



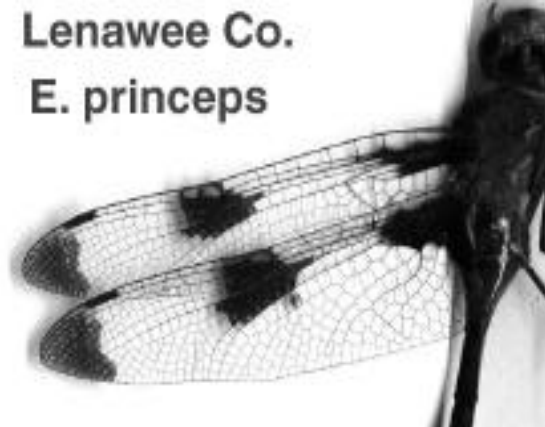
The Spotted-wing (mostly) Libellulids

Mark O'Brien

I get this question frequently, and when I was a dragonfly novice, I am sure I had the same thought -- "Is that a female *Libellula pulchella* or a *lydia*? One thing for sure, is that it takes a little bit of practice to differentiate some of the females of the various species of skimmers. Luckily, in Michigan we have fewer species of *Libellula* to discern than our friends in the south do. One generality is that if a dragonfly has banded wings, then it is almost always a libellulid. I say almost always because the corduliid *Epitheca princeps*, the Prince baskettail, has spotted to banded wings, depending on how far north you find it. The most northern specimens hardly have any banding, but the most southern specimens have a great deal of dark coloration on the wing. The two extremes below illustrate the difference between an *E. princeps* from Benzie Co. and one from Lenawee Co.

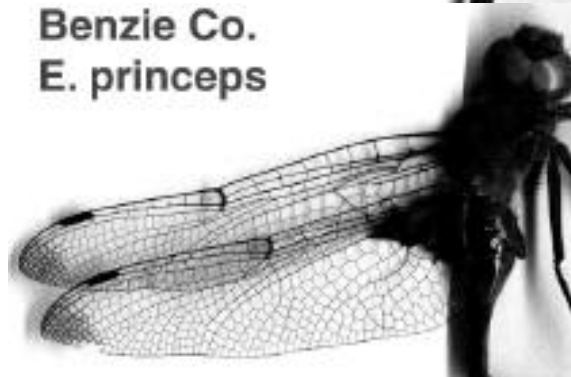
Lenawee Co.

E. princeps



Benzie Co.

E. princeps



Okay, let's get back on the original topic. The skimmers in Michigan that have banded wings of some sort are:

- *Celithemis* -- all three species
- *Libellula luctuosa*, *pulchella*, *semifasciata*
- *Perithemis tenera* females
- *Plathemis lydia*
- *Sympetrum semicinctum*
- *Tramea* - all three species

Celithemis

The three pennant species - *Celithemis elisa*, *eponina* and *fasciata* are easy to distinguish from one another. *C. fasciata* is the only species with only black patterns on the wings, whereas *C. eponina*, the "Halloween Pennant," is largely marked with orange-red-brown markings on the wings. *C. elisa* is smaller than *eponina*, and has mostly brownish-red markings. For many years, the populations of *C. fasciata* in Michigan were thought to be Williamson's species called *C. monomelaena*. However, recent work indicates that the difference is only clinal variation, and hence, *C. monomelana* is considered to be a synonym of *C. fasciata*.

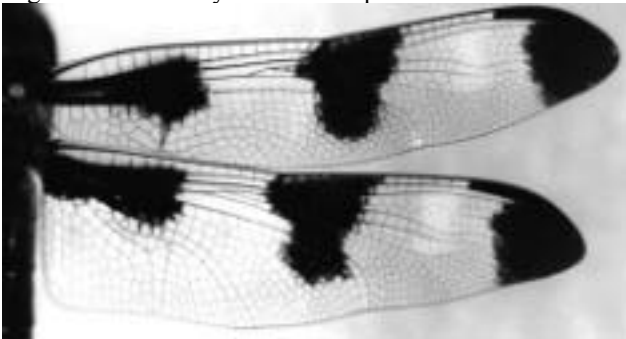


Celithemis fasciata

The Libellulas - In this grouping I am including *Plathemis lydia*, if only because it was considered to be a *Libellula* for many years, and of course, the females do look a lot like *L. pulchella* at first glance.

