

Wisconsin Entomological Society

Newsletter

Volume 36, Number 3

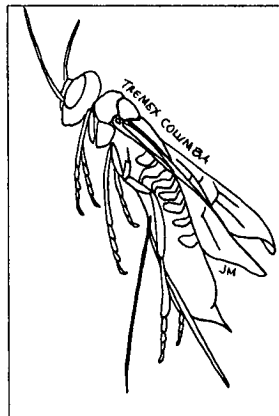
September 2009

A person can make really interesting discoveries while cutting firewood. All you have to do is pay attention to details. One day, MR (my spouse) was cutting up a dead maple tree for firewood when he called me to look at something odd. The center of some 8-inch diameter tree sections contained round tunnels about 6 to 7 mm in diameter, tightly packed with sawdust except for one that had something slowly emerging from it. I pulled it out and found

Firewood Can Be More Than It Seems

by Carroll Rudy

myself holding the body of a Pigeon Horn-tail (*Tremex columba*) beheaded by the chain saw. Pigeon Horn-tails are large-bodied, one-inch-long, attractive brown wasp-like insects with reddish heads (if they haven't been removed) and bright yellow markings, including several conspicuous horizontal stripes on the abdomen. The tail is tipped with an impressive spike-like appendage. I'd never seen a horn-tail before, but I knew they are common in our woodland because the summer before I had seen Giant Ichneumon Wasps depositing eggs in a dead tree trunk.



Tremex columba
Drawn from dead specimen

I first noticed the ichneumons (*Megarhyssa macrurus*) the summer before, when I saw a spectacular insect flying past me. It was a large brown wasp-like insect with an ovipositor at least three inches long. I'd seen photos of these creatures, but never a live one. Following this, and other individuals of the same kind to their source, I

found a small dead tree stump with several more of them still attached to the tree by their embedded ovipositors. It takes a while for a *Megarhyssa* to work the long egg-laying apparatus loose from the hard wood of a maple stump.

Wondering what the target for their eggs might be, inasmuch as I knew that Ich-

neumons are parasitoids of insect larvae, I did some research in my insect guide and found that they were seeking horn-tail (*Tremex columba*) larvae, deep inside the wood. Later when we had to cut a portion of the dead tree off the stump, we left the portion we'd seen *Megarhyssa* using, but found a tunnel on the cut surface with a white grub emerging from it. This must have been a horn-tail larva. Now I was even more curious about horn-tails.

It was a good thing we left that stump, because a few weeks later another species of

Please see FIREWOOD, page 2

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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: ferge@netzero.net

FIREWOOD, from page one

Megarhyssa was depositing eggs in it. This one was *Megarhyssa atrata*, which is black with yellow markings on the head and legs, and is even larger than the other species (*M. macrurus*). When passing the stump, we often stopped to watch the egg-laying process of both species. Sometimes there would be six *Megarhyssa* at once in various stages of drilling the ovipositor into or pulling it out of the wood. The process involves bending parts of the thin, stiff, wiry appendage into a coil with a disk-like translucent membrane in the center of the coil, to slowly work into the hard wood a bit like a well-driller. Those who have cut sugar maple wood know how hard it is, and will find it amazing that an insect can insert a thin ovipositor three inches into such a hard substance. When the insect encounters a *Tremex* larva tunnel, it deposits long slender eggs that will hatch and devour the *Tremex* from the inside out. I read that the ichneumonids can detect larvae in the wood by feeling for vibrations with their antennae.

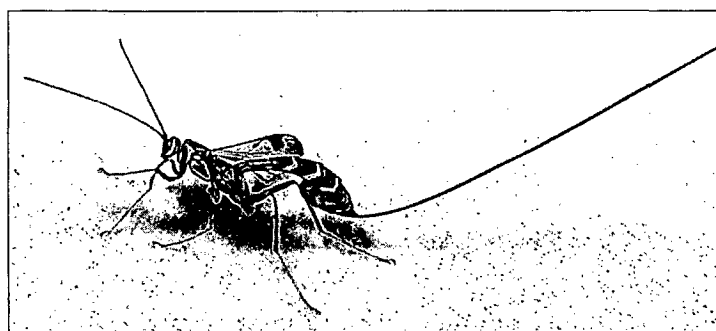
So why, I wondered, does the ovipositor have to be so long? We found out when we encountered the *Tremex* tunnels in the firewood MR was cutting --They were in the center of the tree in the dead heartwood. The depth gives *Tremex* protection from enemies other than Ichneumonids with very long ovipositors and large determined woodpeckers such as Pileateds.

