

# Williamsonia

Volume 1, Number 2

Michigan Odonata Survey

March, 1997

## MOS Cataloging Project

Mark O'Brien

As I am writing this, I am proud to say that the specimen database has reached over 3800 specimens in early March. By the time the second issue appears, I am confident that the database will contain records for about 5000 specimens. Mike Kielb has been very busy with adding to the database, and I have been adding to it as time permits. This is an opportunity for volunteers to help out if they are in the Ann Arbor area. One person, at 5 hours a week, could add many records to the MOS database.

Another way to add data is to send in the data from other institutional or private collections. I know there are a number of small university collections in the state that contain important specimens - Northern Michigan University, Michigan Tech., Western Michigan Univ., and probably others as well. The MOS has a database template and data entry protocol available for a variety of database programs and operating systems. Heck, you can even enter the data from a collection on a paper data sheet. However, data on disk is preferable! Just contact me and I can send you a disk. You can also download the templates from our web site, but I know that not everyone with a computer has internet access.

In our cataloging effort, we have added quite a few new county records, especially from the larval collections. Ethan Bright's work on the larvae has really been very successful, as we have rediscovered many historically important specimens from the Great Lakes Survey of 1899, the Walnut Lake survey from the teens, and material identified by Walker and Needham. A rich source of data will result from the several hundred or so vials containing specimens collected in Washtenaw County back in the 1950s. There are other sources of larval collections that we have not yet tapped. The Huron River Watershed project will undoubtedly produce specimens, as well as the other State and federal agencies in Michigan. If you are aware of such sources, let us know about them.

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## Additions and corrections to the Odonata of Michigan

Michael A. Kielb

Recently, during the course of field work, examination of the literature on Michigan Odonata at the University of Michigan, Museum of Zoology (UMMZ), and examination of specimens at the Department of Entomology, Michigan State University (MSU), several records new to the state list of Odonata have come to light. In addition, one species, based on lack of data should be considered hypothetical.

*Ischnura perparva* (Say)

A specimen of this western species is in the MSU collection. The specimen, a female, was collected at Lake

Orion, Oakland Co. on 29 June 1958 by W. A. Drew and recently determined by R. W. Garrison.

*Enallagma basidens* Calvert

Recently, specimens have come to light that were collected by the Michigan Natural Features Inventory. Four specimens, 2 of each sex, were collected in Lenawee County on 1 July and 9 August 1993. These were determined by W.P. Westrate, and have recently been added to the collection at UMMZ.

*Anax longipes* Hagen

A population was recently discovered at the E.S. George Reserve, Livingston Co. (Kielb & O'Brien 1997).

*Neurocordulia obsoleta* Say

Although Needham and Westfall (1955) list Michigan in the range of *Neurocordulia obsoleta* Say, no specimens were known from Michigan (Kormondy 1958) until the recent discovery of a nymph from the Pine River in the Huron Mountain Club, Marquette County. The specimen was collected by Steve Yanoviak from Purdue and determined in 1997 by E. Bright (UMMZ)

*Somatochlora tenebrosa* Say

Listed in Kormondy (1958) without data, and with the assurance "that the label used indicates that the specimen was collected in Ingham County," should be considered hypothetical within the state. In examining the specimen the only data found was "East Lansing, Ingham Co." far less than adequate for a state record. *S. tenebrosa*, not unexpected in the state, is a species of the northeastern North American coastal plain and Alleghenies, with a small number of Great Lakes Region records (Walker 1925; Walker and Corbet 1975) from Rock Island, IL; Fort Wayne, IN; Lake Simcoe and several counties and districts in Ontario.

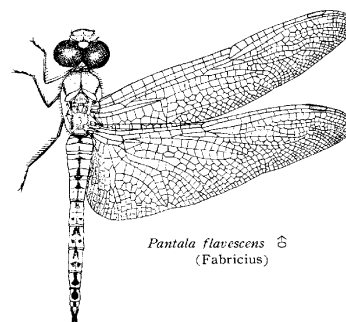
*Libellula exusta* (Say)

James Needham (1908) reported taking "a single adult of this species... on June 26" at Walnut Lake, Oakland Co. With this exception, *L. exusta* is unknown in the Great Lakes Region, although it occurs in eastern Pennsylvania and New York. It would be of great importance to find out if this specimen exists, where it is housed, and what characters were used in identification.

