



**W**hat a difference a year makes! Warm and wet makes a big difference.

As of mid-August I am over 15 percent ahead on sample numbers, and overall it is a much more active insect year. Starting with butterflies – last year there were none. This year it started with samples of larvae devouring stinging nettle-- and two weeks later we had a good flight of **red admirals**. I saw some **monarchs** by mid June, but things took off in July: Lots

### News from the Insect Diagnostic Lab

By Phil Pellitteri

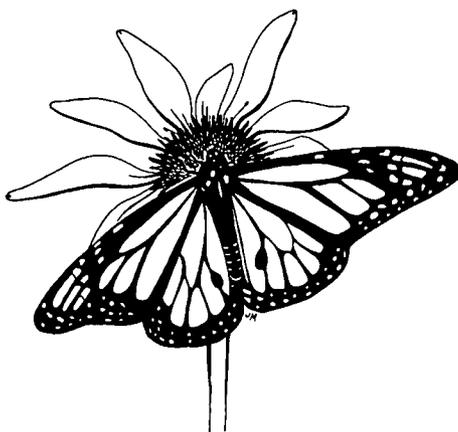
to be the **celery leaf-tier** – *Udea rubigalis*. Large numbers in light traps, and people

calling about

all of those moths hanging around on bushes and grass around the home. Did not see any larval damage so not sure what the host plants were. I also received some orange and black pyralid larvae attacking false indigo.

**Earwigs** loved the lush spring. In those areas that they have been in for a few years they were common but not crazy. Like most invasives they seem to have higher populations when they first invade. Lot of complaints in the NW part of the state where they are a more recent problem. I had at least four reports of people that had to go to the doctor because one crawled into their ear, including one where the earwig ruptured the eardrum. I have learned a long time ago never say never-- but this is not fair.

**Gypsy moths** started rather strong, but by early June I had a number of reports about thousands of dead caterpillars hanging on



of adults and found six full-grown larvae on our butterfly-weed to pass along to some of the kids in the neighborhood. Next was all the emails with **tiger swallowtail** caterpillar photos. Then all of the calls on the swarms of **clouded sulfurs** and other *Colias* in the late summer. **Hawk moths** also seem to be up. I have been sent a number of images of *Hemaris thysbe*. I am expecting some interesting finds in the season summary this year.

There was an incredible explosion of a small tan pyralid moth that turned out

### In This Issue...

**News from the Insect Diagnostic Lab**  
Page 1

**Fall Meeting Date**  
Page 2

**Mystery Insect**  
Page 2

**Books & Websites**  
Page 3

**Further Observations on Roesel's Katydid in Wisconsin**  
Page 4

**More Good, Bad, & Inspiring News**  
Page 6

**Of Beetles & Bees**  
Page 7

Please see **NEWS**, page 2

The Wisconsin Entomological Society Newsletter is published three times a year, at irregular intervals. The newsletter is provided to encourage and facilitate the exchange of information by the membership, and to keep the members informed of the activities of the organization. Members are strongly encouraged to contribute items for inclusion in the newsletter. Please send all news items, notes, new or interesting insect records, season summaries, and research requests to the editor by Jan. 15, May 15, or Sept. 1st:

J. Mingari, P.O. Box 105, New Holstein, WI 53061, email: turkeyfeather@tds.net (Put WES in subject line)

NOTE: Please report any address changes to Les Ferge, 7119 Hubbard Ave., Middleton, WI 53562, email: lesferge@gmail.com.

NEWS, from page 1

tree trunks. A lot of *entomophaga* fungus and some virus really knocked the population, but there were small pockets of moderate defoliation in Marinette, Oconto, Shawano, and Langlade. I am anticipating a statewide population decline. There was a bit of a **forest tent caterpillar** outbreak near Devils Lake area.

I have not seen any new state records yet this year. The **beech scale** range now extends to seven counties with Door having the most activity, and very light populations the farther south you go. It has been surprising that the **emerald ash borer** has not been found in any new counties in Wisconsin in 2010 yet. A couple of new sites have been found in infested counties.

Johanna Brunet, who is a USDA researcher in our department, is trying to get **white-lined sphinx moths** in culture. She works with columbine genetics, and this is an important pollinator of that plant. She would love to have larvae or mated females any time. Give me a call at (608) 262-6510 if you know where they can be collected, and I will pass the information on.