Now I was curious about how a horntail gets out of the center of the tree, since I'd pulled a fully developed adult out of the hole. Frass-filled tunnels indi-

cated there were several others still in the wood. Internet research on insects can be difficult when it comes to any insect that is not of economic importance, but justly or unjustly, the horntail is counted among "forest pests" in spite of the fact that it



Megarhyssa atrata, above;
M. macrurus, below
Photos by Carroll Rudy



attacks only the wood of dead, dying or damaged trees, and such wood has little value as lumber. They will, however, continue to chew their way through newly dead wood after it's cut for lumber.

There is only one species of *Tremex* horntail in Wisconsin. The adults are flying from mid-summer to autumn. Eggs are

deposited up to 20 mm. deep and hatch about a month later or the next spring in very cold climates. When the female *Tremex* deposits her last egg she may die with her ovipositor still imbedded in the tree.

The female horntail carries a commensal wood-rotting fungus--*Daedalea unicolor*-- in sacs at the base of her ovipositor. The fungus is injected along with the eggs, and begins to grow in the dead wood. Studies have shown that without the fungus, *Tremex* larvae are unable to feed on the wood.

It takes from one to three years for the larvae to mature depending on the severity of the climate: Two years would be the norm in Wisconsin. The larvae chew tunnels into the center of the tree, packing the channel behind them with sawdust-like frass. They pupate deep in the wood, and the adult chews its way to the surface to begin the cycle once again. If it was attacked by a parasitoid *Megarhyssa*, an ichneumonid wasp emerges instead.

References:
--http://
www.forestpests.org/
borers/
pigeontremex.html
--Functional morphology
of the ovipositor in
Megarhyssa atrata
(Hymenoptera, Ichneu-
monidae) and its penetra-
tion into wood by Jo-
seph Le Lannic and J.-P. Nénon.
Groupe d'Ecobiologie des Insec-
tes Parasitoïdes, Université de
Rennes 1, Campus de Beaulieu
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35042 Rennes Cédex, France





Arilus cristatus "Wheel Bug"

Thanks to WES member Linda Curtis for a great photo and mystery insect.

Ilona Loser, Barb Siebel, H. Gene Drecktrah, and Ron Huber responded with correct identifications of this large member of the Reduviidae. Ilona mentioned "I've read that the bite is very painful so this is one insect I would handle very carefully."

This mystery insect prompted some interesting discussion of its actual range. We don't know of any voucher specimens collected in Wisconsin.

The University of Florida cites a distribution of "Rhode Island westward through Iowa and Nebraska to California, and southward to Texas and Florida" (http://entomology.ifas.ufl.edu/creatures/trees/wheel_bug.htm).

Ron Huber recalls having seen a student's specimen collected in Redwood County, MN; but the Mankato collection has no voucher. Gene Drecktrah has collected specimens in Oklahoma. Sue Borkin reports that the only two specimens in the Milwaukee Public Museum collection were both collected in Cleburne Co., AR. The University of Michigan Museum of Zoology has specimens from as far south as Guatemala, but no farther north than southern Pennsylvania.

Phil Pellitteri reports no records from Wisconsin in the Madison collection; those specimens are from Texas and Florida. Linda's photo was taken in Florida.

Please join us for our

fall meeting

Saturday, Oct. 24, 1-4 PM

at Russell Laboratories on the UW-Madison campus.

This will be our 26th year of the William Seiker memorial photo salon. You can bring, email, or send 1-5 images.

Photos are judged on a combination of quality and difficulty in getting the image.

We will have some presentations: one from a new member, Jordan Marché, titled 'Darwin and the Entomologists.' It is the sesquicentennial of the *Origin's* publication, and Darwin's 200th birthday. If anyone would like to give a talk please contact Phil Pellitteri at pellitte@entomology.wisc.edu.

