' occur in Maine; the American lady *Vanessa virginiensis* Drury (formally known as the American Painted Lady or further back as Hunter's butterfly) and the Painted Lady *Vanesa cardui* Linnaeus, a species of worldwide distribution (also known as the Cosmopolite).

It is easy to identify these species if you get a good look at either the upper or lower hind wing. The diagram below shows the key field marks to look for.

-Richard W. Hildreth



Notes from the Field

My first butterfly of the year was seen on April 10 - a Green Comma, *Polygonia faunus*. Just a few minutes later I saw the small moth called The Infant. Both were very interested in basking on the ground, although the Comma also thought I was a perfectly good roosting place!

-Gail Everett

Upcoming MES Events and Field Trips

Saturday, June 18, 2005 - Waterford (Oxford County). Annual butterfly count. Contact Gail Everett (*capriolee@yahoo.com*) for more information.

Saturday-Sunday, July 16-17, 2005- Schoodic Point (Hancock County). The Maine Entomological Society, National Park Service, and Maine Forest Service will be joining forces to conduct a Maine Coleoptera Blitz in Acadia National Park. It will be based at the National Park Service's new Schoodic Education and Research Center, located at the former U.S. Navy base campus in the Schoodic Peninsula District of Acadia National Park. If you need more information, please contact Lynn Havsall at (207) 565-3424 (*lhavsall@hotmail.com*) or Dick Dearborn at (207) 293-2288 (*modear@prexar.com*).

Saturday, July 23, 2005 - New Gloucester (Cumberland County). Join us at Chuck Peters' house for a day of collecting and observing in the varied habitats along the upper Royal River. You can expect pine forests, fields, stream margins, a beaver pond, and extensive wetland areas. If the weather is warm bring a bathing suit and enjoy the pool! We will begin at 10 am and go until 3 pm, but you are welcome to stay as long as you'd like. Bring a lunch, and feel free to invite any guests who may be interested. For directions or more information contact Chuck at *chuckp@securespeed.net* or (207) 926-4806. We hope to see you there! ***NOTE: This trip replaces the previously scheduled trip to the Kennebunk Plains in York County.***

Saturday, August 20, 2005 - Clinton (Kennebec County). Collect, picnic, and enjoy the late summer air at the site for Bob and Nettie Nelson's new home at Rock Ridge, on the Battle Ridge Road, in Clinton. An open tall-grass and wildflower meadow and hardwood forests dominate the site, though the forests are "wet" and include abundant elm, ash, red maple, and even tamarack and basswood - as well as grey, white and yellow birch and rare bur oak, fir, beech and hop-hornbeam. A couple small "peeper ponds" were excavated this past summer and already are providing habitat for aquatics and brush thickets (particularly of *Cornus stolonifera*) will have their own faunas as well. Piles of hardwood and pine logs should yield a variety of beetles, spiders and other critters. Partial clearing of the forest and old massive stone walls yield their own peculiar faunas as well. The event is from 10 am to 3 pm. Bring a lunch and we'll supply drinks and watermelon. For directions or more information contact Bob at *beetlebob2003@yahoo.com* or (207) 872-3247. Please let Bob know if you're coming so he can plan accordingly!

Saturday, September 17, 2005 - New Gloucester (Cumberland County). This will be the MES Annual Meeting, to be held once again at Chuck Peters' home in New Gloucester. A business meeting will begin at 1 pm to review the year's accomplishments and to make plans for next year, as well as an election of officers. Look for more information on this meeting in the August newsletter.

Saturday, September 28, 2005 - Augusta (Kennebec County). The annual Bug Maine-ia will be held at the State Museum. Look for more information in the August newsletter.