L. luctuosa - This species is probably the easiest to recognize, due to the large black basal wing bars. Mature males have white pruinose apical bands, whereas the females do not. This is the species featured on the cover of Dragonflies through Binoculars. *Libellula luctuosa* is a common species throughout the Lower Peninsula of Michigan, emerging in mid May and can be found into September. It is an abundant inhabitant of small farm ponds.

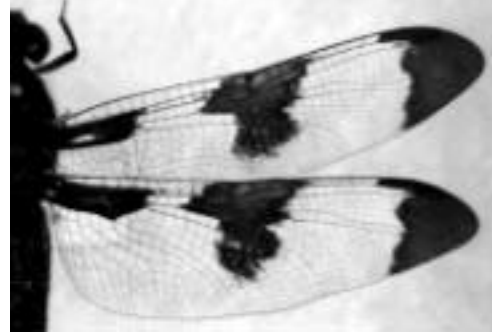
Libellula pulchella - The Twelve-spotted skimmer is an apt name for this species, which has 12 black spots and 8 white patches on the wings. Maybe it ought to be called the Jackson Skimmer, since it's a "20 spot." Well, at least the males have the white spots, but the females lack them. *Libellula pulchella* is a common inhabitant throughout much of the state, emerging in May and the flight season usually lasts into September.



Libellula pulchella male

Plathemis lydia - The Common Whitetail is just that. - common, and the males have a white waxy covering on the abdomen as they mature. The females look much like

a female *L. pulchella* except that they are smaller, and the basal spots on each wing are reduced in size. The Common Whitetail is often found at small ponds, impoundments, and where the water is less than optimal in quality. It is a common species throughout Michigan. The males with their flashy white abdomens are really fun to watch as they wage territorial disputes with their neighbors, no matter what species they may be.



Plathemis lydia female

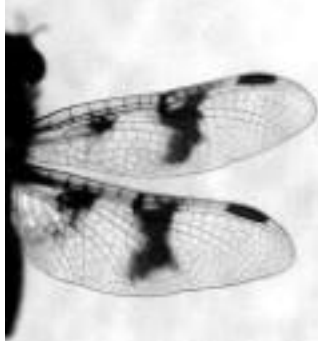
L. semifasciata - This rarely-seen (at least in Michigan) species has amber streaks and brown bands -- looking something like a very flashy *L. quadrimaculata*. The records from Michigan thus far are in the month of May, and all from the SE corner of the state. *Libellula semifasciata* is found in marshy forest ponds, occasionally along boggy stream edges. It perches at the tips of emergent vegetation and twigs like other members of the genus, so they "should" be easy to spot if you go looking for them in late May to mid-June. This is one species for which we have no recent records, and any additional information on its status in Michigan would be most welcome.



**Libellula
semifasciata**
(Randolph Co., WV)

Perithemis tenera - Female amberwings have light bands across the wings, and of course their small size precludes them from being confused with any other skimmer. The

species is quite widespread across the Lower Peninsula, and in favorable habitat, they can be quite abundant. In Ann Arbor, I have seen them until mid-September along the edge of ponds with lots of algal mats.



Perithemis tenera female

Sympetrum semicinctum - This meadowhawk has an amber to brownish patch on the basal part of the hindwing that can often cover up half of the wing. It's the only *Sympetrum* we have with such obvious markings. The western *Sympetrum occidentale* might be confused with this species. However, we have removed *S. occidentale* from the state list after consulting with Nick Donnelly. The single specimen from Isle Royale seems to be intermediate between *S. semicinctum* and *S. occidentale*.

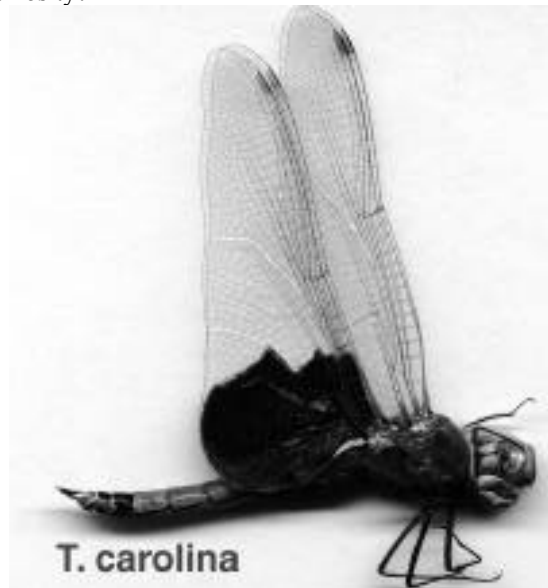


Sympetrum semicinctum male

Tramea - The three species of *Tramea* in Michigan - *T. onusta*, *T. carolina* and *T. lacerata* all look rather similar at first glance. The common species here, *Tramea lacerata* has purplish-black basal markings on the hind wings as shown below. *T. carolina* has brownish markings at the base of the hindwings, and *T. onusta* has reddish basal wing spots.



