Wisconsin Entomological Society Newsletter

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Flies and Wasps and Beetles, Oh My!: Surprises in Rearing Goldenrod Galls

Article and photos by Jordan D. Marché II

Naivety can be a great teaching tool. More specifically, one can set out to accomplish one thing, but end up with something totally different. That, in a nutshell, was my experience last spring and summer (2011), after I had embarked upon a simple quest to try and rear out the moths (family Gelechiidae) that most frequently inhabit goldenrod galls (*Gnorimoschema gallaesolidaginis*). [In fact, goldenrod galls can also be the product of an entirely different moth (family Tortricidae), *Epiblema scudderiana*, although I was unaware of that possibility as well.]

As it turns out, I hadn't chosen the correct type of galls caused by one or the other of the moths, whose feeding activities cause the plant stem to swell into smaller, elongate, spindle-shaped galls. Instead, I had chosen to collect the larger and more globular types of galls produced by very different organisms. But that choice has led me, in turn, to the recognition of some extremely interesting biology and ecology. The stems of ordinary goldenrod plants (*Solidago* spp.) are often the scenes of a highly competitive battleground waged by members of up to three different insect *orders*, each of which has perfected its struggle through the process of natural selection. It is to these various (yet hidden) struggles, and their eventual victors, that I now turn.

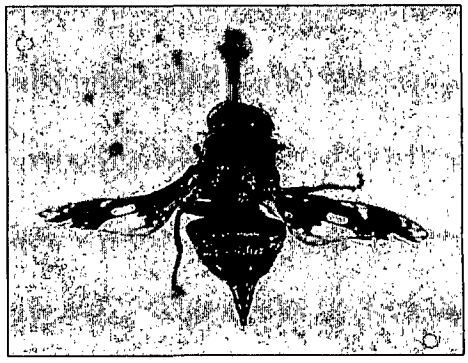

Fig. 1. Goldenrod Gall Fly, Eurosta solidaginis (Diptera: Tephritidae)

On 4 April, I first collected a small handful of goldenrod stems from the previous summer containing larger, spherical galls, from the field east of my home and adjoining the Town of Oregon Park. Of course, I made sure that none had exit holes from previous inhabitants. They were placed into a plastic container with a nylon mesh top, to permit air (and occasional moisture from a spray bottle) to enter. After about a month's time, my patience was rewarded, but in an unexpected manner. The first insect to emerge from a gall (7 May) was a moderate-sized *fly*, with a dark brown body and brownish mottled wings (Fig. 1). No gelichiid moth, to be sure! Because of its size, I first mistook it for a member of the family Otitidae (picture-winged flies). But an email query sent to former Wisconsin entomologist Andrew Williams correctly pointed out that it belonged to the Tephritidae (fruit flies) and was almost certainly the Goldenrod Gall Fly, *Eurosta solidaginis*,

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In This Issue...

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.

GALLS, *from page 1*

which I confirmed by examination of the wing venation and consultation of another source (Marshall, 2006, pp. 494). A second specimen was secured a few days later.

Thinking that I would be able to rear additional flies with ease, I made a second collection of galls from the same field on 15 May. These were set up in a larger container and treated in the same manner. But once again, my evolving expectations were met with a surprise. Rather than any more flies, I began to find very small *wasps* emerging from the galls (Fig. 2), starting on 5 June (two males). These are members of the superfamily Chalcidoidea, and family Eurytomidae (seed chalcids). They are probably the species, *Eurytoma gigantea* (Marshall 2006, pp. 523 and 548), parasitoids whose own larvae kill the gall fly larvae before they pupate. These tiny wasps have chewing mouthparts and are thus able to tunnel their way out of the dense, woody material of the gall. Several more wasps emerged in succeeding days, though all were likewise males.

But the ultimate surprise came to me on 12 June, when neither a fly nor a wasp, but a small tumbling flower *beetle* (family Mordellidae), *Mordellistena unicolor*, emerged from a gall (Fig. 3). This beetle has even acquired the common name, the Gall Beetle (Marshall, 2006, pp. 273, 329, 413). Its identity was confirmed by an examination of the ridges found upon its hind tarsi. Like the seed chalcid above, the predacious Gall Beetle larva develops inside the gall produced by a gall fly, and ultimately kills its host.

That such highly evolved, parasitoidal lifestyles would develop upon the very same host species (the Goldenrod Gall Fly), among two completely different insect orders (Hymenoptera and Coleoptera), seems little short of amazing to me. And it brings a new appreciation of the hidden struggles for existence that are routinely taking place among one of the most common 'weeds' of our local fields and prairies.

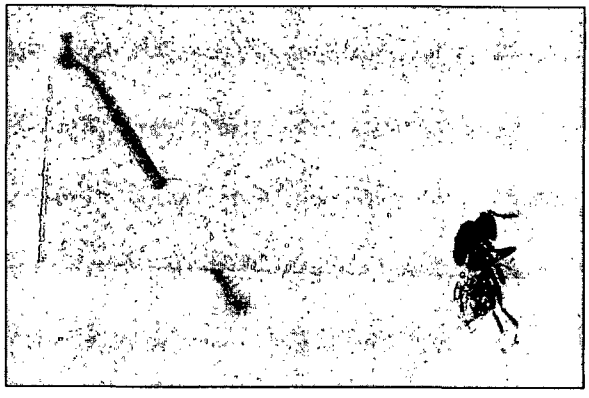


Fig. 2. Probable Eurytoma gigantea (Hymenoptera: Eurytomidae).

Fig. 3. Gall Beetle, Mordellistena unicolor (Coleoptera: Mordellidae). Photo by the author.

In my case, a little naivety went a long way toward elucidating a commonplace but highly interesting ecology. Maybe next time, I'll find the right kind of goldenrod galls that house a future gelichiid or tortricid moth.