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## Records of Spring Odonata

Mark O'Brien

This is a list of the species of Odonata in Michigan with adult collection records earlier than June 1. The dates given are those for the earliest known date of collection from Kormondy (1958) and MOS data. A ? indicates that earlier records are likely, but few specimens have been collected. There is a tremendous bias in collecting, since most collectors are active from June -

August. Any collecting during April and May, as well as September and October will be likely to add to our knowledge of the adult flight periods for most species. Obviously, the earlier dates are more likely for the SLP. Collecting in late April in the lowest three tiers of counties will very likely produce some new early dates. In the NLP and UP, boreal species are likely to turn up in late May to early June. Given the paucity of records for some species, new locality records are sure to be picked up for them.

Species	Comments	April	May
<b>CALOPTERYGIDAE</b>			
<i>Calopteryx aequabilis</i> Say	fairly widespread		30
<i>Calopteryx maculata</i> (Beauv.)	widespread		14
<b>LESTIDAE</b>			
<i>Lestes disjunctus</i> Selys	only 3 county records		10
<i>Lestes dryas</i> Kirby	widespread		7
<i>Lestes eurinus</i> Say	only 12 counties		30
<i>Lestes forcipatus</i> Rambur	widespread, but only 24 counties -bog marshes <i>Typha</i> -borderd ponds		10
<i>Lestes rectangularis</i> Say	widespread, fairly common		23
<i>Lestes unguiculatus</i> Hagen	very widespread		12
<b>COENAGRIONIDAE</b>			
<i>Amphiagrion saucium</i> (Burm.)	most records in center northward		15
<i>Argia moesta</i> (Hagen)	rocky bottomed, rapid streams		24
<i>Chromagrion conditum</i> (Hagen)	23 counties, pools & backwaters of clean, often spring-fed streams and impoundments		23
<i>Coenagrion resolutum</i> (Hagen)	16 scattered counties		21
<i>Enallagma atennatum</i> (Say)	only 1 UP record, mostly SELP		20
<i>Enallagma boreale</i> Selys	boggy lakes & marshes, widespread		12
<i>Enallagma cyathigerum</i> (Charp.) (incl. <i>E. vernale</i> Gloyd)	boggy lakes & marshes, only 11 counties recorded with very scattered localities		11
<i>Enallagma ebrium</i> (Hagen)	bog lakes & ponds: widespread		19
<i>Enallagma hageni</i> (Walsh)	most abundant <i>Enallagma</i> in MI- common	21	
<i>Enallagma signatum</i> (Hagen)	marshy zones of lakes, bog lakes-widespread		1
<i>Enallagma vesperum</i> Calvert	marshy zones of muck-bottom lakes- only 1 UP record, scattered LP		1
<i>Ischnura posita</i> (Hagen)	widespread, scattered		15
<i>Ischnura verticalis</i> (Say)	common & widespread		7
<i>Nehalennia irene</i> (Hagen)	common & widespread		11
<b>CORDULIIDAE</b>			
<i>Cordulia shurtleffi</i> Scudder	more common in UP, NLP		15
<i>Dorocordulia libera</i> (Selys)	widespread; beaver ponds, bog lakes & creeks		17
<i>Somatochlora kennedyi</i> Walker	scattered, mostly UP		19
<i>Somatochlora minor</i> Calvert	UP & NLP, only 12 counties		23
<i>Epiheca canis</i> (MacLachlan)	UP & NLP		30
<i>Epiheca cynosura</i> (Say)	widespread	30	
<i>Epiheca spinigera</i> Selys	UP, NLP, few SE MI		8
<i>Williamsonia fletcheri</i> Wmsn.	UP, NLP		?
<b>GOMPHIDAE</b>			
<i>Arigomphus furcifer</i> (Hagen)	small bog lakes; scattered		15
<i>Gomphus exilis</i> Selys	sandy-bottom lakes; widespread		14
<i>Gomphus fraternus</i> (Say)	scattered		28
<i>Gomphus quadricolor</i> Walsh	only 3 counties in LP		26
<i>Gomphus spicatus</i> Hagen	UP, NLP, some SLP - can be common locally		5
<i>Gomphus vastus</i> Walsh	widely scatted all over, only 6 counties		29
<i>Gomphus ventricosus</i> Walsh	scattered, sand & sand-marl bottom lakes		17
<i>Gomphus viridifrons</i> Hine	only 1 record - a stray?		26