## Field Trips

If you'd like to be put on the WES Field Trip notification list, contact Kyle Johnson at: kejohnson4@wisc.edu

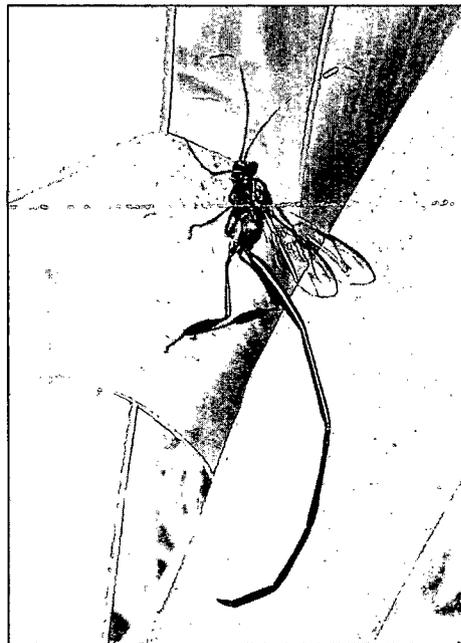


# Fall Meeting

Sat., Nov. 6  
1-4 pm

at Russell Labs  
UW-Madison Campus

In addition to fall classic photo salon there will be a couple of short talks. Bring specimens, pictures, and stories to share.



## Mystery Insect

Several of these distinctively large glossy black insects appeared in my Manitowoc County, WI yard on July 23. According to one insect guide, they are more typically seen in August and September. Photo is close to life-size.

Send your identification to the editor:

[turkeyfeather@tds.net](mailto:turkeyfeather@tds.net)  
(with WES in the subject line)

or  
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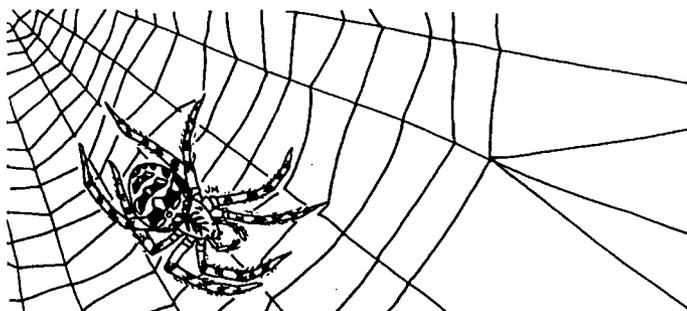
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## Books & Websites

by Andrew Khitsun

For those who liked mentioned before **The Prionids of the Neotropical Region** by I. Jenis - Volume 2 is out. Also available is **The Moths of North America, Fascicle 26.9 (Noctuidae-Part)** by K. Mikkola and others. **Tiger Moths and Woolly Bears** by W. Conner is one of the most comprehensive works on that group of insects in North America and beyond. Don't be fooled by the name **The Bug Book** by C. Brinkhurst and others - it's not one of your kiddie books, but a good identification guide for aquatic insects of California and the West. Another interesting and unusual (I'd say weird) book is **Insectopedia** by H. Raffles: It's not yet another bug encyclopedia, but a collection of facts and essays showing how insects are tightly interwoven into the history of human beings and our life today. **Insects of Yukon** by H. Danks and others is a compilation of works by the authorities specializing in different groups of insects (and spiders). Speaking of the latter, **Spider Silk** by L. Brunetta is a must-have for those who prefer non-insect invertebrates. For the same folks, **A Manual of Acarology** (third edition) by G. Krantz and others is a monumental work on mites. Returning to insects, two beautifully illustrated books are available from Pensoft Publishers: **Sharpshooter Leafhoppers - An Illustrated Checklist (Part 1: Old World Cicadellini)** by M. Wilson and others and **Cercopid Spittle Bugs of the New World** by C. Carvalho. **Grasshoppers, Locusts, Crickets & Katydid of Mexico** by P. Fontana is an excellent and richly illustrated work on those groups of insects. The book **The Carrion Beetles of North Dakota (including identification keys for the entire North**

**America)** by G. Hanley & D. Cathrell can be obtained by calling Guy Hanley at (701) 858-3076 or emailing him at [guy.hanley@minotstateu.edu](mailto:guy.hanley@minotstateu.edu). (You can view a sample page at <http://cmssc.minotstateu.edu/museum/Site/Site/Silphidae.html>). On the other hand, **The Carrion Beetles of Nebraska** by B. Ratcliffe is out of print, but you can download a free copy at <http://www-museum.unl.edu/pubs/ratcliffe-carrion.html>.