There you have it -- all of the spotted winged dragonflies found in Michigan, now, if only the clear-winged species were as easy to identify! One thing to keep in mind is that in many species of Libellulidae, males become covered with a pruinose waxy material as they age. Therefore, a teneral or a sexually immature male may look less like the "ideal" photos that you see in [Dragonflies Through Binoculars](#) or [Dragonflies of Wisconsin](#). This pruinosity has implications -- do brighter males have more reproductive success than males with less pruinosity?





Is the pruinosity useful to keep solar absorption down on a species that typically basks in sun during the warmer parts of the summer? Does it allow males to advertise their presence to females? Why don't all male libellulids develop this covering as they age?

Also, keep your eyes open for strange or non-standard wing patterns. You may see a gynandromorph -- a specimen that developed abnormally so that one half of the body has male characteristics and the other side female. The wings on one side will have male patterns and the wings on the other will have female patterns. But, that's a topic for another article. If a species with normal markings confuses you, a gynandromorph will really make your day exciting.

Fall Dragons in the UP by Carl Freeman

Starting Sept. 18th my wife Ginny and I spent some time in the UP. Monday the 18th was very warm and windy with temperatures in the 80's. Our first stop at Pt. LarBarbe just west of the Mackinaw Bridge along Lake Michigan yielded several species of Meadowhawks. I collected both *S.costiferum* and *S. danae* at temporary pools in the rocky shoreline. *S. obtrusum* was also present. There were a few darners flying but I was unable to catch them. On to Seney N.W.R.

It seemed even warmer and windier as the day went on. Shorts and short sleeves did not seem right for the UP in the fall. Seney was full of dragons and *S. vicinum* greeted us in the parking lot of the visitor center. Not having made arrangements ahead of time I tried to get permission

to collect but the right person was not on duty but was given permission to collect away from drive through and not in sight of other visitors. So off we went on the drive but only made it about 50 yards on the drive before being stopped by dragons. I was able to get a few photos and collected one darner by hand that obligingly landed on my pant leg. This spot was typical of conditions dragons like in the fall; behind some trees and out of the wind with sun shining in. There were many darners here and interestingly the first two we watched with binoculars were eating the same kind of wasp or bee (bee? wasp? hornet? maybe I will learn Hymenoptera next). I did collect *A. canadensis* and *A. eremita*. *Aeshna eremita* was a new species for me and thanks to Mark it is correctly identified. There were many dragons along the whole drive through especially in the pockets out of the wind. There were the usual Meadowhawks and I did see one emerald flying over the road but was unable to catch it.

Sept. 19th found us visiting a friend outside of Hancock. The man-made pond in their yard yielded *A. interrupta* and *umbrosa*. A nearby beaver pond yielded more *A. interrupta* and *Lestes congener*. Both *Sympetrum vicinum* and *obtrusum* were here also.

Sept. 20th in the Keweenaw Peninsula. While hiking through Estivant Pines (protected virgin white pine area preserved by the Michigan Nature Association) in the morning I spotted a darner flying in the sun near the top of one of the pines. It was the only dragon I saw there but there was a black-throated blue warbler in breeding plumage singing, which was interesting because of the late date. On the way back out the road we stopped off at a pond by the road where *A. interrupta* was common. I did see one *S. danae* here and later in the day on another two track I saw many of these dark Meadowhawks. I again caught *Lestes congener* and added *L. disjunctus australis*.

Sept 21st. Still in the Keweenaw. Spent a wonderful morning along Upson Lake where *A. umbrosa* was common as soon as the sun warmed things up. Lots of *Sympetrum vicinum* here and a few *S. danae*.

Sept. 22. Cloudy and rain.

Sept. 23 rd. Whitefish Point area. I spent the morning on the beach at Vermilion and as the sun came out from behind the clouds the dragons started to move. I caught *S. costiferum* & *vicinum* along a wetland near the end of the road. There were a few darners flying but did not catch any. Next stop was Shelldrake Campground and there were many dragons flying, especially in an area protected from the wind behind the dam. I caught all the darners I found in the UP at this one site; *Aeshna canadensis*, *umbrosa*, *interrupta*, and *eremita*.

