

Wisconsin Entomological Society

Newsletter

Volume 36, Number 1

February 2009

For the last two years, I have had the pleasure of operating a *Galerucella* beetle mass-rearing tent at Brillion Nature Center.

In order to raise as many beetles as possible for use in a purple loosestrife biological control project, the Calumet County Master Gardeners and volunteers of Brillion Nature Center set up an artificial, contained wetland in the nature center's back yard. The improvised wetland consists of a 12' x 12' screen tent, housing nine wading pools. Each pool contains 10 to 12 potted purple loosestrife plants. The plants are given optimum soil and growing

Lessons from a *Galerucella* Beetle Mass-Rearing Tent

Article and photos by Louie Kolberg

conditions until they reach a height of about two feet.

Enter, the *Galerucella* beetles. We collect approximately 1,000 mature beetles from an established population and add them to our 100 plants. Within days, the healthy leaves are riddled with holes as the 1,000 beetles feed, mate, and lay eggs in tiny clusters of ten. The eggs hatch and little orange larvae work diligently to skeletonize the leaves, appeasing their voracious appetites.

Within two or three weeks, the larvae disappear down into the potted soil to pupate, leaving behind the dry, brown, decimated plants. Two or three weeks after that, the new adults emerge from the soil and begin the search for fresh loosestrife to feed on, beginning the cycle all over again.

After two years of working in the mass rearing tent at Brillion Nature Center, this is what I've learned:

1) The grip of a *Galerucella* beetle larva is much stronger than the exoskeleton of a *Galerucella* beetle larva. After crawling around the floor of the beetle tent, punching holes in the sides of the wading pools to lower the maximum water level,

my clothing was literally crawling with insects. Hundreds of tiny larvae had fallen off the leaves and onto me as I moved among the plants.

My first attempt to brush them off my shirt and back onto the loosestrife resulted in yellowish-orange skid marks down my sleeve. Picking them off one at a time proved to be too slow for my rapidly decreasing tolerance to the tickle of beetles finding their way inside my collar and sleeves.

I found that I was making the problem worse by brushing against plants as I tried to remove the beetles. I abandoned that plan and made a quick exit from the tent, stripping off my shirt in the middle of the nature center lawn and vigorously shaking the beetles off.

After carefully inspecting all of the seams, button holes, and pockets, I put my shirt back on and, of course, continued to find larvae crawling on my arms and neck for the next four hours.

2) Beetle gut stains don't come out. I've tried soaking, soaping, "gooping", and degreasing, but nearly all my "beetle shirts" still show the

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The Wisconsin Entomological Society Newsletter is published three times a year, at irregular intervals. It 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:

J. Mingari, P.O. Box 105, New Holstein, WI 53061, email: turkeyfeather@tds.net

NOTE: Please report any address changes to Les Ferge, 7119 Hubbard Ave., Middleton, WI 53562, email: ferge@netzero.net

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marks of inadvertently squished insects. I've come to accept that if I don't want spots on my shirts, I need to make a concerted effort to leave the beetle guts inside the beetles. As an aside, the beetles have never thanked me for my effort, but I'm sure they appreciate it in their own way.

3) Screen tents with zippered doors don't keep out all predators. While working in the tent, I've been surprised by everything from spiders to snakes enjoying a feast of beetles (or animals that eat beetles). Theoretically, raising the beetles in an enclosed area will cut down on the numbers lost to predation, but it is still important in the tent to watch one's step.

4) *Galerucella* beetles don't bite. This is one of the most positive things I have learned in the mass-rearing tent. The beetles have every opportunity to bite as they are picked out of hair, clothing, and various body crevices. In all my hours of working with the beetles, I have never been bit, pinched, stung or otherwise injured. (Disclaimer: By the beetles, that is.)

5) It is best to work with one's shirt untucked. *Galerucella* beetles are small and mass-rearing tents are crowded. A group of 1,000 beetles will, in a good year, become a group of 200,000 beetles. Merely brushing up against a plant will potentially cause hundreds of beetles to rain down from the leaves. Many of these winged insects will come to rest on one's clothing. Even hours after exiting the beetle tent, I

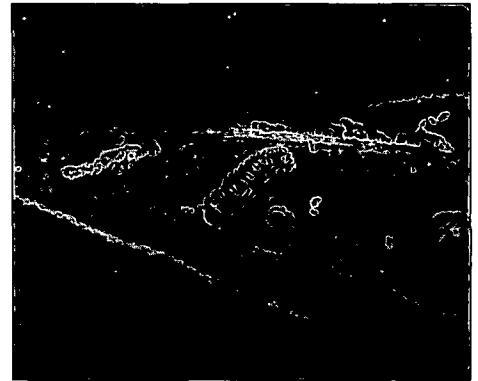
have found the little critters crawling under my shirt, pants, and even inside my underclothing. More than once I've had to excuse myself from a program or conversation and remove a beetle from places no insects should ever be allowed to venture.

When working in the tent, it is a guarantee that beetles will crawl up inside sleeves, down past collars, inside buttonholes and virtually through any hole bigger than the head of a pin. It is much easier to remove them from the bottom of an untucked shirt than any other method. Take my word for it...I've tried them all.

There is nothing quite like spending time in a beetle tent. The work has resulted in the release of hundreds of thousands of *Galerucella* beetles into loosestrife-infested wetlands. While it is acknowledged that the *Galerucella* beetles will not eradicate all purple loosestrife from an area, a well-established population of beetles will certainly keep the plants in check, stunting their growth to about half the size of an unstressed plant and generally keeping it from flowering and setting seed.

For information on how you can get involved in this exciting biological control project, contact Louie Kolberg at Brillion Nature center, (920) 756-3591 or bnc@brillion.k12.wi.us.