Already mentioned Canadian Journal of Arthropod Identification just added another volume online: **Photographic Key to the Pseudoscorpions of Canada and the Adjacent USA** at: [http://www.biology.ualberta.ca/bsc/ejournal/b\\_10/b\\_10.pdf](http://www.biology.ualberta.ca/bsc/ejournal/b_10/b_10.pdf) (PDF File). Following the acquisition of the company "Combined Scientific" (also known as "Insects International"), Bioquip, famous for its insect-related gear, books and other products, has just launched separate website - <http://www.bioquipbugs.com/> - that will sell insect specimens for collectors and educators.

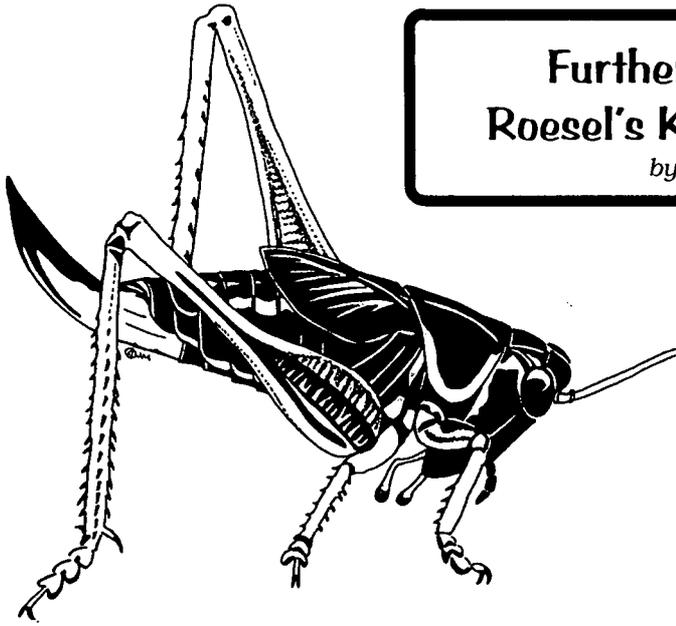
As of this writing, the service's still a work in progress, but I hope it'll offer interesting insects at decent prices, and most importantly, peace of mind regarding legitimacy and proper documentation (if needed) for the species it sells. Speaking of selling insects, several interesting articles appeared on **Insectnet** regarding trade in tropical invertebrates and how butterfly collectors help to save tropical forests (!). You can read them at <http://www.pacificnews.org/jinn/stories/columns/americas/950919-butterflies.html> and <http://www.insectnet.com/articles/killing.htm>. New sites dealing with different groups of insects appear all the time. **Dermestidae of the World** at <http://www.dermestidae.com/> is a very neat reference for that beetle family. A **Guide to New World Scarab Beetles** can be found at <http://www-museum.unl.edu/research/entomology/Guide/Guide-introduction/Guideintro.html>. And if you're interested in more beetles, you can join **Coleopterist Society** at <http://www.coleopsoc.org/default.asp>. They also produce a quarterly publication called **The Coleopterists Bulletin**.

In the vertebrate world, three richly illustrated and informative brochures can be bought from DNR field offices or online at <http://dnr.wi.gov/org/land/er/publications/herpBook.htm> for \$4 each: **Snakes of Wisconsin, Turtles & Lizards of Wisconsin** and **Amphibians of Wisconsin**.



## Further Observations on Roesel's Katydid in Wisconsin

by Jordan D. Marché II



In the September 2009 *WES Newsletter*, I described the observation or collection of several specimens of Roesel's Katydid, *Metroptera roeselii* (Hagenbach), from Green and Dane counties in southern Wisconsin (Marché, 2009). Since that time, additional county records have been obtained (or come to light), which reveal the presence of this invasive species extending at least as far north as central Wisconsin (Marathon County, the northern limits of sampling) and likely beyond. In addition, its known range across southern Wisconsin has been broadened to include two additional counties, Jefferson and Rock. Furthermore, short-winged forms of adult females, as well as males, have been observed and collected; this finding offers a correction to the reported occurrence of only short-winged males (Eaton & Kaufman, 2007, p. 78).

The earliest known record of this species in Wisconsin is a female specimen collected in Jefferson County on 18 July 1999 by Andrew Williams, Honorary Fellow of the UW-Madison Entomology Department (Williams, personal communication, 13 October 2009). I was allowed to examine Williams' specimen and confirmed its identity as *M. roeselii*. Williams's specimen thus predates by four years the first specimen that I collected at Muralt Bluff Prairie in Green County (2003) and likely constitutes the earliest-known state record of the species.