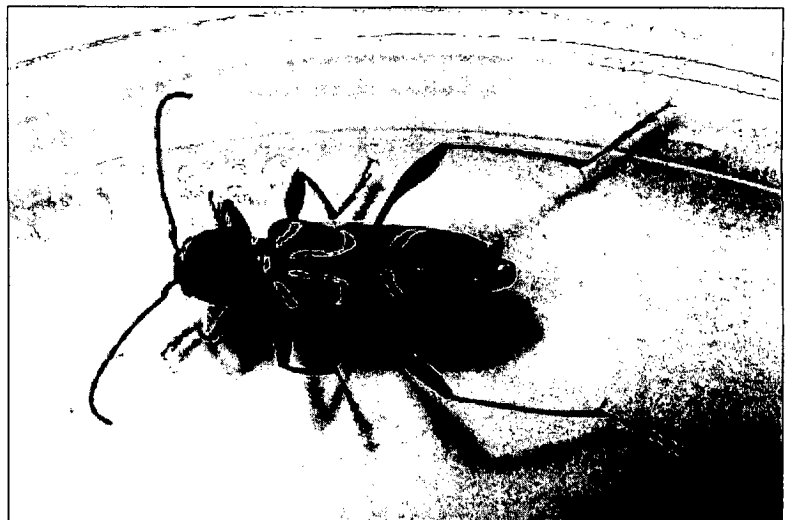
We will also have our annual election.

Please forward candidates to Phil.

Kyle Johnson has agreed to run for president.

As always, bring interesting specimens, samples and stories to share.

Mystery Insect



This insect was found in a woodland in Manitowoc County, WI, in mid-June.

Send your IDs to the editor:

P.O. Box 105, New Holstein, WI 53061

or email with WES in the subject line:

turkeyfeather@tds.net.

News from the Entomology Lab

by Phil Pellitteri

As I write this we still have the end of summer and fall insect season- but the first part of 2009 has had its moments.

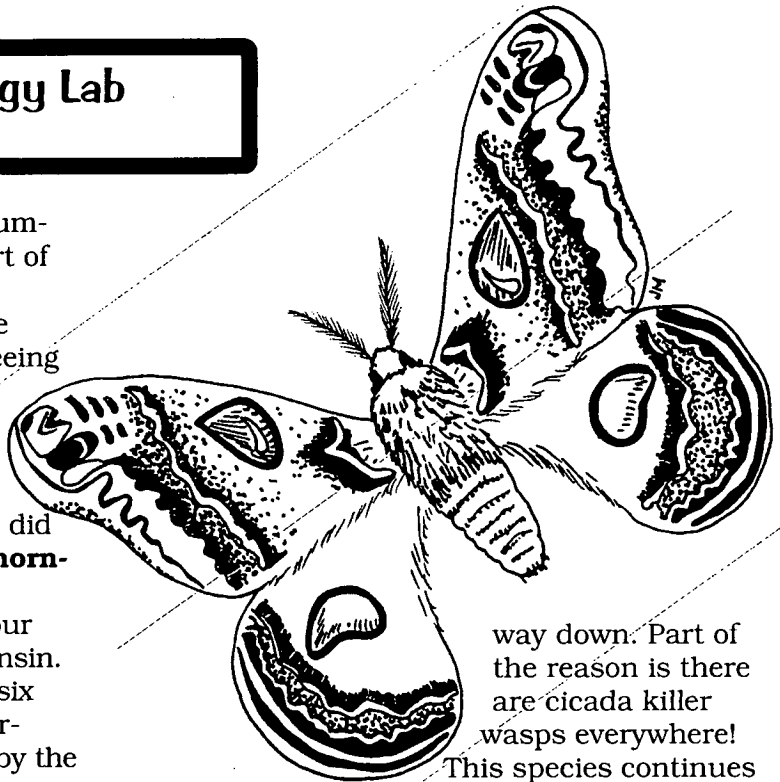
Seems to be a down butterfly year in the southern part of the state. I did not start seeing **Monarchs** regularly until the end of July. In early May I saw a decent number of the usual suspects, but it has been down ever since in our area. I also had no **Cecropia**, **Polyphemus**, or **Imperial** moths come in. I did get a number of digital pictures of various **hornworm** larvae.

It was mid-August in 2008 that we had our first records of **Emerald Ash Borer** in Wisconsin. A year later we are now up to four sites and six counties with activity, and I would not be surprised if we will find two or three more sites by the end of the year. At one time I was hoping for a slow spread, but I am no longer optimistic. Most seems to be firewood that was moved before the quarantines. [Three more since article written.]

In May we found another invasive-- the first state record of the **viburnum leaf beetle** -: *Pyrrhalta viburni*. This is a European insect that is established in the northeast, but has not been seen west of eastern Ohio. Both adults and larvae feed and put major stress on the plants. Because the adults and larvae feed all season long they can kill plants within two years. They seem to prefer the thin-leaved cranberries. I have had reports of good numbers of **cicadas** in parts of the state, but in Madison the numbers are



Pyrrhalta viburni
Photo by Paul Weston,
Cornell University



way down. Part of the reason is there are cicada killer wasps everywhere!