Author's Note: There are two species of loosestrife-leaf-eating *Galerucella* beetles, *G. californiensis* and *G. pusilla*. It is impossible to distinguish between the



two in the field because their main identification features vary so much. Terri Lyon* THINKS that we raise *G. californiensis*, but since both species exist in the state, and we collect our breeding beetles from wild populations, it could be both.



*Terri Lyon is the coordinator of "Beetlemania" - a citizen volunteer project made possible through a WDNR Aquatic Invasive Species Grant. It is entirely run by volunteers with contacts in the DNR that provide answers to questions and other assistance when needed. If you need to know any more specific information, Terri can be reached at tlyon@vollrathco.com. Stock beetles are collected from plants on the Viking Bow and Gun Club land in Valders, Manitowoc County.



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Mystery Insect: Eulophid Wasp

The October mystery insect was so small that readers would have needed a microscope for positive identification, so it was not anticipated that someone could suggest a genus or species.

Ron Huber came very close with a wild guess at a member of the pteromalidae, suggesting it could be a chalcidoid "that may have parasitized some kind of egg mass on the underside of the leaves."



Thanks to Steve Krauth of the UW Insect Research Collection for identification.

Interested readers should check out the Universal Chalcidoidea Database, maintained by the Natural History Museum in London (www.nhm.ac.uk/research-curation/research/projects/chalcidoids). According to the site, some eulophids "have different seasonal color forms, and this condition may occur in the pupae as well as the adults." "The majority of Eulophidae are primary parasitoids of concealed larvae, especially those inhabiting leaf mines. The best known species attack Lepidoptera, but many species parasitize larvae of other insects living in similar concealed situations (such as the eggs of various beetles)."



Spring Mystery Insect

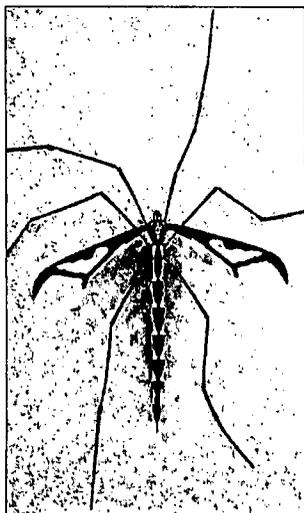
This insect was seen in vegetation in the first week of May in Manitowoc County, WI. It is black with a golden-yellow

thoracic patch and white abdominal barring. 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.

Saturday, February 28: Live Butterflies at Milwaukee Public Museum

Mark this on your calendar! This is a fun way to butterfly-kiss winter goodbye and anticipate the colorful delights of warmer seasons! We will carpool and travel to the vast Milwaukee Public Museum to receive a special, behind-the-scenes guided tour of Bugs Alive! and the Puelicher Butterfly Garden, a two-story, glass-enclosed wing of the museum, which has live butterflies. The native and tropical butterflies (such as the giant electric-blue Morpho) often land on visitors! We are fortunate to have this special tour led by Susan Borkin, the Director of the Puelicher Garden and Director of Research Support for the museum. Surrounding the garden are displays of more than 1,000 species of butterflies and moths from the museum collection. We will also get a RARE, behind-the-scenes look at the museum's extensive collections. (After lunch you can attend any of the numerous other exhibits (Rain Forest, Titanic, Living Oceans, etc.) or enjoy the domed IMAX theatre or planetarium.) The museum admission fee is \$11, senior \$10. This is a joint trip of the Madison Audubon Society and the Southern Wis. Butterfly Assoc.

You must REGISTER for this trip by emailing Joan Braune at jbraune@sbcglobal.net or phone (608) 242-1168. We will provide you with more details, such as meeting time and place, and will be able to notify you of any changes.



Pedicicia albivitta Giant Eastern Cranefly

The responses to the February 2008 mystery insect were inadvertently omitted from last summer's newsletter: Gene Drecktrah and Tim Anderson, and Ron Huber responded with correct identifications.

Hints were: wingspan about 2-1/2 inches; adults most common near water or vegetation; larvae in water or moist soil, feeding on decaying plant material; they do not bite. (*Editor's note:* In Calumet and Manitowoc Counties, I have typically seen adults in the morning, late August/early September, sometimes quite far from water!)

Gene said, "Great images of this species can be found on bugguide.net. UW insect collection has at least two specimens of this species."

Ron commented that it "has to be one of the most beautiful of the known 10,000 species! Hope I'm lucky enough to see one someday!"

Special thanks to John Stiefel.

Insect Publications and Websites of Interest

by Andrew Khitsun

Fellow members of WES pointed out a few interesting publications (thank you, guys). Emporia State University issued four small but useful brochures: **Checklist of Kansas Orbweaving Spiders, --Ground Spiders, --Crab Spiders, --Jumping Spiders** – complete with photos of some species. You can order those publications free of charge by e-mailing ksnaturl@emporia.edu with request. If some are out of print, online versions are available at <http://www.emporia.edu/ksn/index2.htm>.

One of the latest so-called “curiosity” books is **Do Butterflies Bite?** By H. Davies and C. Butler. A bit more serious book is **American Pests** by J. McWilliams -it’s about us losing the war on (Bug and Insect) terror. On the same subject, **War on Bugs** by W. Allen will convince you that the way it is fought makes it as unwinnable as is the War on Drugs. **Six-Legged Soldiers** by J. Lockwood has fascinating stories about insects used by humans for warfare from prehistoric to modern times, either directly or by transmitting pathogens. For photo fans **Spiders: The Ultimate Predators** by S. Dalton continues tradition of lush books dealing with that group of invertebrates. Also, for artistically inclined, **Pheromone** by C. Marley serves up stunning compositions made out of real insects by that entomologist/artist. Of more serious works, **Superorganism** by B. Holldobler & E. Wilson - authors of acclaimed book **Ants** mentioned before and **Journey to the Ants** - delves into complex structure of insect societies. Actually, one of the E. Wilson’s previous books was called **Insect Societies. Urban Ants of North America and Europe** by J. Klotz and others gives different, closer to home perspective of some insect societies and how to deal with them.