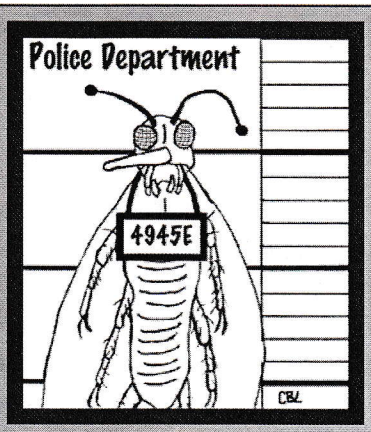
Taxonomist continued from page 1

If rekeying sends a shiver down your spine, most keys have a brief description to aid in identification when you are close to the species level. It might list physical characteristics, that when examined, enable a budding taxonomist to make a determination, often listing the dates and locations a specimen was collected.

The notion that keys are the panacea to identifying all insects is pure myth. When all else fails (as has happened to me more than once), consult someone who knows the group you are working on (in my case a coleopterist). When I heard, "Oh that's a northern color variety not mentioned in the key," I realized that taxonomists and their keys aren't infallible. So the next time you're keying out an insect and you get it down to species, and the locale given is Florida (and you live in Maine), remember this: you could take up knitting for a pastime (and between skeins take a hammer to your pinned specimens), OR, you can take your troublesome specimens to a specialist and ask where you went wrong.

Let trial and error be your guide. Through time, improvement via experience will enable you to work an insect through the keys and arrive at a correct species.

-Dana Michaud



The Bug Mug Shot
The Tomah Mayfly

Order: Ephemeroptera (Mayflies). The order Ephemeroptera of Maine is relatively well known with 150-160 species recorded. Mayflies are all aquatic in the immature or larval stage and terrestrial in the winged adult stage. The order is unusual in having two winged stages, the subimago or dun of anglers, and the imago or spinnner of anglers. Larvae are found in a variety of fresh water habitats including rivers, streams, lakes and ponds and a few species are adapted to brackish water. Larvae feed mainly on plant materials but a very few species are predaceous, feeding on invertebrates. Adults are short lived and do not feed.

Taxanomic Status: *Siphlonisca aerodromia* Needham, known in Maine as the Tomah Mayfly, is the only known species in the world in the genus *Siphlonisca* and one of the 5-6 species in the Family Siphlonuridae occurring in Maine. Large flaring abdominal flanges on both the larvae and adults are reminiscent of wings and are responsible for the species name. These flanges and distinctive tubercles on the midventral area of the thoracic segments distinguish it from other species of mayflies.

Life History: A new generation of *S. aerodromia* begins when the eggs, deposited in the stream channel the previous June, hatch in December. The newly hatched larvae are white, about 1 mm long (without tails), and barely visible without magnification. They grow slowly under the ice, feeding on fine detritus and algae at near-freezing temperatures. Following snow-melt in March or April, the larvae, probably impelled by increasing water levels, migrate out of the stream channel into the inundated floodplain. Here they become voracious predators and feed on other species of mayfly larvae, especially those in the genus *Siphlonurus* which are abundant where the Tomah Mayfly occurs. With the high quality diet and the sun-warmed shallow water of the floodplain, the larvae grow rapidly and complete their development in the 6 - 8 weeks the floodplain is inundated. By the last week of May the water has retreated from much of the floodplain, and, as larvae approach the molt to the winged stage, they cease to feed. Wings complete development, the mouthparts and digestive system atrophy, and the gills of the larvae are lost for the transformation into an air-breathing adult. Sometime during the last week of May and the first two weeks of June, the mature larva crawls out of the water onto an upright plant stem or leaf and molts to the subimago. This emergence (hatch to anglers) lasts about 10 days and occurs mainly between 10 am and 2 pm, the warmest part of the day. The resulting subimagos have cloudy wings with fringes of minute hairs. Two or 3 days later, the subimago molts to the imago which has increased intensity of coloration and wing transparency, full development of eyes, legs and genitalia. Swarming, mating and egg deposition in the stream occur during the evening.