Reference

Marshall, Stephen A. 2006. *Insects: Their Natural History and Diversity*. Buffalo, NY: Firefly Books.

Books & Websites

by Andrew Khitsun

Dragonflies and Damselflies of the East by D. Paulson is out! It complements **Dragonflies and Damselflies of the West** by the same author. The two volumes describe and illustrate every species of the order Odonata in this country! Even more stunning is **Owlet Caterpillars of Eastern North America** by D. Wagner et al. The lead author is well known for some previous caterpillar books mentioned here, but this book deals with more than 800 species of just noctuid moths! And the best thing about books listed above is: they're dirt cheap for the volumes of such quality and inclusivity.

Speaking of dragonflies: North Woods Naturalist Series, mentioned here in the past, has been expanded and renamed American Naturalist Series, and the very first book in the series is **Dragonflies & Damselflies of the Rocky Mountains** by R. Dubois (kind of like **Damselflies of the North Woods** by the same author, covered in this column before). The other book in this new series is **Spiders of South Carolina** by C. Gaddy.

If you have a collection of galls and can't identify them, **Field Guide to Plant Galls of California and Other Western States** by R. Russo can help pin down some of them - even though the flora is different out there, some ornamental trees and shrubs are common here too, and in other cases you can get an idea of the family or even genus. The other book on the subject is **Plant Galls by** M. Redfern.

Amber: The Natural Time Capsule by A.Ross may sound like a book about gems, but grab it if you see it: this book has an extensive collection of insects embedded in amber, complete with ID keys to help identify them!

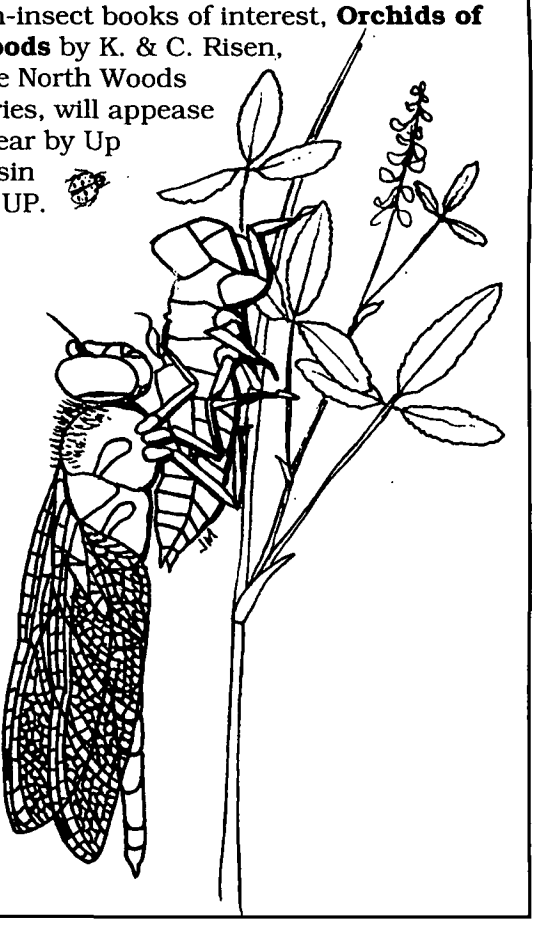
Bernard D'Abrera, the author of the exquisite (and super-expensive) specialist series **Butterflies of the World**, began producing inexpensive books for the general public, like **World Butterflies** and **Butterflies of South America**.

In a popular read category, **Empire of the Beetle** by A. Nikiforuk tells the story of one of the greatest tree die-offs in history - in North America by a tiny bark beetle.

Of the more serious (and expensive) books, **Ecology and Classification of North American Freshwater Invertebrates** by J. Thorp et al. is in its third edition, and in color for the first time. The other solid volume dealing with the same subject is **Pennak's Freshwater Invertebrates of the United States** by D. Smith. If you need more wallet-friendly books on the same subject, grab **Freshwater Macroinvertebrates of Northeastern North America** by B. Peckarsky or **Field Guide to Freshwater Invertebrates of North America** by J. Thorp (again).

Of the websites of general interest, **E.H. Strickland Entomological Museum in Alberta** has great photos of all kinds of insects at http://entomology.museums.ualberta.ca/browse.php . The other good site to look at great photos is **American Insects** at http://www.americaninsects.net/ . Of more specialized sites, check out **American Entomological Institute's** pages on Ichneumonidae (group of parasitic wasps) at http://www.amentinst.org/GIN/ . They know what they're talking about, since the Institute has some 600,000 specimens of Ichneumon wasps in their possession! **A Manual of Grasshoppers of New Mexico** can be found at NM State University pages at http://aces.nmsu.edu/academics/grasshoppers/index.html . The other site of interest is **Mississippi Entomological Museum** at http://mississippientomologicalmuseum.org.msstate.edu/index.html . It has a number of interesting items, including its online journal called **Marginalia Insecta**.

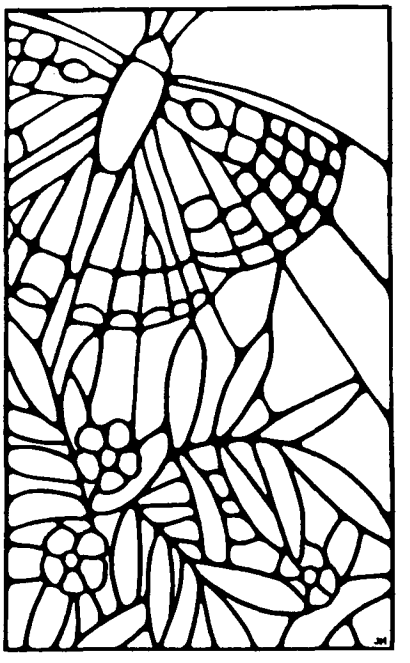
Of the non-insect books of interest, **Orchids of the North Woods** by K. & C. Risen, again from the North Woods Naturalist Series, will appease those who swear by Up North Wisconsin or Michigan's UP.