Several regional sites about tiger beetles have sprung up, including **Tiger Beetles of Ontario** at <http://www.uoguelph.ca/debu/tiger-beetles.htm>,

Tiger Beetles of S.Dakota at <http://pie.midco.net/tigerbeetle/TigerBeetle/>, **Tiger Beetles of N.Dakota** at <http://www.ndsu.nodak.edu/ndsu/beauzay/tigerbeetles/index.htm>, **Tiger Beetles of Georgia** at http://www.giffbeaton.com/Tiger_Beetles.htm, **Tiger Beetles of Nebraska** at http://www.lopers.net/student_org/NebraskaInverts/tbeetles/home.htm and at <http://drshigley.com/lgh/netigers/>, **Distribution List of N.American Cicindelidae** at <http://www.bio.ic.ac.uk/research/tigerb/rangepaper.htm> and attempt at congregation site **Cicindela-online** at <http://www.cicindelaonline.com/index.htm>. Also, sites are popping up on less celebrated groups of insects, like **Chironomid Midges** at <http://insects.umzm.lsa.umich.edu/~ethanbr/chiro/> or **Pleasing Fungus Beetles of America** at <http://www.fsca-dpi.org/Coleoptera/Paul/Introduction.html>. For spider fans, head to **Spiders of Wisconsin** at <http://spiders.entomology.wisc.edu/>, maintained by WES member Peter DeVries, or **Nearctic Spider Database** (Part of Canadian Arachnologist) at <http://www.canadianarachnology.org/data/canada%5Fspiders/>. Worth checking out also **European Spiders** at <http://www.eurospiders.com/>.

And, deserting into the plant domain again, **Lichens of the North Woods** by J. Walewski continues the series of books introduced in previous issues.



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.

Cicindela

A quarterly journal devoted to Cicindelidae

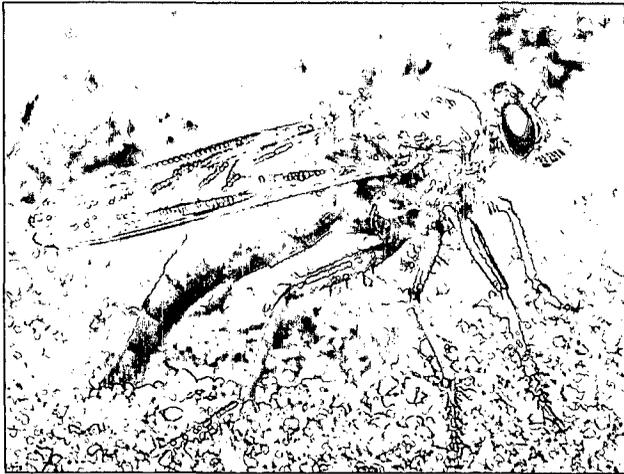
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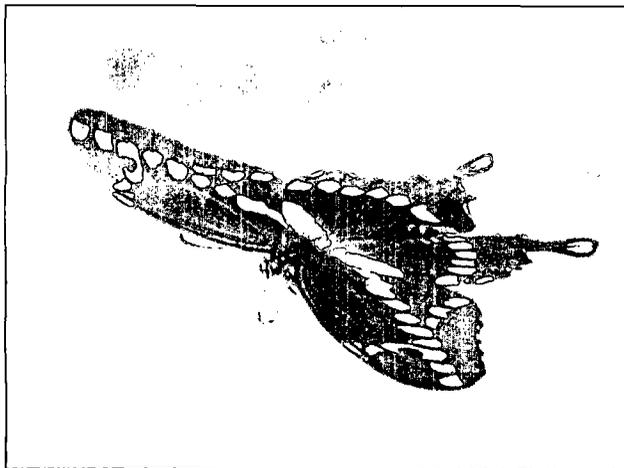
Cicindela duodecimnotata Dejazz (blue morph), NOVA SCOTIA, Halifax Co., Greenwood Drysdale Bog, junction of Pipilina Road and Big Indian Lakes Road, 28 August 2007 taken and photographed by Cheryl Bridgstone.

For more information on this quarterly journal, contact Ron Huber, 2521 Jones Place West, Bloomington, MN 55431-2837, or email huber033@umn.edu.

2008 William E. Seiker Photo Salon Winners



1st Place—Robber Fly, Mike Reese



2nd Place—Giant Swallowtail, Mike Reese



3rd Place—Olympia Marble, Karl Legler

Notes from the Insect Diagnostic Lab

by Phil Pellitteri

Mark Saturday, April 4th on your calendar.

The Department of Entomology will be celebrating 100 years of service to the state and university. There will be an open house on the Madison campus that will be going on during the campus Science Expeditions. Tony Gustin will be bringing his traveling Creepy Crawly Zoo, a butterfly house will be at the D.C Smith greenhouse. There will be other programs and exploration stations going on around campus on that day. There will also be an entomology dinner Saturday evening on campus.

We had a great meeting in October. There were 33 images from seven different people submitted for the photo salon. Officers for 2009 remain the same. We had a discussion and vote and have raised the dues for 2009 to \$10 for an individual membership. Kyle Johnson shared many interesting stories and lots of great photos from his summer in the bogs and peatlands of northern Minnesota and Canada.