Sept. 23rd. Morning birding at Whitefish Point Bird

Observatory, then driving back roads through an area called Cranberry Lake Bog north of Naubinway. I saw no dragons (probably due to low water) but the area looked good for bog species and should be checked in the spring for species like *Williamsonia*. Heading home I caught *Aeshna canadensis* and *eremita* in Wilderness State Park.

Less than two weeks after our trip there was 18 inches of snow recorded in the UP!

Observations At Ives Road Fen

Mark O'Brien

Ives Road Fen is a fantastic parcel of land owned by the Michigan Nature Conservancy. Located just S of Tecumseh, it's a rare habitat in Michigan – a prairie fen fed by a spring seepage system emanating from the side of a hill above the fen. Over the past few years, I have been in contact with Chris Clampitt of the Michigan Chapter of The Nature Conservancy, and the MOS has examined the site several times, though not extensively during any given year. The Michigan Nature Conservancy has been actively removing glossy buckthorn from the site via cutting, herbicide and burning, and their efforts seem to be paying off in improved habitat, though I suppose time will tell if their efforts pay off in recurrence of prairie fen species that may have been eliminated by the previous degraded habitat. One thing for sure, is that the plant assemblage there is like nothing I have seen before in the area.

Ethan Bright and I first visited Ives Rd. Fen in April 1998, and sampled aquatic habitats. At the upper end of Ives Rd. Fen where the springs emanate from the ground, there are a series of small pools and braided streams that run through a peaty soil and sometimes disappear into the ground at the lower end of the fen. They eventually meet up with a small creek that runs into the Raisin River. Previous collections made by the MiTNC produced a *Cordulegaster bilineata*, which of course, piqued our interest, and we figured that it might have come from the creek. However, aquatic sampling did not turn up any larvae at that time. All we found were *Calopteryx maculata* larvae along the undercut banks of the stream. Later visits in July 1998 and June and July 2000 have only provided more questions than answers.

Given the habitat parameters of *Somatochlora hineana*, Hine's Emerald could possibly be a resident at Ives Rd. Fen. The marly substrate, the seeps and sheets of water that run through the habitat, and the presence of burrowing crayfish and certain calciphile plants such as Indian Plantain – *Cacalia plantaginea*

are some key indicators for Hine's habitat. With those factors in mind, Adrienne and I visited the site in late June 2000 and again in mid-July. Our search was inconclusive – I did see a *Somatochlora* fly over my head in late June, and by its large size it was in the range of *hineana*. However, I never got another look. In our mid-July visit, I did not see any emeralds; however, I did collect a county record – *Sympetrum corruptum*!

At the upper end of the fen is prime habitat in small seepage pools and runs for *Amphiagrion saucium*. In fact, in July 1998, Ethan and I saw probably several hundred of them at Ives Rd. Fen. The bright red males are quite colorful, and were it not for their small size, these damsels would be hard to miss by the casual observer. At the edge of chara-filled pools we found *Enallagma basidens* in July 1998.

Future work at Ives Rd. Fen should concentrate at the wooded margins where the seeps emerge from the hillside. *Tachopteryx thoreyi* is a possible candidate species for this site, which we'll have to look for in June. Likewise, we'll have to look for Hine's emerald in mid- to late June at the S end of the site as well as the N end, and early morning observations will be necessary. If it does occur here, it's probably just hanging on, but hopefully we'll find out next year. Another potential species is *Argia bipunctulata*, the seepage damsel. It is not yet recorded from Michigan, but has been found in Ohio. Certainly, the Ives Rd. Fen habitat would seem to be ideal for this attractive little damsel.

Odonata Species list for Ives Road Fen

Calopterygidae

Calopteryx maculata

Coenagrionidae

Amphiagrion saucium

Argia tibialis

Enallagma basidens

Enallagma civile

Nehallemia gracilis

Nehallemia irene

Lestidae

Lestes forcipatus

Cordulegastridae

Cordulegaster bilineata

Aeshnidae

Anax junius

Libellulidae

Celithemis eponina

Libellula pulchella

Nannothemis bella
Plathemis lydia
Sympetrum corruptum
Sympetrum obtusum
Sympetrum rubicundulum
Sympetrum vicinum

Lake Huron Information

A brochure focusing on Lake Huron issues is available from the Department of Environmental Quality's Office of the Great Lakes. The Lake Huron Update is funded in part by a grant from the U.S. Environmental Protection Agency's Great Lakes National Program Office.