Notes: *S. aerodromia* was described from specimens collected from the Sacandaga River, NY in the early 1900's. The species disappeared following dam construction on the river and it was not reported again until collected at Tomah Stream, Washington County, Maine in the 1970s. Recent surveys in the northeast US and examination of specimens in mayfly collections indicate its occurrence at 16 sites in Maine, one site in New York, and in Newfoundland and Quebec in Canada. It is currently listed as Threatened in Maine.

Children's Books

Children's books have become more numerous and more engaging than ever before. What a feast of offerings there is to satiate the children of today. And, the two listed here are examples of stimulating bookfare for them. The first is titled ABC of Crawlers and Flyers by Hope Ryden. What a great way to learn the alphabet and entomology at the same time. A is for Ants, B is for Bumblebees...C...D...I for what? (Inch worms). N for what? (Net-winged beetles) and then on to Q and X and Z. Can you think of an insect for those letters? The author has written fourteen children's books already and a variety of books on natural history and has taken all the photographs from insects she has living in her yard at Wolf Lake, NY. They are large, colorful photos to please the eye and a text crammed with facts about the lives of insects to please the intellect.

The second book is entitled Beetle Bedlam by Vlasta van Kampen. Here is a very large book, with colorful illustrations by the author herself in addition to a story line about a group of insects that are attending a trial to decide the fate of a bark beetle that is accused of killing forest trees. The Goliath beetle conducts the trial and the 'witnesses' (eg. Stag beetle, Tiger beetle, Bombadier beetle, Harlequin beetle, etc.) give their testimony. In the end, the Bark beetle pleads her case convincingly that she doesn't kill trees, but just lays eggs in a burrow system she makes in dead wood. All the facts in the case have been inspired by the author talking to Dr. Milt Campbell of the Canadian National Insect Collection in Ottawa, Ontario and he has written an epilogue for the text and also a glossary in the back of the book with more beetle information about the cast of characters. I found these new books in my library in South Burlington and so, you might find them in your own town.

-Joyce Bell

Reprinted with permission from The *Vermont Entomological Society Newsletter*, May 2003

Six Legs Afield-What to Watch for Between Now and September

Most of the early migrants and natives that emerge early will have done so by early June. Now is the time to get ready for the summer regulars.

JUNE - The regal migrants, the **Monarchs**, return from the south just as the milkweed pushes higher. Meanwhile the **Canadian Tiger Swallowtail and White Admiral butterflies** appear at wet spots along wooded roads often in great numbers where birch and aspen stands predominate. By mid-June those warm, dark, humid nights are often right for **Beetle Nights** when beetles greatly outnumber the moths at lights in both abundance and diversity. Beetle collectors be ready as there are usually only two or three of these a year between June 10 and July 10!

JULY - Butterfly diversity reaches its pinnacle during July as various species of **hairstreaks, fritillaries, and skippers** crowd milkweed flowers in meadows and woodland glades. The diversity of **damselflies and dragonflies** on the wing is at its highest in late June and July with Clubtails (Gomphidae) dominating the faster waters and Skimmers (Libellulidae) adding color to the slower vegetated waters. **Japanese beetles** always seem to emerge around the Fourth of July in Maine, so celebrate the Fourth with these beetles as they make their seasonal debut. Watch for the **browntail and gypsy moths**, too.