Insect mysteries continue even when it is cold. In December I received eight separate samples of a noctuid larvae- most found crawling around in people's homes. They all turned out to be mature larvae of *Noctua pronuba* (commonly referred to as the larger yellow underwing— the one I mentioned in the last newsletter). Larvae are gray to dark brown but have a distinctive pair of dorsal triangles on most of the body segments.

It is amazing how widespread this insect has become during the last 10 years. I remember when Les Ferge reported the first adults in 1997 from the Apostle Islands.

The larvae are often called winter cutworms, and we have seen them before, during warm January days. But that is outside— and we did not have much in the way of warm days in December— and most of the state had far too much snowcover to have larvae wandering around. I have no explanation of how they got in. It cannot all be firewood-related. And why only December— not before? I did get one outside sample during the two warm days we had in December. Should we call them the Christmas caterpillars?

The Entomological Society meetings were in Reno at the end of November. I came back with one conclusion- Human bedbugs will rule the world.





2008 Wisconsin Lepidoptera Summary

GENERAL NOTES: Jim Ebner noted a delayed start to the season, and found butterflies, including common species, in low numbers. Kyle Johnson also reported a late start. He conducted brief sampling in NW Wisconsin peatlands and found low numbers for most species, with a few expected ones not found at all. Warm fall nights allowed good sampling until early November, when abrupt cold set in and remained through winter. Ann and Scott Swengel reported that spring was cooler and wetter than average. Summer began wet but dried out over time. They are finding many butterfly species in low numbers and in apparent decline, including *Erynnis martialis*, *Hesperia ottoe*, *Lycaena hyllus*, and *Chlosyne gorgone*. *Speyeria idalia* numbers were below recent average also, with the lowest numbers since 1998 at Muralt Prairie, Green Co. and none seen at Pine Island in Columbia Co. for the second straight year after being found there from 1994-2006. Stray and migrant species were scarce this season, in contrast with the large numbers seen in 2007.

CONTRIBUTORS CITED

RJB Robert J. Borth	JAE James A. Ebner	KEJ Kyle E. Johnson
SSB Susan S. Borkin	CBF Carol B. Ferge	MR Mike Reese
SCB Steven C. Bransky	LAF Leslie A. Ferge	SAS Scott & Ann Swengel

New county records are indicated by the county name in CAPITAL letters.

<u>Species Name</u>	<u>County</u>	<u>Locality</u>	<u>Date 1</u>	<u>Date 2</u>	<u>Contr.</u>
Hesperiidae					
Hesperia ottoe	Crawford	Rush Creek Prairie SNA	11-Jul-08		SAS
Hesperia ottoe	Vernon	Battle Bluff Prairie	11-Jul-08		SAS
Hesperia leonardus	Sauk	Mirror Lake SP	28-Aug-08		SAS
Atalopedes campestris	Waukesha	Okauchee	12-Oct-08		JAE
Problema byssus	Grant	Dewey Heights Prairie	6-Jul-08		SAS
Problema byssus	Lafayette	Hardscrabble Prairie SNA	6-Jul-08		SAS
Poanes massasoit	SAUK	Devil's Lake SP	9-Jul-08		SAS
Papilionidae					
Papilio crespontes	Waukesha	Okauchee	15-Aug-08	30-Aug-08	JAE
Eurytides marcellus	CRAWFORD	Hogback Prairie SNA	20-Jul-08		SAS
Pieridae					
Pieris oleracea	Burnett	Crex Meadows	8-Jun-08	26-Jul-08	SAS
Pieris oleracea	Portage	Buena Vista WA	16-Aug-08		SAS
Zerene cesonia	Portage	Buena Vista WA	5-Sep-08		SAS
Phoebis philea	OZAUKEE	Grafton	25-Sep-08	3-Oct-08	SSB
Kristin Gies & Maggie Tarasewicz identified a dozen larvae on Cassia plant. S. Borkin collected a few. Adults eclosed 9/25-10/3.					
Eurema lisa	Sauk	Spring Green Prairie SNA	14-Jul-08		SAS
Nathalis iole	Juneau	Necedah NWR	2-Jul-08		SAS
Lycaenidae					
Lycaena dione	Portage	Buena Vista WA	6-Jul-08	2-Aug-08	SAS
Lycaena hyllus	Portage	Buena Vista WA	28-Jun-08	6-Jul-08	SAS
one each date, worst year in memory					
Lycaena hyllus	Waukesha	Oconomowoc	17-Sep-08	19-Sep-08	JAE
Lycaena dorcas	Ashland	Morse & Glidden	27-Jul-08	27-Jul-08	SAS
Lycaena dorcas	Bayfield	Port Wing	24-Jul-08	26-Jul-08	SAS
Lycaena dorcas	Forest	Nicolet NF & Armstrong Creek	5-Jul-08	18-Jul-08	SAS
Lycaena dorcas	Lincoln	Hwy 8 bog	18-Jul-08	22-Jul-07	SAS
Lycaena dorcas	Price	E of Fifield	27-Jul-08	22-Jul-07	SAS