"This brochure represents a summary of priority issues that the Lake Huron basin is facing and also lists management actions suggested by the Lake Huron Initiative Action Plan that are currently funded or ongoing," said G. Tracy Mehan, director of the Office of the Great Lakes.

The brochure provides a vibrant display of graphics of the Lake Huron basin while targeting important subjects such as habitat degradation, critical pollutants and harmful exotic species. It also includes a detailed map of the Areas of Concern within the Lake Huron Drainage Basin, as well as interesting facts about the lake. The new brochure is just one of the Lake Huron Initiative efforts to focus on the key issues of critical pollutants/use impairments, and fish and wildlife habitat and biodiversity.

Representatives of the Office of the Great Lakes, along with state, provincial, federal and local agencies, and interest groups established the Lake Huron Initiative. In just over one year, the effort resulted in the development of the Lake Huron Initiative Action Plan to address concerns within the basin.

Copies of the brochure are available at no cost by writing to the DEQ Office of the Great Lakes at P.O. Box 30473, Lansing, MI 48909; or by fax at (517) 335-4053. The brochure can be downloaded from the Internet at <http://www.deq.state.mi.us/ogl/Huron/lhibrochure.pdf>.

MOS NEWS

Well, by now, you are probably wondering, what the heck has Mark been doing? Or, maybe not. A severe hard drive crash cost me some time with the range maps, but yes, they will eventually be on the way. I have not been working quite as hard on MOS matters lately, but I do plan on finishing our manual this winter and will have it in your hands before spring. You are probably wondering

how you can help speed things along. Well, we do need some proofreaders for the manual, and I will be glad to send out a draft after January to a few readers for comments and corrections.

Our rate of data acquisition has slowed this year, but perhaps that is a good thing. I expect that we will add about 1,000 records this year, and a soon to be received shipment of specimens from Northern Michigan University ought to bolster our data from the UP quite a bit. At this point, we need to be somewhat selective in our search for records, but I still encourage anyone to submit specimens from anywhere in the state.

The dragonfly crop from ponds seemed to be quite low in numbers this year. I think what we are seeing is a drop-off in numbers related to the drought conditions from the previous two years that carried into the spring of 2000. Many small ponds in Lower Michigan were very low in May. The site on Embury road where we found the Spatterdock Darner (*Aeshna mutata*) in 1998 was nothing more than a mudhole in May. It'll be interesting to see what it looks like after this winter, and how long it will take for populations of *A. mutata* and *Lestes eurinus* to recover there. I would certainly like to know what conditions were like in other areas of the state and if you think the populations were lower this summer.

If you have been collecting during the summer of 2000, please send in your specimens before January so that I can tabulate any new records and include them in the distribution maps. They need to be identified and added to the database, and that takes time. If you need information on packaging and shipping specimens just let me know and I'll forward the information.

I will be arranging the 2001 Michigan Entomological Society meeting. It will be held in Glen Arbor, Michigan at the Leelanau School. Situated on the Crystal River, this will be a great place to have the meeting on June 9. Plan on attending if you have the opportunity. I certainly invite any MOS participants to attend the meeting and if you have the time, perhaps the MOS can have table set up if we can get volunteers to staff it that day.

I will be giving several talks on dragonflies at the April Blue Bird Festival in Jackson, MI. The MOS gets a table at the show, so perhaps this winter will be a good time to design an educational exhibit. If there are any volunteers that would like to assist to design/build such an exhibit, please let me know. We'd also need a couple of bodies to staff a booth there for the two days. I will be getting more information out on that after the New Year.

Carl Freeman has been kind enough to design a T-shirt for the MOS, and it is just great! He has pledged us \$2 for each shirt he sells, which is a good deal for the MOS. These shirts are colorful, humorous, and you should buy

one for yourself and one for a gift. The order form is on the last sheet of the newsletter, so copy it if you'd like. You can also print a copy from my web pages: <http://www.umz.umich.edu/staff/mfo/MOSTshirt.jpg>. Carl's email address is heather@benzie.com

There has been some interest expressed in holding an Odonata workshop for Michigan. I will gladly accept ideas from members for places where we should conduct an all-day workshop/field trip. Perhaps if we can hold them in May – July we could take advantage of that to visit areas from which we have few records.

Remember to visit a bog this coming April and search for *Williamsonia*. The next person to find a new population of *Williamsonia lintneri* (ringed bog-haunter) in Michigan (and not in Mecosta County), shall receive a copy of Dragonflies Through Binoculars! Of course, any additional *specimen* records for either *W. lintneri* or *W. fletcheri* will be happily and graciously accepted.