In the summer of 2010, I conducted systematic observations with the intent of identifying additional specimens of *M. roeselii*. My efforts were rewarded with the observation and/or capture of specimens from several new lo-

calities, including the new county records cited above. The early start to spring meant that I began looking for specimens several weeks in advance of the previous earliest-known date (27 June). This approach also netted my first observations of nymphs of this species, which, though lacking wings, nonetheless displayed the characteristic coloration on the side of the pronotum, by which they were readily identified. Specimens of both male and female katydids, displaying both long- and short-winged forms, were donated to the Insect Research Collection at the UW-Madison Department of Entomology.

The earliest positive observation of a nymph was a specimen, captured but released on 7 June, from the Town of Oregon Park, Dane County, WI, not far from my home. Along with adults, male and female nymphs continued to be found there amid the high grass on the north side of the property, as late as 29 June. Resting on a corn plant in the adjacent farm field, this latest female nymph showed no feeding behavior, nor was there any sign of previous feeding damage to the plant. This observation leads me to believe that this invasive species does *not* pose a serious threat to agricultural crops but is instead content to feed upon wild grasses and sedges. The first adults seen at this locality, a long-winged female and a short-winged male, were taken on 17 June.

A second new locality, immediately west of the Village of Oregon, and south of Netherwood Road (where recreational trails have been established), contained a short-winged female, collected along a mown pathway on 19 June.

But the most prolific locality sampled by the author (also on 19 June) was the main entry pathway into the National Ice Age Scenic Trail, Brooklyn Unit, east of County Highway DD, in southernmost Dane County. [This is the same locality that I erroneously labeled as the Brooklyn State Wildlife Area and where one specimen was seen, but not collected, in July 2009.] Here, especially among the high bluish sedges on the right side of the trail, more than a dozen specimens were encountered, including a mating pair, and which indicated an established population. Nymphs were also seen but not col-

**FURTHER OBSERVATIONS**, from page 4

lected at this time.

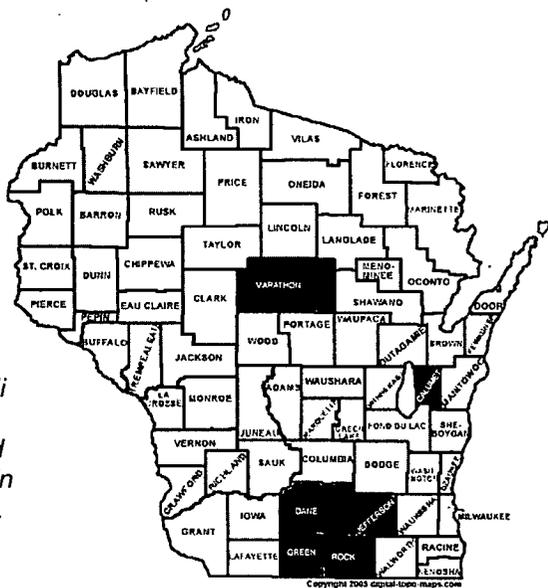
On 25 June, specimens of *M. roeselii* were observed and/or collected from two separate areas on the upper bluff portion of Magnolia Bluff County Park, Rock County, WI. Those areas included the high grass just north of the parking area and along the Equine Trail (on the east side).

The following day, 26 June, I accompanied a geological field trip, sponsored by the Badger Lapidary and Geological Society of Monroe, to central Wisconsin. In the vicinity of Dehnel's Aegerine Pit, located on the east side of North 120<sup>th</sup> Avenue, between County Highway U and Stettin Drive, west of Wausau, Marathon County, a number of specimens of *M. roeselii* were observed and/or collected. This northernmost locality establishes a much larger geographic range over which this species has spread northward from Illinois, presumably stretching continuously from the southern counties of Green, Dane, Rock, and Jefferson. Its presence will almost certainly be recorded from additional counties, both between those sampled, and from others farther west, east, and beyond.

References:

Eaton, E. R., and Kaufman, K. (2007). *Kaufman Field Guide to Insects of North America*. New York: Houghton Mifflin.

Marché, Jordan D., II. (2009). "Roesel's Katydid (*Metrioptera roeselii* [Hagenbach]) Established in Southern Wisconsin." *Wisconsin Entomological Society Newsletter*, 36, no. 3: 6.



Wisconsin counties from which *Metrioptera roeselii* have been documented (shaded). A short-winged female was documented in Calumet County 7-10-09.