<u>Species Name</u>	<u>County</u>	<u>Locality</u>	<u>Date 1</u>	<u>Date 2</u>	<u>Contr.</u>
Lycaena helloides	Burnett	Crex Meadows	7-Jun-08	9-Aug-08	SAS
Satyrium liparops	Juneau	Necedah NWR	2-Jul-08		SAS
Callophrys irus	Jackson	Jackson County Forest	9-May-08	6-Jun-08	SAS
numbers peaked on 21 May with 16 individuals seen					
Callophrys henrici	Jackson	Black River SF & Jackson CF	9-May-08	28-May-08	SAS
Callophrys henrici	Waushara	Willow Creek SFA	10-May-08		LAF
Callophrys henrici	Wood	Wisconsin Rapids	22-May-08		LAF
Strymon melinus	Waukesha	Okauchee	12-Oct-08	18-Oct-08	JAE
Leptotes marina	JACKSON	Jackson Co. Forest	15-Jun-08		SAS
one worn individual					
Plebejus idas nabokovi	Marinette	Shrine Rd.	27-Jun-08	3-Aug-08	SAS
Plebejus melissa samuelis	Jackson	Jackson Co. Forest	2-Jun-08	23-Aug-08	SAS
spring flight 2-15 June and summer flight 23 July-23 August in Jackson County					
Plebejus saepiolus	Marinette	Shrine Rd.	27-Jun-08	5-Jul-08	SAS
one on each date					
Nymphalidae					
Polygonia faunus	Forest	Nicolet NF bog on FR 2182	1-Jun-08		SAS
Nymphalis vau-album	Sauk	Baxter's Hollow	9-Jul-08		SAS
abundant, 32 individuals seen					
Vanessa cardui	Waukesha	Stonebank & Okauchee	2-Aug-08	28-Aug-08	JAE
Junonia coenia	Portage	Buena Vista WA	19-Jul-08	5-Sep-08	SAS
Junonia coenia	Waukesha	Okauchee	25-Aug-08	3-Nov-08	JAE
Speyeria idalia	Portage	Buena Vista WA	28-Jun-08	16-Aug-08	SAS
Boloria characlea grandis	Douglas	Oakland & Summit Twps.	8-Aug-07		SAS
Satyroides appalachia	FOREST	Armstrong Creek Bog	5-Jul-08	18-Jul-08	SAS
Satyroides appalachia	IRON	Caroline Lake	27-Jul-08		SAS
Satyroides appalachia	LINCOLN	Hwy 8 bog	18-Jul-08		SAS
Oeneis chryxus	Burnett	NE part of county	23-May-08	25-May-07	SAS
Oeneis chryxus	Marinette	Dunbar Barrens	24-May-08		SAS
Danaus plexippus	Dane	Middleton (Ferge backyard)	20-May-08		LAF
Danaus plexippus	Jackson	Jackson County Forest	30-Apr-08		SAS
earliest sighting on record, some snow still on ground at site					
Danaus plexippus	Waukesha	Okauchee	6-Jun-08	12-Oct-08	JAE
Gracillariidae					
Caloptilia ostryaeella	DANE	New Observatory Woods	4-Nov-08		KEJ
Phyllonorycter probably apparella	JEFFERSON	Lake Mills SWA	2-Feb-08		KEJ
dissection pending; hibernating under bark					
Phyllonorycter celtifoliella	Dane	Swamp Lover's Preserve	3-Nov-08		KEJ
Phyllocnistis white species group	BROWN	East River Trail	5-Jan-08		KEJ
Phyllocnistis white species group	GREEN	New Glarus	29-Feb-08		KEJ
Phyllocnistis white species group	JEFFERSON	Lake Mills SWA	2-Feb-08		KEJ
Phyllocnistis white species group	KEWAUNEE	Lipsky Swamp	27-Dec-08		KEJ
Phyllocnistis white species group	MANITOWOC	Maribel Caves	26-Dec-08		KEJ
Phyllocnistis white species group	WAUKESHA	Vernon SWA	24-Feb-08		KEJ
Phyllocnistis sp. found hibernating under bark December-February					
Phyllocnistis white species group	WASHINGTON	Jackson Marsh SWA	25-Oct-08		KEJ

<u>Species Name</u>	<u>County</u>	<u>Locality</u>	<u>Date 1</u>	<u>Date 2</u>	<u>Contr.</u>
Elachistidae					
Agonopterix curvilineela northeast-most WI site; hibernating under bark	MANITOWOC	Maribel Caves	26-Dec-08		KEJ
Agonopterix atrodorsella hibernating under bark	BROWN	Christa McAuliffe Park	29-Nov-08		KEJ
Agonopterix atrodorsella	DUNN	Hoffman Hills	30-Oct-08		KEJ
Agonopterix pulvipennella	DUNN	Hoffman Hills	30-Oct-08		KEJ
Agonopterix pulvipennella hibernating under bark	KEWAUNEE	Lipsky Swamp	27-Dec-08		KEJ
Elachistidae					
Agonopterix nigrinotella	BROWN	East River Trail	5-Jan-08		KEJ
Agonopterix nigrinotella A. nigrinotella hibernating under bark	MANITOWOC	Maribel Caves	26-Dec-08		KEJ
Agonopterix robinella STATE RECORD	DANE	Swamp Lover's Preserve	12-Oct-08		KEJ
Agonopterix argillacea	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Gelechiidae					
Aristotelia roseosuffusella	DANE	UW Arboretum	27-Sep-08		KEJ
Gnorimoschema gallaesolidaginis	DANE	UW Arboretum	27-Sep-08		KEJ
Glyphipterigidae					
Glyphipterix haworthana	DOUGLAS	Wascott Bog	18-May-08		KEJ
Glyphipterix haworthana southernmost WI site	MARATHON	Mud Lake Bog	15-May-08		KEJ
Plutellidae					
Plutella xylostella	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Cossidae					
Prionoxystus macmurtrei	Jackson	Black River Falls	18-Jun-08		SCB
Tortricidae					
Epinotia vertumnana	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Epinotia atristriga	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Epinotia lindana	DANE	Swamp Lover's Preserve	23-Sep-08		KEJ
Acleris forbesana	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Acleris oxycoccana	ONEIDA	Sugar Camp Bog	10-Oct-08		KEJ
Acleris oxycoccana	VILAS	Scat Lake Bog	10-Oct-08		KEJ
Geometridae					
Alsophila pometaria	SAUK	Lodde's Mill Bluff	5-Nov-08		KEJ
Mellilla xanthometata	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08		LAF
Macaria multilineata	LAFAYETTE	New Diggings	28-Aug-08		LAF
Digrammia continuata	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08		LAF
Digrammia ocellinata	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08		LAF
Digrammia ocellinata	WALWORTH	Beulah woods	28-Jul-08		LAF
Phigalia titea	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Phigalia titea	WASHBURN	US-53 rest area	23-Apr-08		KEJ
Phigalia strigitaria	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Paleacrita merricata	WASHBURN	US-53 rest area	23-Apr-08		KEJ
Erannis tiliaria	DUNN	Hoffman Hills	30-Oct-08		KEJ
Erannis tiliaria	ST CROIX	Hudson	30-Oct-08		KEJ
Patalene olyzonaria	Dane	UW Arboretum	5-Nov-08		KEJ
Mesothea incertata	WASHBURN	Frog Creek Bog	18-May-08		KEJ
Coryphista meadii	WALWORTH	Beulah woods	28-Jul-08		LAF
Stamnodes gibbicostata	BROWN	East River Trail	2-Oct-08		KEJ
Operophtera bruceata	DUNN	Hoffman Hills	30-Oct-08		KEJ
Operophtera bruceata	JEFFERSON	Jefferson	15-Nov-08		KEJ
Mimallonidae					
Cicinnus melsheimeri	Jackson	Black River Falls	18-Jun-08		SCB
Lasiocampidae					
Tolyte laricis	WALWORTH	Beulah Bog SNA	28-Jul-08		LAF