New Publications Reviewed

Damselflies and Dragonflies (Odonata) of Ontario: Resource Guide and Annotated List, P.M. Catling and V.R. Brownell, 2000. 198 pp.

Ontario encompasses a large area, ranging from the subarctic to the "Deep South" of Point Pelee on Lake Erie. Certainly, surveying an area such as Ontario would require an immense effort, especially in the north. However, the authors have done a remarkable job in assembling a useful guide for anyone wanting to survey Odonata in Ontario. The 8.5 x 11 inch publication is nicely bound in a paperback-style binding. There is a synopsis for each species, as well as dot maps and identification keys. In a province the size of Ontario, it's apparent that a lot of areas have yet to be looked at, especially the areas N of Lake Superior. The authors have had to subdivide the range maps into northern and southern Ontario, using a different scale for each. However, the side by side arrangement of the maps is easy to follow, and they are well labeled. I was pleased to see many references attributed to work by the MOS, and of course, the literature cited is quite complete.

I think anyone contemplating working on Odonata in the Great Lakes region and the Northeast would find this guide to be useful, and the price of \$28 is quite reasonable, as it is privately published. To order a copy, contact the authors at 2326 Scrivens Drive, R.R. 3, Metcalfe, Ontario K0A 2P0, Canada. Shipping \$6 for orders inside Ontario, \$10 outside the province.

...Mark O'Brien

Dragonflies Through Binoculars. A Field Guide to Dragonflies of North America. Sidney Dunkle, 2000.

Oxford University Press, New York. 266 pp. \$29.95. (ISBN 0-19-511268-7).

The book that everyone has been eagerly awaiting is finally out, and probably in its second printing if you have just purchased a copy. **DTB** is definitely a must-have for anyone wanting to work with Odonata, and I recommend that you buy a copy. I really like this book, as the species information is well-laid out, the maps are nice, and it obviously will be useful. I wish this book had been available when I was starting out with Odonata, as it would have helped greatly. There has not been a book like it until now.

Having said **that**, I think anyone who is not already familiar with many of the local species will find this book not as helpful for positive identification of many other species. The photos are too small (8 on a page), and the obvious features one needs to see to identify them are not always shown in the color plates nor in the text. For example, one ought to see the face of the moustached clubtail, but it looks like a lot of others in the side view. Male hamules are not illustrated nor are cerci or close-ups of critical features for positive identification. Odonates are not butterflies, and unlike the *Butterflies through Binoculars* books, the publishers have done us a disservice by not allowing the author to write that you ought to catch these insects to look carefully at them, often under a hand lens. However, my point is that anyone thinking that he or she can positively identify 90% of the species through binoculars is either crazy or has been doing this for so long that they don't need the book anyway.

My only other criticism is the preferential use of English names over the scientific binomials. For many of us, it's less useful to have to leaf through a book and find the English name and figure out which species it is. I really don't think it should be a problem for people to learn the genera and species, as the names tell us a lot about relationships, which after all, is important to understanding something about their biologies as well as communicating with others.

I commend Sid Dunkle for authoring this book, as it will provide a lot of information to many people wanting to know more about Odonata. He has already endured the "shouldas" about the book in the newsgroups, and I really hate to make criticisms about a pioneering effort. It covers most of the US dragonflies which means it is pertinent for anyone in the US and Canada. It certainly deserves a spot on your shelf or in your backpack, and until another book appears that surpasses this one, it's the best we have. For Michigan, you'll also want a copy of the *Dragonflies of Wisconsin*, at least until the ultimate book for Michigan is written.

As I wrote above, I like this book, and if you don't already have a copy, buy one. If this book sells well, publishers will be unable to ignore the market and we can expect more Odonata guides in the future.

... Mark O'Brien

New Hine's Emerald site – on the Web

Paul Burton of The Ridges Sanctuary informs me that he now has up a site for Hine's Emerald Dragonfly at The Ridges Sanctuary in Door County, WI. The site is <http://hinesdragonfly.org>. Paul has done a nice job with presenting the information, and has a lot of very nice photos of *Somatochloras* and other dragonflies at Ridges

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Sanctuary. If you can't visit Door County to see Hine's Emerald, I guess this is the next best thing!



Williamsonia



Quarterly Newsletter of the Michigan Odonata Survey
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If you like *Williamsonia*, and would like to contribute towards its operating expenses, make your \$10/year contribution payable to the University of Michigan Museum of Zoology.

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