AUGUST - Many species of **Orthoptera** reach maturity in August and provide a show as they flit through hay fields and in other open areas. This is the time to look for a variety of **grasshoppers**, and late in the month don't be surprised to see **Preying Mantids** in a variety of color phases, from pink and brown to green. Mature **Northern Walking Sticks** also appear late in the month near oak stands. And those "Hot Weather Bug, Harvest-Fly, **Dog-Day Cicada**" males sing high in the trees far out of reach of all but the hardy or lucky observer. True Katydids do not yet occur in Maine. August is also a great month to look for the fascinating **fossorial (ground-nesting digger) wasps** as they provision their nests. Most prefer the drier sandy areas of southern Maine. Some *Aphilanthops* provision their nests with ants, other genera with tabanids, and still others with beetles, caterpillars or a variety of orthopterans. Some such as the **Great Golden and Black Digger wasps** are large, colorful, and impressive. Others such as the sand wasp (*Bembix americana spinolae*) and our large **velvet ant** (*Dasymutilla vesta*) are just plain fascinating. During the dog days of August, **wood nymph butterflies** can often be found coursing through old fields, and green and gray commas can be observed at wet spots along forest roads. August is also the month when the rare **Clayton's Copper butterfly** takes wing among the yellow flowers of shrubby cinquefoil in cedar fens. The elusive **American Rubyspot damselfly** is just beginning its flight season along streams and rivers.

Deadline for Photo Submissions is July 15

MES members are encouraged to submit a photograph of insects, insect-related subjects, or member activities for our 2006 calendar. Insects should be those that occur or could occur in Maine. Images may be submitted as 8x10 color digital images (JPG format preferred), with or without accompanying prints. For further details, please contact Gail Everett at *capriolee@yahoo.com* or (207) 743-2840.

Curious Insect Galls on *Hydnochaete* Fungus

In the fall of 1993 at Thoit's Brook near Bradbury Mountain State Park, I mention in my book Sam's Corner, finding galls on *Hydnochaete* with white larvae (midge?) inside. I later offered $5 if someone would bring in some to rear! Although this offer no longer stands, I would like to have MES members keep their eyes open for these galls. Here is what to look for:

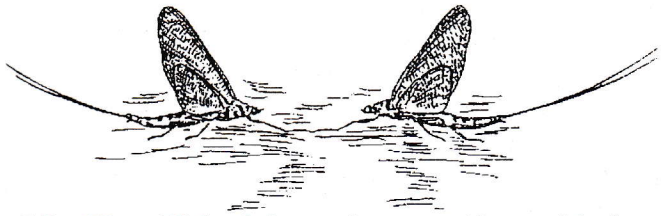
At high magnification (30x or so), the surface of this crust fungus between the teeth and teeth themselves have black bristles (setae). The fuzzy gall structures are brown colored with lighter tops the same color as the crust and are 2–3 mm tall. This brown crust is commonly found on the underside of dead branches of oak in Maine. Texts indicate that it is found on other genera of hardwoods and it would be interesting to know if this is the case in Maine. It causes white rot of dead hardwoods.

The gall was found more recently at Waterford in 1997 and in late fall of 2004 in the Alfred-Massabesic area. Cutting open the gall from Alfred yielded no inhabitant but a cavity existed near the base. The gall from Waterford yielded a dead, white, segmented larva when the gall was carefully sliced open.

So when you're walking in the woods and come across dead twigs on the ground, look for this crust and possible gall formation. If collected at the right time, we may be able to find the larval insect causing the gall, identify it, name the gall, and become famous.

-Sam Ristich and Gary Marshall

Sheet of *Hydnochaete olivaceum* or Brown-toothed Crust Fungus. Illustration by Sam Ristich.



Mayflies: "I don't know how to tell you this, but I am just not ready for a long-term relationship."

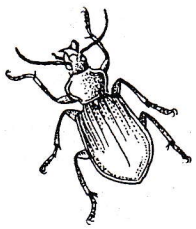
Maine Entomological Society
c/o Newsletter Editors
Chuck & Laura Lubelczyk
21 Harding St.
Sanford, ME 04073

Please visit our website at www.colby.edu/MES

The Maine Entomologist **is published quarterly by the Maine Entomological Society. Dues are $10 per year or $18 for two years. Checks should be made out to M.E.S. and sent to Mr. Dana Michaud, Treasurer, at 3 Halde Street, Waterville, ME 04901. Dues are paid through the year printed on the mailing label.**