<u>Species Name</u>	<u>County</u>	<u>Locality</u>	<u>Date 1</u>	<u>Date 2</u>	<u>Contr.</u>
Saturniidae					
Eacles imperialis	LAFAYETTE	New Diggings & Hardscrabble Prairie	29-Jul-08		LAF
Sphingidae					
Lintneria eremita	LAFAYETTE	Hardscrabble Prairie SNA	29-Jul-08		LAF
Sphinx luscitiosa	Bayfield	FR241 & Hwy 2	9-Jun-08		SCB
Sphinx drupiferarum	Bayfield	FR241 & Hwy 2	9-Jun-08		SCB
Eumorpha pandorus	LAFAYETTE	Hardscrabble Prairie SNA	29-Jul-08		LAF
Arctiidae					
Phragmatobia lineata	LAFAYETTE	New Diggings & Hardscrabble Prairie	28-Aug-08		LAF
Noctuidae					
Hypena scabra	Dane	Lake Mendota Lakeshore	27-Jan-08		KEJ
hibernating under bark					
Ascalapha odorata	CHIPPEWA	Chippewa Falls (Parkview School)	23-Sep-08		MR
record from Scott A. Nelson, data & photo forwarded by Mike Reese and Mike Quinn					
Ascalapha odorata	MARINETTE	Marinette	27-Sep-08		SSB
record from Judith Johnson, data & photo of mounted female specimen forwarded by Susan Borkin					
Caenurgia chloropha	DANE	Swamp Lover's Preserve	12-Oct-08		LAF
Catocala obscura	COLUMBIA	Jennings Creek WA	26-Aug-08		LAF
Catocala retecta	Jackson	Black River Falls	24-Aug-08		SCB
Catocala maestosa	MILWAUKEE	Fox Point (Borth backyard)	16-Sep-08		RJB
collected in bait trap using rotten bananas					
Catocala meskei	LAFAYETTE	Hardscrabble Prairie SNA	29-Jul-08		LAF
Catocala sordida	Jackson	Black River Falls	24-Aug-08		SCB
Catocala praeclara	WALWORTH	Beulah Bog SNA	28-Jul-08		LAF
Abrostola ovalis	WALWORTH	Beulah woods	28-Jul-08		LAF
Pseudoplusia includens	Dane	Swamp Lover's Preserve	23-Sep-08		LAF
Spraguea leo	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08		LAF
Oligia minuscula	WALWORTH	Beulah Bog SNA	28-Jul-08		LAF
Meropleon diversicolor	LAFAYETTE	New Diggings	28-Aug-08		LAF
Meropleon ambifuscum	LAFAYETTE	New Diggings & Hardscrabble Prairie	28-Aug-08		LAF
Lemmeria digitalis	Dane	Swamp Lover's Preserve	12-Oct-08		LAF
Papaipema circumlucens	LAFAYETTE	New Diggings & Hardscrabble Prairie	28-Aug-08		LAF
Papaipema silphii	Dane	Swamp Lover's Preserve	28-Aug-08		LAF
recolonized a restored prairie that was a cornfield 10 years ago					
Papaipema silphii	Dane	UW Arboretum	27-Sep-08		KEJ
Papaipema maritima	OZAUKEE	Riveredge Nature Center	25-Oct-08		KEJ
Papaipema eupatorii	Dane	Swamp Lover's Preserve	23-Sep-08	12-Oct-08	LAF
Papaipema nelita	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08	12-Oct-08	LAF
Papaipema sciata	Dane	Swamp Lover's Preserve	23-Sep-08		LAF
Achatodes zeae	WALWORTH	Beulah woods	28-Jul-08		LAF
Amphipyra glabella	LAFAYETTE	Hardscrabble Prairie SNA	29-Jul-08		LAF
Plagiomimicus pityochromus	LAFAYETTE	Hardscrabble Prairie SNA	29-Jul-08		LAF
Lithophane bethunei	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Lithophane franclemonti	Dane	Swamp Lover's Preserve	12-Oct-08		KEJ
Lithophane baileyi	DUNN	Hoffman Hills	30-Oct-08		KEJ
Lithophane baileyi	EAU CLAIRE	Eau Claire	30-Oct-08		KEJ
Lithophane fagina	OZAUKEE	N of Cedarburg Bog	5-Apr-08		KEJ
Epiglaea decliva	DUNN	Hoffman Hills	30-Oct-08		KEJ
Psaphida rolandi	WASHBURN	US-53 rest area	23-Apr-08		KEJ
Sideridis maryx	Bayfield	FR241 & Hwy 2	9-Jun-08		SCB
Melanchnra pulverulenta	VILAS	Scat Lake Bog N of Eagle River	14-Jun-08		LAF
Trichordestra rugosa	VILAS	Scat Lake Bog N of Eagle River	14-Jun-08		LAF
Trichordestra tacoma	VILAS	Barrrens 3 mi. N of Conover	14-Jun-08		LAF
Coranarta luteola	Washburn	Frog Creek Bog	18-May-08		KEJ
Coranarta luteola	WOOD	Ball Road Bog	22-May-08		LAF
Faronta rubripennis	DANE	Swamp Lover's Preserve	23-Sep-08		LAF