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**Who knew Robert Hooke had a sense of humor?**

In his book, *Micrographia* (1665), he describes the eyes of a "Drone-Fly" (p. 175-176). He chose it because he "found this Fly to have, first the biggest clusters of eyes in proportion to his head, of any small kind of Fly that [Hooke had] yet seen," and also "because there is a greater variety in the knobs or balls of each cluster." He called these shapes "hemispheres... [which were] rang'd over the whole surface of the eye in very lovely rows." "[T]here was no quarter visible from his head that there was not some of these Hemispheres directed against; so that a Fly may be truly said to have an eye every way, and to be really circumspect." **Did you catch the joke?**

**Check out our website!**

Member contributions, such as images and links to other websites, etc., are welcome.

<http://wisentsoc.org/>

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## More Bad, Good, and Inspiring News

by Ann Swengel

The new paper, "Declines of prairie butterflies in the midwestern USA," by a consortium of lepidopterists/butterfly surveyors, has been published in the *Journal of Insect Conservation* and is freely available on that website at <http://www.springerlink.com/content/1732444592662434/fulltext.pdf>.

Scott Swengel and I were honored to be part of this project. The results are both sobering and encouraging. These analyses draw on the authors' own and other available survey datasets spanning several decades at dozens of prairie preserves across four states. Strong declines of prairie-specialist butterflies, especially skippers such as *Ototoe* (*Hesperia ottoe*) and *Poweshiek* (*Oarisma poweshiek*), occurred even years after habitat preservation and even in large sites. These sites were managed with an ecosystem approach, relying primarily on fire. By contrast, butterflies with more flexible and generalized requirements fared better. However, at some Wisconsin prairies and savannas with species-specific regulations governing land uses to be mindful of the butterfly's concentration areas and resource needs, demonstrably better outcomes occurred for those target populations, and sometimes for non-target specialist butterflies too. Of course, the species-specific regulations are only as good as their biology and compliance allow. These results indicate both an excellent opportunity for "adaptive management," where less successful approaches are modified in light of new findings suggesting better outcomes, as well as the invaluable contributions amateur observations can make.

The beauty and accessibility of butterflies have proven immensely practical by providing insight on the conservation and ecology of invertebrate biodiversity. The relative popularity and ease of butterfly study meant enough data were available to obtain large enough and long-term enough datasets to help decipher trends and ecological patterns. Even so, it wasn't that easy. Appropriate timing for certain species can be narrow and vary dramatically from year to year, due to weather that may not be cooperative during designated survey periods. Most surveyors were volunteers squeezing field work in around the other demands in their lives. Meanwhile, the study species can swing wildly in abundance among years, plus their habitat requirements are often complex and narrow. Many factors affect whether a particular butterfly species is present here or absent there. It takes a tremendous amount of work over long periods at many sites to identify the underlying patterns necessary to understand how populations will "behave" under future conservation programs.

Besides the global problems of habitat degradation and destruction in the wider landscape, the difficulty of retaining habitat specialist butterflies in already-conserved sites is a global issue. To some extent, these losses are inevitable lag responses to habitat patches too small or marginal in vegetation type. However, when declines and apparent losses repeatedly occurred in older preserves (longer managed with prevailing approaches to ecological restoration) at the same time larger populations still persisted in other sites more recently or not yet preserved, this suggests that management can have an important effect improving or disa-

favoring viability. It appears critical to minimize more lethal managements (such as fire) to allow lots of room for error in judging how much the population can tolerate, but it appears equally important to consistently implement other, less

lethal managements (such as rotational un-intensive mowing, haying, grazing, brush-cutting, and so on) that maintain a reliable supply of the vegetative conditions required by these butterflies.

These results are more dramatic than found in some other studies and for some other insect groups. It can take a lot of sites to find ones that support certain rare species, and it can take going back decades to find good numbers for some populations. The more marked yet consistent the differences in management history among sites, the better that management patterns can be teased out. Shorter term and/or more recent studies at fewer sites may miss long-term trends set in motion decades ago or masked by those dramatic year-to-year fluctuations. Studies with butterflies also show that habitat specialists are much more strongly affected by management than non-specialists, making it critical to study specialists where they still occur viably, rather than only settling for whatever can still be found in a certain set of sites. In smaller studies, the rarest and most sensitive species may not be found in sufficient numbers to register statistically. Furthermore, kinds of different groups of animals key in on different habitat features that may make them more or less sensitive to management types prevailing in either the conserved or unconserved landscapes. Each study is limited to what vegetation and management types occur in the sites studied, and since these vary among studies, results can vary too. As a result, volunteer experts such as you have tremendous opportunities to contribute valuable knowledge useful for maintaining our wonderful heritage of biodiversity in the modern landscape.