The Maine Entomologist

A Special Insert for Volume 9, Number 2, May 2005



An Annotated List of Maine Beetle Families

Since the 1993 list of Maine Coleoptera by Dearborn and Donahue there have been many changes in the nomenclature and arrangement of species. With increasing interest in expanding our understanding of what is generally recognized as the largest order of insects we felt it desirable to do our best to "set the stage" upon which to build a more complete future inventory of species. While much of the available literature follows older systems of classification we have based the following list on the system used by Triplehorn and Johnson (2005). To provide some idea of the relative numbers of species included we turned to records from the insect collections of the Maine Forest Service and the University of New Hampshire (see website references). These numbers, while they should be helpful, are vastly incomplete. The resulting list will probably be quite different from what you are familiar with and what is to come, but it should be useful and stimulate some interesting questions. But remember, the insects are the same. Only the names may have changed.

The following references should be very helpful along the way:

Arnett, R. H., Jr. and M. C. Thomas, (Eds.). 2001 American Beetles, Archostemata, Myxophaga, Adephaga, Polyphaga: Staphyliniformia . Volume 1. CRC Press, Boca Raton, Fl. xv + 443 pp.

Arnett, R. H., Jr. and M. C. Thomas, P. E. Skelley, and J. H. Frank, (Eds.). 2002 American Beetles, Polyphaga: Scarabaeoidea through Curculinoidea. Volume 2 CRC Press, Boca Raton, Fl. xiv + 861 pp.

Dearborn, R. G. and C. P. Donahue. 1993. The Forest Insect Survey of Maine – Order Coleoptera (Beetles). Augusta, Maine. DOC/MFS/IDM.. Tech. Rpt. 32. 102 pp.

Triplehorn, C. A. and N. F. Johnson. 2005. Borror and Delong's Introduction to the Study of Insects. 7th Edition. Thomson Brooks/Cole. Belmont, CA. 864 pp.

Websites:

ME http://www.maine.gov/doc/mfs/idmcoll/collcover.htm
NH http://insectcoll.unh.edu/
MES www.colby.edu/MES

This working list was prepared through a collaborative effort by David Bourque, Dr. Donald S. Chandler, Richard Dearborn, Charlene Donahue and Dana Michaud. Graphics by Monica Russo.

Family	No. Species	Notes*
Aderidae	8	was Euglenidae
Alleculidae		now in Tenebrionidae
Anobiidae	32	incl. Ptinidae (7)
Anthicidae	17	incl. Pedilidae (*Macratria*) (1)
Anthribidae	8	
Apionidae		now in Brentidae
Artematopodidae	3	were in Dascillidae (*Macropogon*)
Attelabidae	7	incl. Rhynchitidae
Biphyllidae	1	
Boridae	2	fr. Salpingidae
Bostrichidae	8	incl. Lyctidae
Brachypteridae	1	fr. Nitidulidae (*Cateretes*)
Brentidae	8	incl. Apionidae
Bruchidae	2	
Buprestidae	47	
Byrrhidae	6	
Byturidae	1	only 1 sp.
Cantharidae	40	
Carabidae	404	incl. Cicindelidae (*Cicindela*) (13)
Cephaloidae		now Stenotrachelidae
Cerambycidae	145	
Cerylonidae	4	
Chrysomelidae	149	
Cicindelidae		now in Carabidae
Ciidae	3	
Clambidae	5	
Cleridae	26	
Coccinellidae	51	
Colydiidae	1	
Corylophidae	5	was Orthoperidae
Cryptophagidae	14	
Cucujidae	2	most now Laemophloeidae (3) & Silvanidae (5)
Curculionidae	218	incl. Scolytidae (70)
Dascillidae		western only not in ME
Dermestidae	16	
Derodontidae	2	
Dytiscidae	33	
Elateridae	154	
Elmidae	4	
Endomychidae	8	
Erotylidae	7	
Eucinetidae	3	
Eucnemidae	10	