In the last week of May 2008 I was admiring the leaves of basswood trees (*Tilia americana*) in southern Calumet and Manitowoc Counties. The leaves were half full size, soft, and that bright vernal yellow-green, through which sunlight glowed as through stained glass. And it dawned on me that the young leaves were in something like perfect condition.

I don't think I've ever seen basswood leaves in perfect condition. So many things savor basswood that the leaves seem to be born half-eaten from their buds. Caterpillars roll leaf blades and nibble within at leisure; they reduce leaves to green lace, or frankly chow away half a leaf here and there. Beetle larvae polka-dot the leaves with the buckshot pattern of their dining; or s-shaped channels are carved into leaf margins as beetles eat them, leaving the blade littered with gooey black frass.

On the same day that I realized the leaves were "pristine" this year, copper underwing (*Amphipyra pyramidoides*) caterpillars were consuming them in 2006. In 2005 and 2007, those leaves—many still accordion-pleated with youth—were already ragged and brailled with galls by the second week of May.

But it was the end of May before any of that herbivory showed

The Beauty of the Basswood

Article and photos by J. Mingari



Copper Underwing caterpillar

up in the local basswood trees here in 2008, perhaps due to a cold or late spring. (I wonder if the warblers had trouble getting food, if their main course was a week or two late.)

Spring insects in basswood can be challenging to find, though their sign is pretty obvious—the lepidopteran larvae tend to be green, and so well-camouflaged that I've had a good practical joke or two on coworkers. Some insects I have found in basswood, that you may like to look for in spring:

Banded leafroller moth caterpillars (*Choristoneura spp.*) are found here in May. They feed in tubes of basswood leaf, binding it with so much silk that I'm always afraid I am opening a spider's retreat (I prefer spiders at a distance). The caterpillar's small

brown pupa is also enclosed in a rolled leaf.

Copper underwing caterpillars have a distinct hump, reminiscent of a Victorian bustle, over their terminating segments, and they are speckled with dotted lines of yellow and white. They stitch a leaf around themselves in a neat, egg-shaped packet and pupate within, but I don't know if they would do this in the tree or in fallen leaf litter, since I've only observed it in my jars. This year's underwing took a month and a half to eclose outdoors, due to the persistent cool temperatures. The empty pupa appeared outside the dry leaf packet at eclosure.

Eriophyes mites sculpt the basswood leaf surfaces with galls that remind me of imaginary witches' fingers; a hand that pushed upward through the green leaf fabric, with long, twisted fingers clustered together.

Green stinkbugs hang out in the basswood tree, and I often find pale stinkbug eggs on leaf undersides. They are frequently deposited in triangular collections, as if racked up for a game of billiards. Sometimes a little black

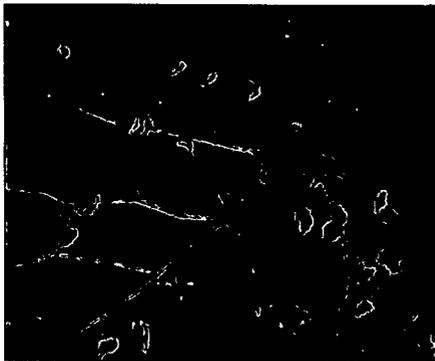
Please see **BEAUTY OF THE BASSWOOD**, page 11

LEPIDOPTERA from Page 9

<u>Species Name</u>	<u>County</u>	<u>Locality</u>	<u>Date 1</u>	<u>Date 2</u>	<u>Contr.</u>
Faronta rubripennis	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08		LAF
Leucania ursula	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08		LAF
Dichagyris acclivis	LAFAYETTE	Hardscrabble Prairie SNA	29-Jul-08		LAF
STATE RECORD					
Striacosta albicosta	WALWORTH	Beulah woods	28-Jul-08		LAF
Ufeus satyricus	Dane	Middleton (Ferge residence)	8-Jan-08		CBF
one live female found inside house in laundry room					
Schinia indiana	Burnett	Crex Meadows, Fish Lake WA	7-Jun-08	8-Jun-08	SAS
Schinia indiana	Jackson	Jackson County Forest	6-Jun-08	15-Jun-08	SAS
Schinia trifascia	LAFAYETTE	Hardscrabble Prairie SNA	28-Aug-08		LAF
Schinia lucens	Burnett	Crex Meadows	9-Aug-08		SAS
Schinia lucens	Crawford	Rush Creek & Hogback Prairies	11-Jul-08	20-Jul-08	SAS
Schinia lucens	Sauk	Spring Green Prairie SNA	13-Jul-08		SAS
Schinia lucens	Vernon	Battle Bluff Prairie	11-Jul-08		SAS

[END]

BEAUTY OF THE BASSWOOD from Page 10



Eriophyes galls

speck is there, too: a parasitic wasp.