This species continues to expand its range northward. **German yellow-jacket** numbers are down so it is still safe to eat and drink outdoors during the day. Cool summers seem to slow the colony development so they do not need to scavenge sugar and protein sources-- but this pattern of low numbers has been seen for the past four-five years. I am getting plenty of calls about the aboveground **paper wasps**.

Human **bedbugs** continue to be my most complicated problem. They are having success with heat machines and diatomaceous earth, but the expense of the treatments often cause people to do crazy things and not get control. I always see a number of samples of the species associated with bats also-- but this year I had two samples of a bird-infesting species, *Cimexopsis nyctalus*, which is found on chimney swifts. They still bite humans but because of their biology it is a very different problem.

It has been a nice Canadian summer with less **mosquitoes** than you often find up north.



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Want More Butterflies?

by Mariette Nowak

Do you want to maximize the numbers of butterflies, as well as birds, in your yard?

Then, maximize the numbers and diversity of native plants on your property. That's the conclusion of a compelling new study by researchers at the University of Delaware.*

The researchers measured how landscaping affects butter-

fly and bird populations on 6 pairs of suburban properties. The properties ranged in size from 1/3 acre to 13 acres. One of each pair was landscaped completely with native plants from groundcover to canopy. The other one was landscaped conventionally with mostly non-native plants – typical lawns of Eurasian grasses along with Asian shrubs and understory trees. The canopy trees, however, were native as on the all-native properties. Site pairs were matched in a variety of other characteristics also.

Butterfly abundance was four times greater on the native sites. This is not surprising, since our native insects are rarely able to digest non-native plants. In addition, the abundance of birds, the diversity of bird species, and the numbers of nesting pairs of native birds were also significantly greater on the properties landscaped with native species than on those with conventional landscaping. Birds of conservation concern in the study area - the Great Blue Heron, Veery, Wood Thrush, Scarlet Tanager and Eastern Towhee - were also significantly more abundant on the native properties.

The correlation between butterflies and birds is an important one. Ninety-six percent of all terrestrial birds in North America rear their

young in part or entirely on insects, such as butterfly caterpillars. In addition, a number of bird species eat only or primarily insects as adults.

In their conclusion, the researchers state the following: "By demonstrating the connection between native plants and suburban biodiversity, we provide evidence that the landscaping choices of homeowners affect populations of both birds and the insect food they require, thus empowering homeowners, landscapers, and policy makers to raise (or lower) local carrying capacities by plant choice alone."

While most insect enthusiasts realize the importance of native plants for insects, this paper provides proof of the significant difference we can make right in our own yards. As Tallamy states in his excellent book, *Bringing Nature Home*, "Unless we restore native plants to our suburban ecosystems, the future of biodiversity in the United States is dim." It's time to replace the non-native imports in our yards with insect-friendly native plants.

*Impact of native plants on bird and butterfly diversity in suburban landscapes. 2009. Burghardt, K. T., D. W. Tallamy, and W. G. Shriver. *Conservation Biology* 23:219-224.

Douglas W. Tallamy, *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*. Timber Press, 2009.



Dane County Beekeepers Association

You are invited. Meetings are free and open to anyone interested in beekeeping and honeybees.

First Tuesday of the month, different locations in Dane County.

Email or call Jeannie Hanson for more information: jeanniealabeannie@yahoo.com or (608) 244-5094.



Roesel's Katydid (*Metrioptera roeselii* [Hagenbach]) Established in Southern Wisconsin

by Jordan D. Marché II

A European species that was accidentally introduced near Montreal, Quebec in the 1950s (Eaton and Kaufman, 2007, p. 78), the shieldback katydid *Metrioptera roeselii* (Orthoptera: Tettigoniidae) has now been observed or collected at three different localities in southern Wisconsin. While an isolated population was also reported in northern Illinois (Elliott and Hershberger, 2007, p. 176), this species has extended its range farther northward. Though not observed yet in large numbers, additional specimens are likely to be seen or collected in coming years.