Geotrupidae	6	were in Scarabaeidae
Glaphyridae	1	was in Scarabaeidae (*Lichnanthe*)
Gyrinidae	16	
Haliplidae	7	
Helodidae		now Scirtidae
Heteroceridae	7	
Histeridae	25	
Hydraenidae	1	
Hydrophilidae	48	
Ithyceridae	1	
Laemophloeidae	7	were in Cucujidae
Lagriidae		now in Tenebrionidae
Lampyridae	13	
Languriidae	2	
Lathridiidae		now Latridiidae
Latridiidae	17	Lathridiidae in some lists
Leiodidae	21	incl. Leptinidae (1) and Leptodiridae (1)
Leptinidae		now in Leiodidae
Leptodiridae		now in Leiodidae
Limnichidae	1	
Lucanidae	6	
Lycidae	18	
Lyctidae		now in Bostrichidae
Lymexylidae	1	Lymexylonidae in some lists
Lymexylonidae		now Lymexylidae
Melandryidae	28	some now in Synchroidae, Tetratomidae & Scraptiidae
Meloidae	10	
Melyridae	10	
Micromalthidae	1	
Monotomidae	9	was Rhizophagidae
Mordellidae	22	
Mycetophagidae	5	
Nemonychidae	4	
Nitidulidae	31	*Cateretes* moved to Brachypteridae
Noteridae	2	
Oedemeridae	5	
Orsodacnidae	1	many forms
Orthoperidae		now Corylophidae
Passandridae	1	fr. Cucujidae (*Catogenus*)
Pedilidae		now in Anthicidae & Pyrochroidae
Phalacridae	2	
Pselaphidae		now in Staphylinidae
Psephenidae	2	fr. Dascillidae (*Ectopria*)
Ptiliidae	1	
Ptinidae		now in Anobiidae
Ptilodactylidae	2	

Pyrochroidae	6	incl. Pedilidae (*Pedilus*) (2)
Pythidae	4	fr. Salpingidae (*Pytho*) (3) & *Priognathus* (1)
Rhipiphoridae	4	
Rhizophagidae		now Monotomidae
Rhynchitidae		now in Attelabidae
Salpingidae	5	excl. Boridae (2) & Pythidae (4)
Scaphidiidae		now in Staphylinidae
Scarabaeidae	74	excl. Geotrupidae (6), Glaphyridae (1) & Trogidae (2)
Scirtidae	13	was Helodidae
Scolytidae		now in Curculionidae
Scraptiidae	6	fr Melandryidae (*Anaspis*) (2) & (*Canifa)* (4)
Scydmaenidae	2	
Silphidae	13	
Silvanidae	11	fr. Cucujidae
Sphindidae	4	
Staphylinidae	181	incl. Pselaphidae (12) and Scaphidiidae (9)
Stenotrachelidae	2	was Cephaloidae (*Cephaloon*) (2)
Synchroidae	1	was in Melandryidae (*Synchroa*)
Tenebrionidae	45	incl. Alleculidae(13), Lagriidae (1) excl. Zopheridae (1)
Tetratomidae	3	fr. Melandryidae (*Abstrulia*) (1) & *Penthe* (2)
Throscidae	5	
Trogidae	2	fr. Scarabaeidae
Trogossitidae	9	
Zopheridae	1	fr. Tenebrionidae (*Phellopsis*) (1)

Totals - 2,180 species in 93 Families

* incl. = includes; fr. = from; excl. = excluding; numbers in ( ) = species in family/genus

---

YES! I would like to join the Maine Entomological Society today!

[ ] $10 for one year
[ ] $18 for two years

Please make your check or money order (U.S. funds) payable to The Maine Entomological Society and mail to:

Maine Entomological Society
C/O Dana Michaud, Treasurer
3 Halde St.
Waterville, ME 04901

Name:_____

Home Address:_____

_____

Home Phone:_____

Home E-mail:_____

Work Address:_____

_____

Work Phone:_____

Work E-mail:_____

Interests:_____

_____