On June 23—a calm, sunny morning—the surveyor arrived to check the emerald ash borer trap at the edge of the woods. This entailed untangling its cord from dead twigs and putting out the extension of a hooked rod, to lift the trap's wire loop off the high branch of the ash tree.

Once the purple prism trap was down in his hands, it was just a matter of closely looking over its three sides while keeping fingers out of the stuff that coats the trap.

The sticky "Tanglefoot" insect trapping glue was studded with insects, mainly on their back, and they all appeared green. They reflected sunlit green grass and tree leaves on the sides that surveyor Matt Stender could not see at the moment; but also, he wryly observed, they reflected even more from his Safety Green vest.

Matt pointed out two *Agrilus* beetles in the graveyard of beetles, flies, and other random insects. They were not emerald ash borers (*A. planipennis*). Wisconsin has native *Agrilus* beetles: 54 species have been identified, to date, by a student of Dr. Dan Young at UW-Madison.\*1

By far, the primary victims of this trap, this month, were click beetles.

They were not moving, though Matt described a surprise he had one day: the odd clicking sounds he heard on approaching a trap, which turned out to be live click beetles trying to eject themselves from the Tanglefoot.

I was pestering Matt not for beetles, but for bees. The previous year's trap at our location had intrigued me by apparently having caught metallic green bees. Never catching that surveyor at the trap, I had been unable to investigate, and it bugged me.

—WHY bees might have been attracted to an EAB trap, I couldn't imagine. I'd already learned one thing, though: everything looks green on an EAB trap.

After inspection for *Agrilus* beetles, Matt picked off the only metallic hymenopteran we

## Of Beetles & Bees

by J. Mingari



could see—a beautiful blue-green small insect with a ventrally concave abdomen. I believe it was a cuckoo wasp (Hymenoptera: Chrysididae), maybe an accidental victim, or maybe the instigator of my quest. The previous year's alleged green bee observation had been made on July 16, so when Matt arrived to check the trap again on July 20 of this year, I was ready with my vial of solvent.

It was a humid, hot afternoon, and the trap came down reeking foully of decay. Most of the insects on it were flies, most of them actually metallic green. We speculated that they could be green bottle flies (Calliphoridae), attracted by the stink of the dead insects. There was one tiny *Agrilus* beetle; Matt collected it. As for hymenoptera: very few, dark, and minute, too fragile to remove without destruction.

And that, Matt said, would be the last check on that trap, thanks to 2010's early and persistent warmth: The traps are only maintained for the period during which *A. planipennis* beetles are active, and that period had elapsed.\*2

So: apparently no bees on the trap, and no prospect of any resolution to the question.

Beeless and answerless, I was standing before the blooming sweetclover under that ash tree when it struck me that all of the audible buzzing seemed to be due to flies in the fragrant blossoms. Kind of ironic: the honey plant, *melilotus*, had no bees: no furry bumblebees, no green or black and yellow bees, not even any honeybees from the three local hives. It seemed odd.

A week later, I netted some bees on goldenrod and attended a Xerces Society Pollinator Workshop, where I began to find out how much I didn't know about bees.

The building I work in has a small observation hive. It contains Italian honeybees. From my office chair I can hear kids provoking each other to bang on the hive.

At this time of year the hive is crowded. Eventually the workers will start making queen cells, and the colony will divide and swarm. Then they'll

\*1 Reported by Phil Pellitteri of the Insect Diagnostic Lab.

Please see **OF BEETLES & BEES**, page 8

\*2 450 to 1,500 Growing Degree Days. GDD are calculated on daily temperatures, beginning with 50F. After 50F is reached, it is subtracted from the average 24-hour temperature each day. The difference is compiled and referred to as GDD.

## OF BEETLES &amp; BEES, from page 7

exclude the drones for the winter. Without workers personally feeding them, the drones will die.

A flip-board by the hive asks, Wasp or Bee? It has a few pictures and info about bees that are not honeybees. Visitors enjoy trying it. In spite of it, every black and yellow buzzing insect our visitors see they label "a bee." Our easy-to-target bees have even paid the mortal price for being bees, while the lunch-raiding German yellowjacket wasps escaped with impunity.

Another irony: the public knowledge (and maybe mine, too) of buzzing black and yellow things seems to be built utterly upon *Apis mellifera*, the European honeybee, while their experience of bees may be built upon the wasps. But as far as bees go, the European honeybee is, in many ways, an exception to the rules, not representative of American native bees.

One of visitors' first surprises at the flip-board is the discovery that one of the pictured bees is green. That can't be right. Bees are black and yellow.