2011 Wisconsin Lepidoptera Season Summary

by Les Ferge

SAS reported that spring 2011 butterfly phenology was about 24 days behind 2010's record fast clip during May in northern Wisconsin. The difference in phenology was less in southern Wisconsin. By July a prolonged warm spell made a slow to slightly slow phenology year nearly exactly average for flight dates of summer species. Numbers of bog-associated butterfly species *Lycaena epixanthe* and *dorcas, Boloria eunomia, frigga* and *freija, Erebia discoidalis* and *Oeneis jutta* were generally below average to poor. Barrens species *Hesperia metea* and *Oeneis chryxus* also were found in low numbers, yet *Hesperia leonardus* had its best year since 2008. *Erynnis martialis* was seen only in Burnett County, and has not been found in Jackson County for the 9th straight year. *Coenonympha tullia inornata* is still increasing in central Wisconsin. *Speyeria idalia* had its best flight since 2006 or 2007. Medium to large populations surveyed had higher counts in 2011 than 2010. However, fragile sites did not participate in this good year. Three of four (Oliver, Muralt, Pine Island West) had none. *Papilio cresphontes* extended well northward, becoming numerous in areas. Migrant butterflies had a mixed year, with *Hylephila phyleus, Strymon melinus, Junonia coenia,* and *Euptoieta claudia* becoming widespread at least into central Wisconsin. Most migrant species of Pieridae noted in the past few seasons were not seen in 2011. KEJ reported that spring was much delayed compared to 2010, perhaps close to a historical "normal" spring. Mid July had many very hot nights yielding excellent moth catches. JAE found 45 butterfly species in Waukesha County over a span of 226 days from 1 April through 12 November. He reported an average year, but with smaller numbers of fewer migratory butterfly species. Monarchs had a greatly diminished count. *Atalopedes campestris* flourished, and *Hylephila phyleus* was consistent from mid summer to mid Ocober. No *Pyrisitia lisa, Euptoieta claudia* or *Vanessa cardui* were seen. *Libytheana carinenta bachmanii* was the best find of the season. *Papilio glaucus* was abundant in August and early September, making one of its nicest showings in years. LAF did limited field work in the state, but found impressive butterfly numbers in Florence and Forest Counties in late June. Large numbers of *Polygonia comma* and *progne, Aglais milberti* and *Limenitis arthemis arthemis* were seen there in early August. Few records of stray and migrant moths were received, but the most notable were *Aellopos titan* in Manitowoc and Taylor Counties on 9-10 October. Among the other species reported were *Mocis texana, Chrysodeixis includens* and *Rachiplusia ou.*



New county records are indicated with CAPITAL letters.

Family/Species Name	County	Locality	Date 1	Date 2	Contrib.	Comment
Hesperiidae						
Erynnis martialis	Burnett	Crex Meadows & Burnett CF	05-Jun-11	28-Jul-11	SAS	
Erynnis lucilius	Dane	Stagecoach Prairie	23-Jul-11		KEJ	
locally common on remnant bluff prairie						
Erynnis lucilius	Dane	Swamp Lover's Preserve	20-May-11		KEJ	
appeared to survive early spring burn via unburned patches atop limestone tables						
Pholisora catullus	Green	Muralt Bluff Prairie	13-Jul-11		SAS	
Pholisora catullus	Monroe	Fort McCoy	31-May-11		SAS	
Pholisora catullus	Sauk	Mirror Lake State Park	11-Jul-11		SAS	
Hylephila phyleus	Waukesha	Okauchee Lake	29-Aug-11	9-Oct-11	JAE	
Hylephila phyleus	Wood	Sandhill Wildlife Area	21-Jul-11	19-Aug-11	SAS	
Oarisma powesheik	Waukesha	Kettle Moraine State Forest	7-Jul-11		JAE	
Hesperia comma laurentina	Florence	Tie Mill Road (FR 2402)	3-Aug-11		LAF	
Hesperia comma laurentina	Forest	Scott Lake Rd. (FR 2183)	3-Aug-11		LAF	

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JFR	Joan F. Rickert
SAS	Scott & Ann Swengel