<i>Ophiogomphus colubrinus</i> Selys	UP & NLP		9
<i>Ophiogomphus rupinulensis</i> (Walsh)	scattered, rocky bottom, swift streams		29
<i>Progomphus obscurus</i> (Rambur)	sand-bottom lakes; 8 counties in LP		31
AESHNIDAE			
<i>Aeshna mutata</i> Hagen	mostly SLP, 6 counties		17
<i>Anax junius</i> (Drury)	widespread & common	12	
<i>Basiaeschna janata</i> (Say)	widespread	30	
<i>Boyeria vinosa</i> (Say)	widespread, moderately swift streams	30	
LIBELLULIDAE			
<i>Erythemis simplicicollis</i> (Say)	widespread in SLP		18
<i>Leucorrhinia frigida</i> (Hagen)	widespread, more common in UP, NLP		28
<i>Leucorrhinia glacialis</i> Hagen	UP & NLP, bog lakes & marshes		24
<i>Leucorrhinia hudsonica</i> (Selys)	bog ponds, sand-bottom lakes, UP & NLP		?
<i>Leucorrhinia intacta</i> (Hagen)	widespread and common		1
<i>Libellula cyanea</i> F.	mostly SLP, 1 UP record		31
<i>Libellula incesta</i> Hagen	bog lakes, mostly SLP		17
<i>Libellula julia</i> (Uhler)	widespread, locally abundant		10
<i>Libellula luctuosa</i> Burm.	widespread, mostly LP		4
<i>Libellula pulchella</i> Drury	common		14
<i>Libellula quadrimaculata</i> L.	widespread and common		4
<i>Libellula semifasciata</i> Burm.	SE LP, not common		20
<i>Libellula lydia</i> (Drury)	widespread		7
<i>Pachydiplax longipennis</i> (Burm.)	common in SLP		31
<i>Sympetrum corruptum</i> (Hagen)	scattered records - 10 counties- this early record is very strange	18	

NLP - Northern Lower Peninsula (North of Clare); SLP - Southern Lower Peninsula; UP - Upper Peninsula;

## Roy Beckmeyer writes:

Dear Mark,

While far away from Michigan in Kansas, I am interested in the progress of your efforts, as I am hoping to start up such a group here in the Great Plains.

Items that might be of interest: We have just published an issue of "The Kansas School Naturalist" (Vol. 43, No. 2) titled "Checklist of Kansas Dragonflies", by Roy Beckmeyer and Don Huggins, a 16 page pamphlet that includes a field key to family level for live adult Odonata: Anisoptera, 26 color photos by Roy Beckmeyer and Sid Dunkle, an annotated list of the 80 species currently recorded for the state, and a reference list and brief introduction to the study of dragonflies. **Copies of the checklist are available free from: The Kansas School Naturalist, Div. of Biological Sciences, Box 4054, Emporia State University, Emporia, KS 66801-5087.** The issue was funded by the Kansas Wildlife and Parks Department using non-game wildlife funds generated under the state's "Chickadee Checkoff" program. We are in the process of putting together a companion "Checklist of Kansas Damselflies" for publication later this year, and are currently gathering funding to cover the cost of color printing for it.

I would be very much interested in hearing of the experience of others in using non-traditional methods of collecting for Odonata, for example, the use of Malaise traps and light traps. I have seen brief reports of Malaise traps being used for *Cordulegaster* in Ohio, and saw Oliver Fint use a light trap to successfully take *Neurocordulia* at the DSA meeting in New Brunswick last June.

I don't know how many folks are aware of the availability of many of the original works of E.B. Williamson and others that are available from the University of Michigan Museum of Zoology (Misc. Publ. Series, etc). It would be worth listing them and the sales price, as many of them are of interest to odonatologists. (I purchased a set a year or so ago.)

Thanks,  
Roy Beckmeyer

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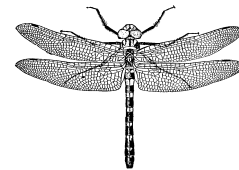
Sympetrum corruptum (Odonata: Libellulidae)
were observed ovipositing at Quivira NWR, KS
on 4/8/95.
http://www2.southwind.net/~royb/index.html

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Roy's suggestion about the Williamson papers is a good one, and I'll extract that information for the next issue. People with web access can connect to the UMMZ's web server and get the list from the UMMZ Publications pages. <http://www.umzm.lsa.umich.edu/>

It's also great to see more regional publications coming out -- I look forward to seeing the Kansas list.