One hot late spring day I found the surprisingly reddish eggs of a pale beauty moth (*Campaea perlata*) on a basswood leaf. The irregular splotch was resolved, under magnification, into an orderly arrangement of about 44 eggs in maybe six unequal rows, roughly 250 tiny bead-like eggs. They were actually pink. The apparent gloss of reflected light off their tops was an illusion: each egg had an individually unique swirl of scarlet and cream.

When they hatched, they dispersed with such a sense of mission that I ended up with minute pink inchworms all over my desk



Choristoneura fractivittana
Broken-Banded Leafroller Moth

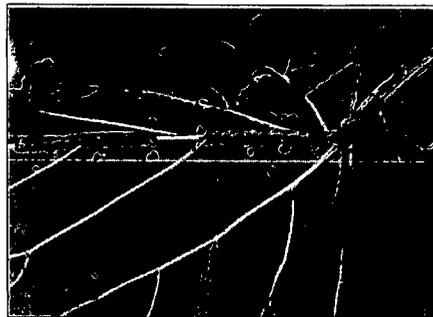
and lunch. I almost certainly accidentally ate and drank some of them before catching sight of one on the rim of my cup at eye level. But every egg hatched, and none of the eggshells were consumed.

I found that these caterpillars would only eat at night, and they were extremely finicky about the

chemistry of their food: they would only eat leaves from their natal basswood tree—no other basswood leaf would do. It was also strange to me to end up with only six or seven caterpillars. When I closed the jar, there were still a few dozen of the 250 inside it. I never found bodies, so I presume the caterpillars ate each other.

The greenish-tan caterpillars would have been nearly impossible to discover in a basswood tree: at rest, they aligned themselves on the underside of leaf rachis and veins, where the fringe of hairs along their ankles and belly made them blend in wonderfully.

They pupated on the floor of the jar, bare, and eclosed two months to the day after their hatch.

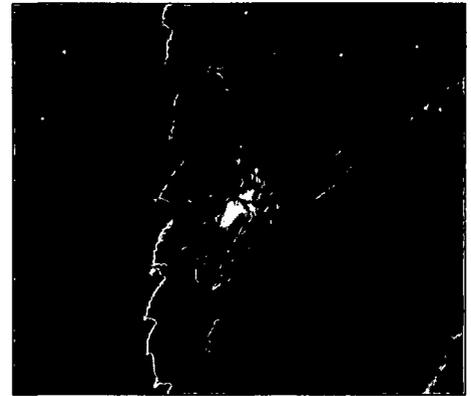


Pale Beauty caterpillars

Two of my favorite basswood insects have been the scarab and calligrapha beetles. The *Dichelonyx* (*subvittata*) scarab beetles appear in late spring. They are chunky-bodied, iridescently coppery in the right light, and so



Calligrapha beetle



Dichelonyx beetle

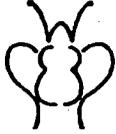
clumsy on my finger with their long legs that I can't figure out how heavy June rains don't knock them out of the basswood leaves. They cut the (s-shaped) channels in leaf margins.

The calligrapha (Chrysomelid) beetles are the most beautiful insects I've seen eating basswood leaves. I was fortunate to find a female who deposited random, spindle-shaped yellow eggs on a leaf. According to the Dillon beetle ID books, she was *C. rhoda*, though her elytral markings were much more stick-person-whimsical than the Dillon illustration. The eggs did not hatch simultaneously, but each on its own personal schedule. The larvae amused me as resembling something out of *Alice in Wonderland*: checkered black and white. These pupated in soil, and at maturity surprised me by not being copies of their dam: each beetle had its own variation of that stick-person elytral pattern.

This year I've found several more insects in basswood, that I've seen annually but have not yet succeeded in identifying. The magnification and tenacity required to identify a weevil only five millimeters in length often takes me to the limit of splitters' land, and then I become a lumper in frustration: it's a weevil!



Wisconsin Entomological Society

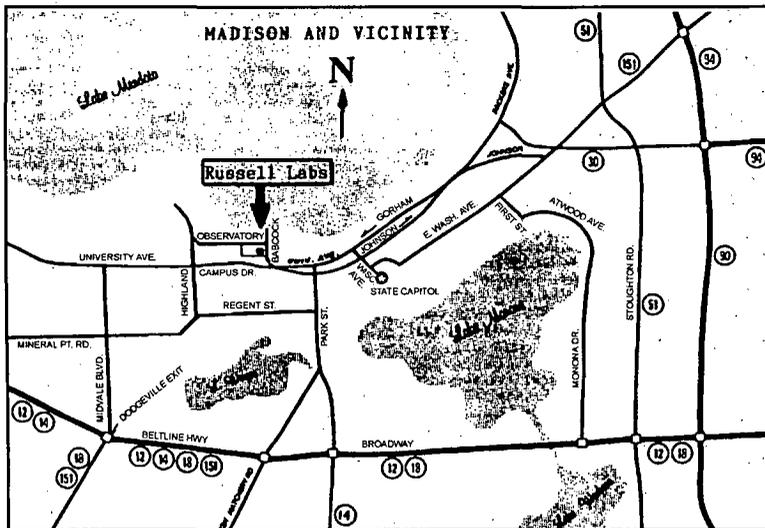


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From the West:

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.

April 4, 2009

Department of Entomology
100 Years of Service

UW-Madison Open House & Entomology Dinner

See page 5 for more information.