Please see **LEPIDOPTERA**, *page 5*

LEPIDOPTERA, *from page 4*

Family/Species Name	County	Locality	Date 1	Date 2	Contrib.	Comment
Hesperia ottoe	Crawford	Rush Creek & Hogback Prairies	08-Jul-11	13-Jul-11	SAS	
Atalopedes campestris	Waukesha	Okauchee Lake	9-Sep-11	16-Oct-11	JAE	above average numbers
Poanes massasoit	Columbia	Pine Island Wildlife Area	07-Jul-11		SAS	
Poanes massasoit	Sauk	Devil's Lake State Park	11-Jul-11		SAS	
Poanes massasoit	Walworth	Lulu Lake	7-Jul-11		JAE	
Problema byssus	Grant	Hwy. 151 Rest Area	5-Jul-11		LAF	
Problema byssus	Grant	Dewey Heights Prairie	13-Jul-11		SAS	
Atrytonopsis hianna	Sauk	Mirror Lake State Park	26-May-11		SAS	
Papilionidae						
Papilio cresphontes	Crawford	Hogback Prairie	13-Jul-11		SAS	
Papilio cresphontes	Jackson	Bauer-Brockway Barrens SNA	03-Aug-11	26-Aug-11	SAS	
more seen in Jackson County than in previous 25 years combined						
Papilio cresphontes	Sauk	Devil's L., Mirror L. & Spring Green	11-Jul-11	31-Aug-11	SAS	
Papilio cresphontes	Waukesha	Kettle Moraine SF & Okauchee Lake	21-Jun-11	21-Oct-11	JAE	
Pieridae						
Pieris oleracea	Walworth	Lulu Lake	7-Jul-11		JAE	
Zerene cesonia	Dane	Swamp Lover's Preserve	25-Aug-11		KEJ	
Lycaenidae						
Feniseca tarquinius	Florence	Tie Mill Road (FR 2402)	3-Aug-11		LAF	
Feniseca tarquinius	Price	Riley Lake Bog	24-May-11		KEJ	
Lycaena dione	Portage	Buena Vista Wildlife Area	01-Jul-11	07-Aug-11	SAS	
third year of record high numbers, none seen elsewhere						
Lycaena helloides	Burnett	Crex Meadows & Burnett CF	19-Jul-11		SAS	one individual
Lycaena helloides	Columbia	Pine Island Wildlife Area	28-Jul-11		SAS	one individual
Lycaena hyllus	Portage	Buena Vista Wildlife Area	13-Jun-11	26-Aug-11	SAS	highest numbers in years
Lycaena hyllus	TAYLOR	Pershing Wildlife Area	20-Aug-11		JFR	
Lycaena epixanthe	Jackson	Brockway Road	1-Jul-11		KEJ	locally common
Strymon melinus	Crawford	Rush Creek Prairie	08-Jul-11		SAS	
Strymon melinus	Jackson	Bauer-Brockway Barrens & other sites	22-May-11	19-Aug-11	SAS	
above average number of sightings and locations, one individual per date, perching on lupines in spring						
Strymon melinus	Monroe	Fort McCoy	31-May-11		SAS	found by Tim Wilder
Strymon melinus	Portage	Buena Vista Wildlife Area	23-Jul-11		SAS	
Strymon melinus	Vilas	Lac des Fleurs Lowlands	26-May-11		KEJ	fresh
Callophrys gryneus	Sauk	Mirror Lake State Park	11-Jul-11		SAS	one individual
Callophrys henrici	Jackson	Bauer-Brockway Barrens SNA	06-May-11	30-May-11	SAS	
fourth straight good year in Jackson County						
Callophrys niphon clarki	TAYLOR	Medford	22-May-11		JFR	
Echinargus isola	Jackson	Stanton Road	03-Aug-11		SAS	
Glaucopsyche lygdamus	Waukesha	Kettle Moraine State Forest	20-May-11		JAE	
Plebejus idas nabokovi	Marinette	Shrine Road	02-Jul-11	24-Jul-11	SAS	
lowest numbers seen in 12 years of monitoring site, none in Oconto County on 2 July 2011						
Plebejus melissa samuelis	Burnett	Crex Meadows & Burnett CF	28-Jul-11		SAS	high numbers seen

Please see **LEPIDOPTERA**, *page 6*

LEPIDOPTERA, *from page 5*

Family/Species Name	County	Locality	Date 1	Date 2	Contrib.	Comment
Plebejus melissa samuelis	Jackson	Jackson County Forest	30-May-11	13-Aug-11	SAS	
Plebejus saepiolus	Forest	Experimental Rd. 4.5 mi. N of Hiles	25-Jun-11		LAF	
Nymphalidae						
Boloria freija	Price	Mud Lake Peatland & Riley Lake Bog	24-May-11		KEJ	
many puddling on gravel roads						
Boloria freija	Vilas	Gunslinger Bog & Lac des Fleurs	25-May-11	26-May-11	KEJ	
Boloria frigga saga	Langlade	Bogus Swamp	5-Jun-11		KEJ	
Chlosyne gorgone carlota	Burnett	Fish Lake, Crex Meadows & Burnett CF	05-Jun-11	28-Jul-11	SAS	
Chlosyne gorgone carlota	Green	Muralt Bluff Prairie	13-Jul-11		SAS	
Chlosyne gorgone carlota	Monroe	Fort McCoy	31-May-11		SAS	found by Tim Wilder
Euphydryas phaeton	Waukesha	Kettle Moraine State Forest	7-Jul-11		JAE	
Euptoieta claudia	Burnett	Crex Meadows & Burnett CF	05-Jun-11	28-Jul-11	SAS	
Euptoieta claudia	Crawford	Hogback Prairie	13-Jul-11		SAS	
Euptoieta claudia	Douglas	Milchesky Road	14-Aug-11		SAS	
Euptoieta claudia	Jackson	Dike 17	21-Jul-11		SAS	
Euptoieta claudia	Portage	Buena Vista Wildlife Area	15-Jul-11	09-Sep-11	SAS	
Euptoieta claudia	Sauk	Van Zelst Barrens	25-Aug-11		SAS	
Junonia coenia	Burnett	Fish Lake Wildlife Area	28-Jul-11		SAS	
Junonia coenia	Jackson	Jackson County Forest	21-Jul-11	26-Aug-11	SAS	
Junonia coenia	Portage	Buena Vista Wildlife Area	04-Jul-11	23-Jul-11	SAS	
Junonia coenia	Waukesha	Okauchee Lake	16-Aug-11	5-Oct-11	JAE	
Polygonia faunus	Bayfield	Cornucopia	29-Jul-11	30-Sep-11	SAS	
Polygonia faunus	Florence	Tie Mill Road (FR 2402)	3-Aug-11		LAF	
Polygonia faunus	Forest	Scott Lake Rd. (FR 2183)	3-Aug-11		LAF	
Polygonia satyrus	Florence	Tie Mill Road (FR 2402)	3-Aug-11		GJB	
Speyeria idalia	Crawford	Hogback Prairie	13-Jul-11		SAS	record high numbers
Speyeria idalia	Portage	Buena Vista Wildlife Area	26-Aug-11		SAS	
best numbers seen seen since lows of 2006-2007						
Libytheana carinenta	Waukesha	Okauchee Lake	4-Aug-11		JAE	not seen since 2004
Oeneis chryxus strigulosa	Vilas	Haymeadow Creek Barrens	26-May-11		KEJ	
Oeneis jutta ascerta	Marathon	Norrie Bog	5-Jun-11		KEJ	
Oeneis jutta ascerta	Marinette	Nadjack Lake Bog	5-Jun-11		KEJ	
Erebia discoidalis	Iron	Turtle-Flambeau Peatland	24-May-11		KEJ	
Erebia discoidalis	Price	Mud Lake Peatland & Riley Lake Bog	24-May-11		KEJ	
many puddling on gravel roads						
Danaus plexippus	Waukesha	Okauchee Lake	2-Jun-11	16-Oct-11	JAE	reduced numbers
Hepialidae						
Sthenopis thule	TAYLOR	Medford	22-Jul-11		JFR	very few WI records
Elachistidae						
Agonopterix alstroemeriana	DANE	Swamp Lover's Preserve	16-Mar-11	9-Apr-11	KEJ	STATE RECORD
Geometridae						
Archiearis infans	Oneida	Eagle Lake Rd. 0.5 mi. S of Hwy. G	13-Apr-11		LAF	