Mark



## *Nannothemis bella* (Uhler) in Michigan (Libellulidae)

Michael A. Kielb

After searching the southeastern Michigan counties of Washtenaw, Wayne, Jackson, and Monroe for nearly three years without success (Kielb 1996), I was finally able to locate *Nannothemis bella* (Uhler) in western Washtenaw County in July 1996. *Nannothemis* had been listed for the area (Washtenaw) by Kormondy (1958). The discovery of a population at Gorman Lake (Sec 27, Lyndon Twp.) represents only the second known record for this area,

although the collection of Odonata at the University of Michigan, Museum of Zoology (UMMZ) contains seven specimens on three dates from adjacent Livingston County. A total of 35 specimens are in the collection from eleven counties scattered across the Lower Peninsula. Additionally, the Michigan State University (MSU) Entomology Department collection has 32 specimens from Barry and Kalamazoo County, and Bill Westrate (pers comm) has five specimens from Barry and Cass Counties, and one record was extracted from the literature for Baraga County in the UP.

*Nannothemis bella* is found almost exclusively in sphagnum bogs in eastern North America (Walker and Corbet 1975). In the Great Lakes Region it is found in Ontario (Walker and Corbet 1975), New York (Donnelly 1992), Ohio (where it is limited to one site- Glotzhober 1995), Pennsylvania (Beatty and Beatty 1969), Wisconsin (Hilsenhoff 1995), and Indiana (Lawrence 1967). It is not found in Illinois (Montgomery 1967) or Minnesota (Carlson et al. 1969).

Needham (1927) noted that "the imagos do not fly higher than a few feet above the ground, preferring to alight on the marsh grasses and bask in the sunshine..." although Walker's (1975) assessment that "They fly within a few inches of the bog vegetation and never stray over open water." is more appropriate in describing the flight and resting behavior of those observed at Gorman Lake. All three specimens collected were males taken within 10 cm of the surface of sphagnum. Additionally, at least six others males were observed within several meters of the collection site.

Although the most recent literature regards *Nannothemis bella* as threatened in the Great Lakes Region (Dunn 1996) I believe it may be underrepresented in collections. Several criteria are involved. First, *Nannothemis* is a species of sphagnum bogs, it does not fly very high above the strata, and does not appear to venture out over open water. Second, *Nannothemis* is easily overlooked when searching for larger species, although, at this site the only other species seen over the sphagnum was *Nehalennia irene*, another very small Odonate. Nearby, in a forest opening within 50 m. of the sphagnum, I found *Libellula luctuosa* Burmeister, *Libellula cyanea* Fabricius, *Pachydiplax longipennis* (Burmeister), *Leucorrhinia intacta* Hagen, and *Sympetrum rubicundulum* (Say). The sphagnum portion of the bog was completely separated from the forest opening by a woody edge 5-8 m. wide.

In Michigan the primary flight period of *Nannothemis bella* is apparently quite short with twenty-one of 27 collection dates during 1 July - 21 July. Including the six additional dates the flight period expands to 11 June - 4 August. Of the 72 specimens examined nine were collected on five dates after 1968, a period of 28 years. This is a species of a very specific habitat, however, does it occur where ever the habitat is present? Do populations discovered over 30 years ago still exist? Are there additional populations to be discovered? It is obvious that much more study is warranted to determine the status of this species in Michigan.

Table 1. Specimens of *Nannothemis bella* collected in Michigan Counties. [MSU- Michigan State University, Department of Entomology Collection, MH- Hebard 1910, UMMZ-University of Michigan, Museum of Zoology, WW-William Westrate collection.]

Barry - 11 July 1956 (1, MSU), 18 July 1957 (23, MSU), 10 July 1959 (1, MSU), 13 July 1959 (5, MSU), 30 June 1968 (1, UMMZ), 1 July 1989 (2, WW).
Baraga - 8 July 1903 (1, MH)
Cass - 7 July 1984 (2, WW), 1 July 1989 (1, WW).
Cheboygan - 1 July 1947 (1, UMMZ), 12 July 1953 (4, UMMZ), 2 July 1954 (1, UMMZ), 9 July 1955 (2, UMMZ).
Emmet - 21 July 1924 (2, UMMZ).
Grand Traverse - 18 June 1949 (3, UMMZ).