I first encountered a male specimen at Muralt Bluff Prairie, Green Co., WI on 29 June 2003 (shown in photo below), but could not then identify it. A second (female) specimen was collected on 27 June 2009 at Bicentennial Park, Oregon, Dane Co., WI. A third specimen was observed (but managed to escape) at the Brook-

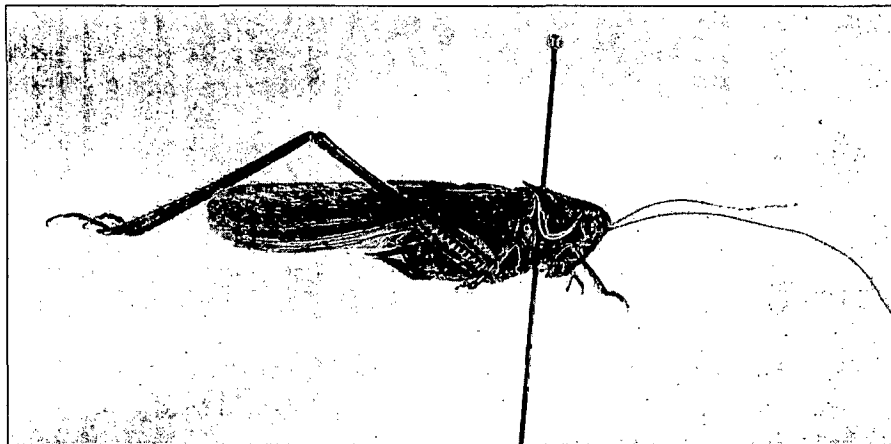
lyn State Wildlife Area, Dane Co, WI, in early July. I have not observed or collected any other specimens since that time.

A distinctive feature of this species, whose body length measures only about 0.75 inches, is the lateral coloration of the pronotum. While predominantly black, it displays a pale yellow-green margin that extends around the entire lower border. In turn, a lighter-colored, 'sawtooth' pattern, set against a medial black background, is visible on the hind femora. Both short- and long-winged forms of the species are known to occur.

Reference:

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

Elliott, L., and Hershberger, W. (2007). *The Songs of Insects*. Boston & New York: Houghton Mifflin.



Roesel's Katydid, *Metrioptera roeselii*. Photo provided by Jordan Marché.

Volunteers Needed

to create Insect Science Education Kits

The Entomological Foundation is seeking volunteers to serve as members of the Insect Science Education Kit Advisory Committee, which will create the concept for Insect Science Education Kits for K-12 educators.

April Gower of the Entomological Foundation said, "The more diversity we have on the advisory team, the better. I am looking for educators who work with children in grades K-12 which includes volunteer youth leaders, teachers, homeschool parents, entomologists, etc."

Once the concept is created, funding for the development of the Kit will be sought in 2010. All meetings of the Advisory Committee will be held by conference call. It is anticipated that approximately four meetings will be held from September through December 2009. If you would like to join the Advisory Committee or if you have questions, please contact April Gower at the Foundation by September 30 at 301-459-9083 or april@entfdn.org.

WES Membership Dues

Individual Membership
\$10 per year

Family Membership
\$10 per year

Sustaining Membership
\$15 per year

Patron Membership
\$25 per year

Please make check payable to WES and send to
Les Ferge, 7119 Hubbard Ave.,
Middleton, WI 53562-3231

Butterflies of the Northwoods by L. Weber is back! Reprinted and updated, it features 65 more species now! Also, **Insects of the Northwoods** by J. Hahn (it may or may not be out by the time you're reading this) is a welcome addition to this popular series, although I'd prefer each family to be in its own book. Also out a **Checklist of the Cerambycidae, or Longhorned Wood-Boring Beetles of the Western Hemisphere** by M. Monne & L. Besark. On the pest control front, **Prevention of Bug Bites, Stings & Disease** by D. Strickman and others talks about how to prevent insect troubles before they happen. If you still didn't get WES member Karl Legler's **Dragonflies of Wisconsin**, the latest and most complete edition can be purchased at one place only: The Arboretum

Store, located at 1207 Seminole Hwy., Madison, WI 53711. If you live far away, you can order by calling the store (608) 263-7888, and they will probably ship it to you. **Blister Beetles of Colorado** by J. Schmidt continues series **Insects of Western North America** and is richly illustrated with photos. For those who've read their share of literature about bees, ants, and termites, **Other Insect Societies** by J. Costa offers a glimpse into the social life of other insect orders. If someone's interested in the opposite side of the globe, **The Tiger Moths of the Former Soviet Union** by V. Murzin covers most of the palaeartic fauna of that family; while ongoing series **Catalogue of the Palaeartic Coleoptera** (planned in eight volumes) gives the most up-to-date taxonomy of that immense order of insects in the region.