Please see **LEPIDOPTERA**, *page 7*

LEPIDOPTERA, *from page 6*

Family/Species Name	County	Locality	Date 1	Date 2	Contrib.	Comment
Archiearis infans	LANGLADE	Bogus Rd. 2 mi. W of Hwy. B	12-Apr-11		LAF	
Leucobrephos brephoides	ONEIDA	Eagle Lake Rd. 0.5 mi. S of Hwy. G	13-Apr-11		LAF	
Mesoleuca ruficillata	Dane	Swamp Lover's Preserve	29-Apr-11		GWG	
Paleacrita merriccata	Dane	Swamp Lover's Preserve	21-Mar-11	9-Apr-11	KEJ	
Erannis tiliaria	BUFFALO	Mondovi	24-Oct-11		KEJ	
Erannis tiliaria	JUNEAU	Meadow Valley SWA	24-Oct-11		KEJ	
Erannis tiliaria	PEPIN	Thompson Lake	24-Oct-11		KEJ	
Erannis tiliaria	PIERCE	Plum City	24-Oct-11		KEJ	
Saturniidae						
Actias luna	Jackson	I-94 N rest area nr. Black River Falls	1-Jun-11		SCB	
Hyalophora cecropia	Jackson	I-94 N rest area nr. Black River Falls	1-Jun-11		SCB	
Hyalophora columbia	Vilas	Lac des Fleurs Lowlands	25-May-11		KEJ	
coccoon attached to Salix pyrifolia, 3m from nearest Larix laricina						
Sphingidae						
Manduca sexta	Dane	Swamp Lover's Preserve	26-Aug-11		SCB	
Ceratomia catalpae	Richland	1 mi. W of Lone Rock	23-Jul-11	28-Aug-11	SCB	
Sphinx luscitiosa	Bayfield	7 mi. N of Ino on FR 236	2-Jun-11		SCB	
Sphinx chersis	TAYLOR	Medford	23-Jul-11		JFR	
Aellopos titan	MANITOWOC	School Hill	10-Oct-11		JAM	at squash flowers
Aellopos titan	TAYLOR	Medford	9-Oct-11		JFR	
Darapsa versicolor	Richland	1 mi. W of Lone Rock	3-Aug-11		SCB	2 specimens at MV light
Eumorpha pandorus	Dane	Swamp Lover's Preserve	22-Jul-11		SCB	
Eumorpha pandorus	Richland	1 mi. W of Lone Rock	7-Aug-11		SCB	
Notodontidae						
Heterocampa subrotata	DANE	Swamp Lover's Preserve	22-Jul-11		SCB	
Erebidae						
Crambidia pallida	Dane	Swamp Lover's Preserve	29-Apr-11		GWG	extreme early date
Cycnia inopinatus	Dane	Swamp Lover's Preserve	22-Jul-11		SCB	
Orgyia antiqua nova	FLORENCE	Tie Mill Road (FR 2402)	3-Aug-11		LAF	
Zale phaeocapna	DANE	Swamp Lover's Preserve	22-Jul-11		SCB	
Catocala amatrix	Kenosha	New Munster SWA	21-Aug-11		SCB	
Catocala cara	Kenosha	New Munster SWA	21-Aug-11		SCB	
Catocala coccinata	RICHLAND	1 mi. W of Lone Rock	7-Aug-11		SCB	
Catocala connubialis	RICHLAND	1 mi. W of Lone Rock	3-Aug-11		SCB	
Catocala lineella	RICHLAND	1 mi. W of Lone Rock	3-Aug-11	7-Aug-11	SCB	
Catocala nebulosa	DANE	Swamp Lover's Preserve	26-Aug-11		SCB	
Catocala piatrix	Richland	1 mi. W of Lone Rock	28-Aug-11		SCB	
Catocala relicta	RICHLAND	1 mi. W of Lone Rock	28-Aug-11		SCB	
Catocala residua	RICHLAND	1 mi. W of Lone Rock	7-Aug-11		SCB	
Catocala whitneyi	Richland	Lone Rock LWRSWA	24-Jul-11		KEJ	
Metalectra discalis	Dane	Swamp Lover's Preserve	2-Aug-11		GWG	
Mocis texana	Dane	Swamp Lover's Preserve	31-Aug-11		SCB	