One of my first surprises was learning that one of those I had netted on the goldenrod was a male bee—feeding itself. From there it was a dawning and ticklesome realization that those bees working over the flowers—the males-- could probably be handled without concern of being stung. And then that those bees were missing other key parts of "standard" bee equipment—pollen brushes. Because male bees don't provision anybody but themselves.

And not only that-- some female native bees don't have pollen brushes on their legs, either. The scopae may be, instead, on the underside of the thorax or abdomen. Or be missing altogether, because some kinds of bees carry pollen on the inside instead of on the outside.

Next there was the discovery that native bees have a flight period, when a species might be found on a flower. In the Summer paradigm, honeybees are a common element, potentially active as long as something out there is blooming, spring through autumn. But many species of native bees have much shorter periods of activity.

How the dickens do they get enough nectar and pollen to survive the winter, under these circumstances?

Bees are so closely identified with honey that

our visitors sometimes have a hard time swallowing the notion that not all bees make honey. ("They don't? Then what do they do?") Most bees don't. They have no reason to do it: They have no colony and no queen to feed, and they don't overwinter as active adults.

Another contrast: In a honeybee world, a queen can live for a few years, but amongst the few native bees that do produce a queen (bumble bees and some sweat bees) the lifespan of the queen is a single year. Many species of native bees, solitary or social, only have one generation a year, whether they live in the north or the south.

According to research done by Dr. Amy Wolf of UW-Green Bay, working with Dr. John Ascher of the American Museum of Natural History on the Bee Database Project, 392 species of bees had been recorded in Wisconsin. Dr. Wolf's recent fieldwork has turned up 40 new records (of the WI total, eight are non-native).

In spite of these numbers, the native bees are remarkably self-effacing. The majority live solitary lives, leaving an egg with a pollen-nectar bead in individual cells. They come out of what looks like just another anthill hole in the ground or just another beetle exit hole in wood. —Except that anthill holes don't appear to have been drilled with a 7/32-inch (or other) drill bit. As I write this in early Sep-

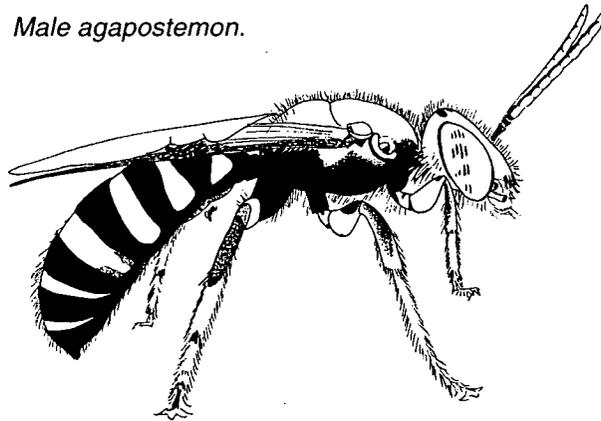
tember, furry yellow bees (*Melissodes*?) exit these holes in my sparsely grassed yard.

Even a ball of dead grass, the old home of a meadow vole exposed by melting snow, may become a fine bumble bee nest.

Describing the habits of native bees and their advantages over honeybees as pollinators, Jennifer Hopwood, Xerces Society Midwest Pollinator Educator, noted that native bees in general can work at lower light levels and in cooler, damper weather than honeybees: they may be at work long before the honeybees have begun to stir in the morning, and will still be at work after the honeybees have called it A Day. I have seen bumble bees, working late, camping on flowers, maybe stranded there by cooling evening air.

Honeybees will go on foraging trips with the exclusive object of collecting nectar, bypassing plant anthers, while native bees' foraging trips generally involve collection of both nectar and pol-

*Male agapostemon.*



*Males have one additional antennal and abdominal segment. They lack pollen brushes (scopae).*

## OF BEETLES &amp; BEES, from page 8

len. The range of native bee sizes means that some fit floral parts better than others. And plants that require vibration to release their pollen, such as tomatoes and potatoes, need a native bee; honeybees can't buzz-pollinate.

Declines have been documented for bumble bees, but most native bees have been so easy to overlook that nobody really knows how their populations are faring. The last official bee census reported in Wisconsin was S. Graenicher's 1935 "Bee-Fauna and Vegetation of Wisconsin," which was actually based on collecting expeditions made between 1909 and 1911. Of the 392 old records, it is not known how many species still exist.