For those who didn't buy the book **Songs of Insects** mentioned in the earlier newsletter, an online version is available at <http://www.musicofnature.com/songsofinsects/> - and some of the photos are different, too! **Aquatic Insects of Michigan** at <http://insects.ummz.lsa.umich.edu/~ethanbr/aim/> is not an all-inclusive site but has some good keys

for identifying water-dwelling organisms. Speaking of water-dwelling, there is a load of **guides to Florida aquatic insects and their larvae** (some of the species could be found around here, too) that can be downloaded from the De-



Insect Publications and Websites of Interest

by Andrew Khitsun

partment of Environmental Protection of Florida site at <ftp://ftp.dep.state.fl.us/pub/labs/biology/biokeys/>. Just look for the names of interest in the titles of PDF files (not too hard to figure) and download at will! Some universities offer good stuff too: you can download **Monograph of the family Mordellidae (Coleoptera) of North America** by E. Liljeblad from the University of Michigan site here: <http://deepblue.lib.umich.edu/bitstream/2027.42/56307/1/MP062.pdf>. Another very good site (still un-

der development) is **Darkling Beetles of Eastern US** at http://entnemdept.ifas.ufl.edu/teneb/eastern_checklist.htm. And don't forget UW-Madison's own Dan Young's **Tenebrionidae of Wisconsin** at <http://entomology.wisc.edu/%7Eyoung/tenebrio/witenebr.html>. And while you're at it, **Tenebrionidae of the World** is awesome at <http://www.tenebrionidae.net/>. But the prize goes to the best ID guide money can't buy (it's free): **Identification Atlas of the Vespidae of the Northeastern Nearctic Region** by M. Buck etc. That awesome publication can be downloaded from the online-only **Canadian Journal of Arthropod Identification** at <http://www.biology.ualberta.ca/bsc/ejournal/ejournal.html>. The journal has a few more excellent guides, including **Tabanidae Flies of Canada**, **The Bee Flies of Ontario**, **Mecoptera (Scorpionflies) of Ontario**, **The Bee Genera of Eastern Canada**, **Heptageniidae (Ephemeroptera) of the World**, and **Photographic Key to the Adult Female Mosquitoes of Canada**. All of the works from the aforementioned journal can either be browsed as regular websites or downloaded as PDF files.

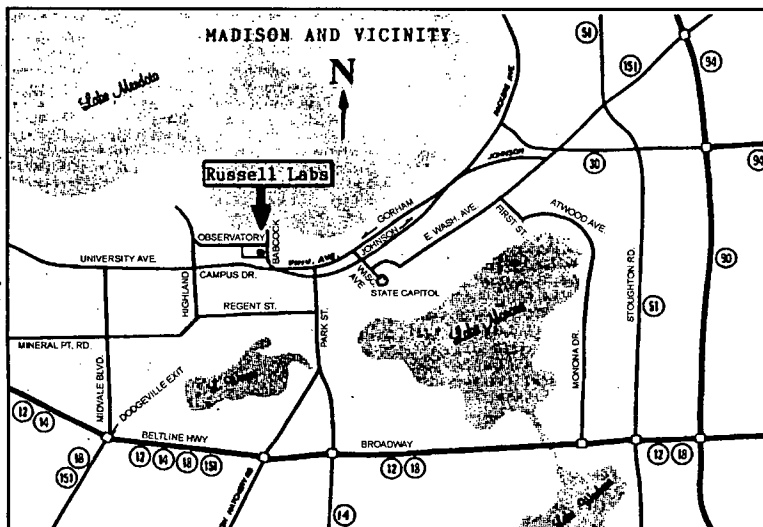


Wisconsin Entomological Society



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Address Services Requested



From the West:

From U.S. Hwy. 12 or U.S. Hwy. 14, take University Ave. east onto campus. Turn left (north) onto Charter Street. Turn left (west) onto Linden Drive.

From the East:

From Interstate 90, take U.S. Hwy. 14/18 (the "Beltline") west. Take the Park Street exit north into the city. Turn left (west) on University Ave. Turn right (north) onto Charter Street. Turn left (west) onto Linden Drive.

At the third stop sign you will be at the intersection of Linden Drive and Babcock Drive. Russell Lab is the building on the northwest corner of this intersection. The Insect Diagnostics lab is in Room 240. Public parking is available one block farther west at the west end of Babcock Hall (on your left), and on the top level of the parking ramp located on the north side of Russell Labs.

Fall Meeting

Saturday, Oct. 24, 1-4 PM

at Russell Laboratories on the UW-Madison campus