Please see **LEPIDOPTERA**, *page 8*

LEPIDOPTERA, *from page 7*

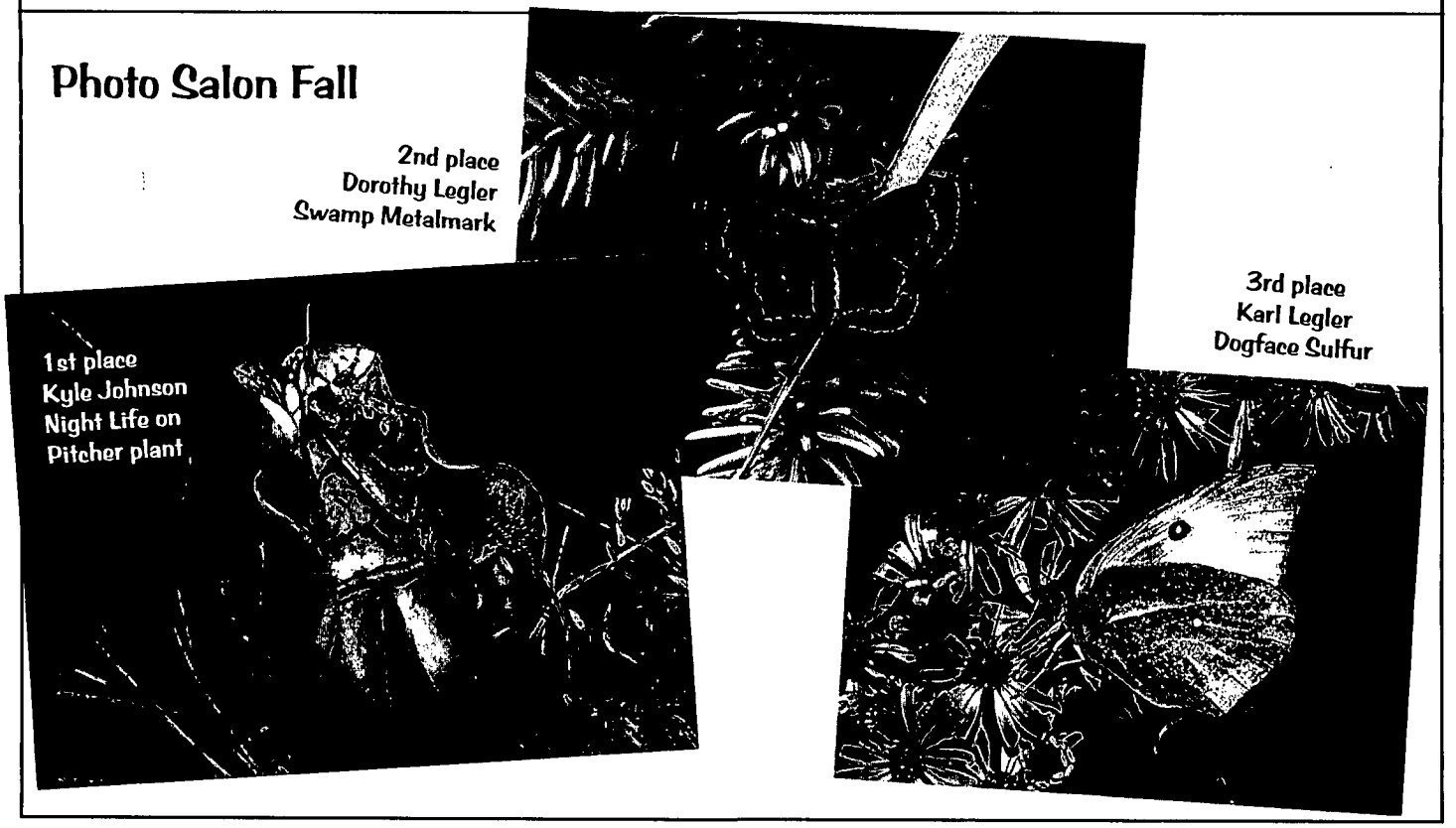
Family/Species Name	County	Locality	Date 1	Date 2	Contrib.	Comment
Mocis texana	RICHLAND	1 mi. W of Lone Rock	28-Aug-11		SCB	
Palthis asopialis	Dane	Swamp Lover's Preserve	18-Sep-11		GWG	
Noctuidae						
Chrysodeixis includens	Dane	Swamp Lover's Preserve	10-Oct-11		SCB	
Rachiplusia ou	RICHLAND	1 mi. W of Lone Rock	7-Aug-11		SCB	
Syngrapha rectangula	TAYLOR	FR 101 & County D	10-Aug-11		SCB	
Syngrapha microgamma	Langlade	Bogus Swamp	5-Jun-11		KEJ	
Acronicta funeralis	BAYFIELD	7 mi. N of Ino on FR 236	2-Jun-11		SCB	
Acronicta lobeliae	BAYFIELD	7 mi. N of Ino on FR 236	2-Jun-11		SCB	
Bagasara gulnare	Dane	Swamp Lover's Preserve	23-Aug-11		KEJ	
Xylena curvimacula	KENOSHA	New Munster SWA	17-Mar-11		SCB	
Homoglaea hircina	LANGLADE	Bogus Rd. 0.2 mi. W of Hwy. B	12-Apr-11		LAF	
Lithophane semiusta	KENOSHA	New Munster SWA	17-Mar-11	9-Apr-11	SCB, KEJ	
Lithophane bethunei	KENOSHA	New Munster SWA	17-Mar-11		SCB, KEJ	
Lithophane hemina	LANGLADE	Bogus Rd. 0.2 mi. W of Hwy. B	12-Apr-11		LAF	
Lithophane hemina	KENOSHA	New Munster SWA	9-Apr-11		SCB	
Lithophane innominata	LANGLADE	Bogus Rd. 0.2 mi. W of Hwy. B	12-Apr-11		LAF	
Lithophane laticinerea	KENOSHA	New Munster SWA	9-Apr-11		SCB	
Lithophane patefacta	LANGLADE	Bogus Rd. 0.2 mi. W of Hwy. B	12-Apr-11		LAF	
Lithophane pexata	LANGLADE	Bogus Rd. 0.2 mi. W of Hwy. B	12-Apr-11		LAF	
Lithophane antennata	KENOSHA	New Munster SWA	17-Mar-11	9-Apr-11	KEJ, SCB	
Lithophane disposita	KENOSHA	New Munster SWA	17-Mar-11		KEJ	
Lithophane oriunda	Dane	Swamp Lover's Preserve	16-Mar-11	9-Apr-11	KEJ	
Eupsilia devia	Dane	Swamp Lover's Preserve	16-Mar-11	9-Apr-11	KEJ	
Eupsilia devia	KENOSHA	New Munster SWA	17-Mar-11		KEJ	
Epiglaea decliva	PEPIN	Thompson Lake	24-Oct-11		KEJ	
Feralia comstocki	Jackson	I-94 N rest area nr. Black River Falls	9-May-11		SCB	
Feralia major	SAUK	Dell Creek WMA	13-Apr-11		SCB	
Psaphida grandis	KENOSHA	New Munster SWA	13-Mar-11	17-Mar-11	SCB, KEJ	
Psaphida resumens	KENOSHA	New Munster SWA	9-Apr-11		SCB	
Psaphida electilis	Dane	Swamp Lover's Preserve	23-May-11		GWG	extreme late date
Psaphida rolandi	KENOSHA	New Munster SWA	17-Mar-11	9-Apr-11	KEJ, SCB	
Psaphida thaxterianus	Dane	Swamp Lover's Preserve	21-Mar-11	12-Apr-11	KEJ, SCB	
Mniotype ducta	DOUGLAS	Bear Creek Bog	9-Jun-10		KEJ	
STATE RECORD; det. confirmed by Don Lafontaine						
Xylotype arcadia	DOUGLAS	Bear Creek Bog	27-Aug-11		LAF	
Calophasia lunula	TAYLOR	Medford	13-Jul-11		JFR	
Oligia bridghami	DOUGLAS	Wisconsin Point	27-Aug-11		LAF	
Meropleon ambifusca	Sauk	Badger Army Ammunition Plant	25-Aug-11		KEJ	
Lemmeria digitalis	Dane	Swamp Lover's Preserve	10-Oct-11		SCB	
Lemmeria digitalis	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Papaipema baptisiae	Dane	Swamp Lover's Preserve	25-Sep-11		GWG	