Yard and agricultural practices have not tended to nurture bees, however. Ground-nesters' larval chambers are exposed to predation by tilling; removal of dead wood eliminates real estate for wood-nesters; use of insecticides on lawns, gardens, and crops can kill the pollinators or nesters as well as the pests; elimination of weedy areas also eliminates plants that can provide bees with nectar and/or pollen; and the monoculture green lawn with its orderly bloom of non-native ornamental garden plants is not likely to provide either the healthy variety of pollen or a continuous supply of nectar for the full length of native bees' active period. In addition, some species of native bees are specialists on particular plants, so they do not thrive without those plants.

It makes me wonder: That July day under the ash tree, and those minute dark insects in the sweetclover blossoms, that my unthinking glance overlooked— were those native bees? I hope they were.

## References:

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- Javorek, S.K., K.E. Mackenzie, and S.P. Vander Kloet. 2002. Comparative Pollination effectiveness among bees (Hymenoptera: Apoidea) on lowbush blueberry (Ericaceae: *Vaccinium angustifolium*). *Ann. Entomol. Soc. Am.* 95(3): 345-351. (*Bombus*, *Andrena*, *Halictus*, and *Megachile* spp. vs. *Apis mellifera*)
- National Research Council. 2006. *Status of Pollinators in North America*. National Academies Press, Washington, DC.



A bee in its ground burrow on a rainy, cool day, first week of September. (Author's photo)

- Shuler, R. E., T.H. Roulston, and G. E. Farris. 2005. Farming practices influence wild pollinator populations on squash and pumpkin. *Journal of Economic Entomology*. 98(3): 790-795. (no-till farming vs. tillage)
- Tuell, J. K. and R. Isaacs. 2010. Weather during bloom affects pollination and yield of highbush blueberry. *J. Econ. Entomol.* 103(3): 557-562. (*Bombus impatiens* vs. *Apis mellifera*)



## Examples of bees found

on new-blooming goldenrod in Calumet County in the end of July, identified by UW-Madison entomology student Hannah Gaines and Phil Pellitteri:

Three halictids:

One of the Augochlorini: Includes three genera of bright green metallic bees, nesting either in the ground or in rotting wood.

One *Halictus*: "These are common ground-nesting bees."

One *Lasioglossum*: "Most nest in the ground, although a few species...are known to nest in soft wood. This is the most socially diverse genus of bees in the world, with many solitary, a few communal and many eusocial species known."

One apid:

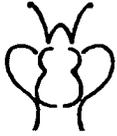
*Ceratina*: "They nest in dead, pithy stems... These bees are active throughout the summer."

One andrenid:

*Andrena*: "These are common solitary ground-nesting bees... The genus as a whole can be found throughout the spring, summer and autumn. Late summer species are common on goldenrod."

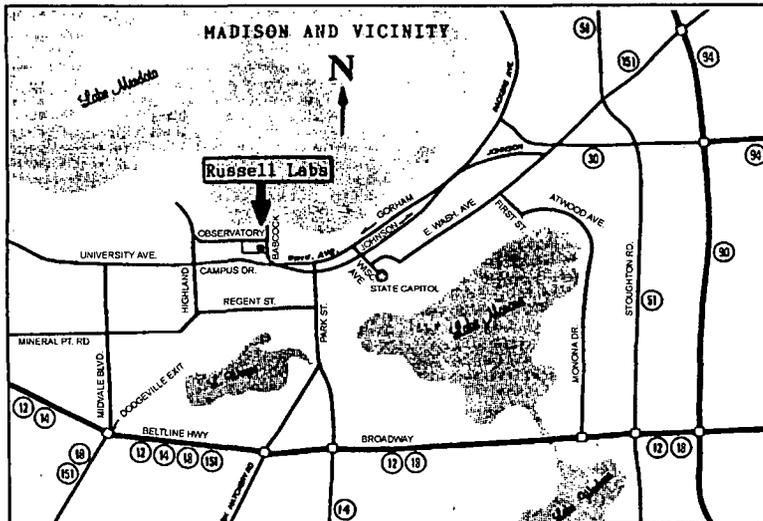
Quoted information is from  
The Bee Genera of Eastern Canada:  
[www.biology.ualberta.ca/bsc/ejournal/pgs\\_03/pgs\\_03\\_main.html](http://www.biology.ualberta.ca/bsc/ejournal/pgs_03/pgs_03_main.html),  
which also includes keys to identifying bees.  
Visit [www.discoverlife.org](http://www.discoverlife.org) and search Apoidea for the  
bee database project and detailed ID keys.

# Wisconsin Entomological Society



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# Fall Meeting

## Saturday, Nov. 6, 1-4 PM

at Russell Laboratories on the UW-Madison campus