Please see **LEPIDOPTERA**, *page 9*

LEPIDOPTERA, *from page 8*

Family/Species Name	County	Locality	Date 1	Date 2	Contrib.	Comment
Papaipema cerina	Dane	Swamp Lover's Preserve	5-Oct-11		SCB	
Papaipema eupatorii	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Papaipema furcata	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Papaipema impecuniosa	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Papaipema maritima	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Papaipema necopina	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Papaipema rigida	Dane	Swamp Lover's Preserve	25-Sep-11		GWG	
Papaipema silphii	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Hydraecia immanis	FOND DU LAC	E of Ripon	8-Oct-11		SCB	
Hydraecia immanis	SAUK	Badger Army Ammunition Plant	25-Aug-11		KEJ	
Bellura gortynoides	DOUGLAS	Wisconsin Point	27-Aug-11		LAF	
Conservula anodonta	TAYLOR	Medford	11-Jul-11		JFR	
Elaphria chalcedonia	Dane	Swamp Lover's Preserve	10-Oct-11		SCB	
Heliothis subflexus	Dane	Swamp Lover's Preserve	22-Jul-11	26-Aug-11	SCB	
Schinia florida	Dane	Swamp Lover's Preserve	26-Aug-11		SCB	
Schinia indiana	Burnett	Crex Meadows & Danbury WA's	05-Jun-11	04-Jun-11	SAS	
Schinia indiana	Jackson	Jackson County Forest	03-Jun-11	11-Jun-11	SAS	
Schinia lucens	Crawford	Hogback Prairie	13-Jul-11		SAS	worst year in the past 20
Schinia lucens	Grant	Dewey Heights Prairie	8-Jul-11		SAS	worst year in the past 20
Schinia lynx	Dane	Swamp Lover's Preserve	3-Aug-11		SCB	
Schinia lynx	RICHLAND	1 mi. W of Lone Rock	3-Aug-11		SCB	
Schinia nundina	Richland	1 mi. W of Lone Rock	3-Aug-11	28-Aug-11	SCB	
Schinia trifascia	Dane	Swamp Lover's Preserve	3-Aug-11	26-Aug-11	SCB	

Photo Salon Fall



Lygus hesperus Found in Imported Lettuce Head

by Jordan D. Marché II

On 6 December 2011, I had just opened a new head of iceberg lettuce when I noticed that a small hemipteran began to crawl away from it. I collected the interloper and later identified it as the Western Tarnished Plant Bug, *Lygus hesperus* Knight (Hemiptera: Miridae), a major agricultural pest whose range stretches at least from California to British Columbia. Among other crops, it feeds upon strawberries, lentils, cotton, and even conifer seedlings. About 5 mm long, the bug has a characteristic white, heart-shaped marking (with a dark upper border) that covers most of its scutellum (Fig. 1). The specimen is a female.

L. hesperus is the western equivalent of the Tarnished Plant Bug, *Lygus lineolaris* (Palisot), which is commonly encountered in eastern and midwestern states (see e.g., Eaton and Kaufman, 2007, p. 113, where both species are pictured). While not illustrated in Bug-Guide, *L. hesperus* is considered a valid species name by the Integrated Taxonomic Information System (ITIS), as well as the Encyclopedia of Life (both online resources). One or more images of *L. hesperus* can be found through a Google search of its name, so its identification appears well confirmed.

The head of lettuce originated from Ocean Mist Farms, Castroville, Monterey County, CA (located alongside Monterey Bay, south of Santa Cruz). Ocean Mist Farms is also a leading producer of artichokes. The lettuce was purchased the weekend before at Copp's Food Store in Fitchburg, WI (a division of Roundy's Supermarkets, which includes Pick 'N Save). The bug had perhaps chosen the head of lettuce as a place in which to overwinter; as a result it managed to avoid being spotted even after the lettuce was picked, washed, inspected, and packaged for shipping eastward. It had also survived days of refrigeration and travel, though apparently was not subjected to subfreezing temperatures, which might have proven fatal.

This incident provides another example of the multiple and unsuspected vectors (i.e., means of transport) by which invasive species can become introduced to new localities through inadvertent human actions, chiefly related to the distribution of agricultural and horticultural productions (Simberloff and Rejmánek, 2011). If the bug were a gravid female, and had it instead emerged from the lettuce under more favorable conditions and managed to escape, then it might have been able to found a population of the species in our area. While probably little or no commercial lettuce is produced in Wisconsin, other host plants might nonetheless be able to sustain *L. hesperus* nymphs. And of course, the number of occurrences like this, either in Wisconsin or elsewhere, remains unknown. So it would be wise to watch for other repetitions of this sort. These events are impossible to predict, which has only made the problem of invasive species such an intractable one.

References

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

Simberloff, Daniel, and Rejmánek, Marcel. (2011). *Encyclopedia of Biological Invasions.* Berkeley and Los Angeles: University of California Press.

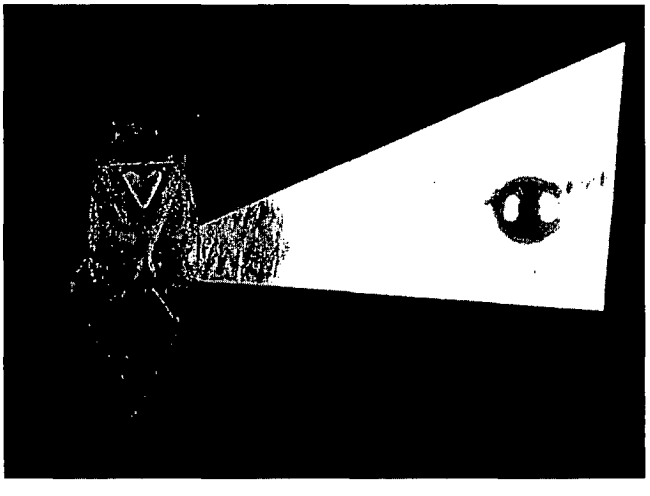


Fig. 1. Lygus hesperus Knight. Photo by J. Marché II.

Wisconsin Entomological Society Officers

Spring Meeting

Sat., April 28 ~ UW-Oshkosh Campus, Halsey Science Center (in the seminar room; we'll post signs on the outside doors)**11 am-4 pm.** Lunch will be provided around noon, with talks thereafter. The UW-Oshkosh Insect Collection will be open for those interested. Talks are:

1) Tim Anderson: Going Digital: A Collaborative Effort to Modernize and Promote our Insect Collection at UW Oshkosh
2) Jennifer Zaspel: Evolutionary studies in tiger moths (Lepidoptera: Erebidae: Arctiinae)
3) Kendra Casanova: The evolution of lichen feeding in Lithosiini (Lepidoptera: Erebidae: Arctiinae)
4) Stacey Coy: A phylogenetic review of the tiger moth subtribe Phaegopterina (Lepidoptera: Erebidae: Arctiinae)
5) Katherine Habanek: A comparative survey of proboscis morphology in tiger moths (Lepidoptera: Erebidae: Arctiinae)

As always, bring specimens, photos, and stories to share.
Field trips will follow meeting. Given suitable weather there will be outings Saturday night and Sunday day/night. Location will depend on weather and interest, but will likely be within a 2-3 county radius of the Oshkosh area. For those wishing to stay overnight in the area, the UW-Oshkosh Gruenhagen Conference Center offers rooms from $25-$43 per night. Camping may be possible as well. Anyone interested in field trips should contact Kyle Johnson (kejohnson4@wisc.edu)

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Fall 2011 Mystery Insect

Snowberry Clearwing

Hemaris diffinis

This insect was found in Manitowoc County on Aug. 18. The body's upper side is furry black and yellow; the legs are black; the wings are transparent. The body is 22mm in length.

Richard D. Breen, Jordan Marché, Ron Huber, Gene Drecktrah, and Suzy Orth all identified the fall 2011 mystery insect as the Snowberry Clearwing Hummingbird Moth, *Hemaris diffinis*, (Lepidoptera: Sphingidae), Hodges 7855.

Richard observed that his usual clue, "the white marking on the thorax under the wings," could not be seen in the photo, which made it tricky. Another feature that could be used to assist in ID of this moth is a black line through each eye and laterally along the thorax. Readers are always welcome to email for more information!

Jordan commented that "The color described (black w/yellowing pubescence) fits it better than *H. thysbe*, whose body is more brownish with olive-greenish pubescence. Also diagnostic is the lack of a strong vein through the small triangle near the base of the forewing, which would also indicate *H. thysbe.* And the specimen's black legs are also closer to *H. diffinis*; *H. thysbe* has more yellowish/grayish legs. Finally, the pale band on the next-to-last abdominal segment clinches it for *H. diffinis* (over *H. thysbe*)."

Ron mentioned that the moth has several vernacular names. "It is common and widespread across MN and has two generations per year. The picture shows that the forewing cell is open (no vein running through it) which eliminates the larger *Hemaris thysbe*, and you describe the body color as black and yellow, which eliminates the very greenish (and much rarer) *Hemaris gracilis*. The Sphinx moths are one of my favorite groups (we now have records for 41 species in MN)."

Gene advised that "*H. diffinis* exhibits considerable variation, as evidenced by Plate 11 in R.W. Hodges (1971) *Moths of Amer. N. of Mex.*, Fascicle 21: Sphingoidea that offers 13 images showing some of the variation in the species."