Kalamazoo - 13 July 1938 (1, MSU), 12 July 1956 (1, MSU).
Kalkaska - 15 July 1984 (1, UMMZ)
Lake - 18 July 1927 (1, UMMZ), 3 August 1934 (1, UMMZ)
Livingston - 25 June 1957 (2, UMMZ), 8 July 1967 (1, UMMZ), 4 August 1968 (4, UMMZ)
Oakland - 16 July 1905 (4, UMMZ), 1 July 1934 (1, UMMZ).
Oscoda - 22 June 1933 (2, UMMZ).
Washtenaw - 11 June 1954 (1, UMMZ), 11 July 1996 (3, UMMZ).

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## 1997 DSA MEETING: FINAL NOTICE

Bill Mauffray

The 1997 DSA meeting will be held June 6-8 1997 in Gainesville, Fl. This meeting will be to commemorate Dr. Minter J. Westfall Jr. It will be hosted by Bill & Carol Mauffray. Access to the Florida State Collection of Arthropods and the International Odonata Research Institute collections will be one of the features. Collecting trips to Gold Head Branch State Park and the Santa Fe River. *Libellula jesseana* and *Progomphus alachuensis* will be available for taking along with a host of other goodies such as *Gomphurus dialatus*, and *Arigomphus pallidus*.

If anyone would like to come early or stay later than the dates for the meeting, the FSCA/IORI facility will be made available. There are scopes and the reprint library on the premises. The facilities can be made available "round the clock" but I will need your advance reservation at least by mid May, so that I can reserve research space for you.

My wife and I are providing a catered meal of two styles of Louisiana Jambalaya: Shrimp and Sausage. French bread and soda will be provided, plus there will be Acadian Eclair Pie for desert. The cost will be \$6.00 per person to cover expenses. This buffet style dinner will be held in the same auditorium that the Saturday night business meeting will be held in. This will make it easier to keep our group together on Saturday night.

There are many restaurants and motels within a 2 mile radius of the IORI and most of the collecting sites are within a hours drive. The following cluster of motels offers a variety of classes of accommodations. They all within walking distance of one another. The area code for Gainesville is (352)

Motel 6 4000 SW 40th Blvd @ I-75 & Sr-24 373-1604 rates quoted= \$27.99 single. \$31.99 double +\$2 per extra person

Super 8 4202 SW 40th Blvd @ I-75 & Sr-24 378-3888 rates quoted= \$38.13 single \$44.03 double

Ramada Limited 4021 SW 40th Blvd @ I-75 & Sr-24 373-0392 rates quoted= \$54.00 single \$59.00 double

SR-24 is Archer Road for those of you who remember Gainesville.

These rates are their standard rates, If we have 10 or more rooms at the later two hotels we would probably get a better rate. If enough of you all notify me by e-mail of which hotel you prefer and how many rooms you want then I can negotiate for a better price. I would need to know by May 1, 1997, Otherwise you would be on your own.

Camping is available at nearby O'leno State Park (904) 454-1853 (45 minutes from IORI) and also at Gold Head Branch State Park (352) 473-4701 (1:15 from IORI).

There is an Airport at Gainesville with Delta and US Air providing service; however much better rates are usually available from either Jacksonville (1:30 from IORI), or Orlando (2:15 from IORI) Rental cars are available at all three airports. they can be picked up at one and dropped of at another with no penalty any where in the state of Florida.

By the time you read this the Web site for the meeting should be set up. It will included useful tourist information about Gainesville and North Central Florida. Bill is soliciting volunteers to host workshops and also post meeting collecting trips into Georgia, The Florida panhandle and/or possible into North Carolina for *Ophiogomphus*, etc. If interested please contact Bill Mauffray: (352) 375-5903 iori@afn.org

progress in researching the actual status of the species a very real hindrance. The initial placement of *T. thoreyi* on the state's T & E list was done without consultation with specialists, and the fact that the new designation was accepted is a tribute to the role of the Insect Technical Advisory Committee.

*Ophiogomphus howei* Bromley has also been added to the Special Concern list (although the MOS has not seen any specimens or collection data.). I ask that anyone with data or specimens please forward the information to the MOS.

The changes in status will make it easier for MOS collaborators to search for, and collect voucher specimens if these interesting and elusive species. Once we have a better grasp of the species' status in Michigan, we can make any recommendations for change in status in 1999. This year, all proposed changes to Michigan's state-listed plants and animals will be published in the Michigan Register and public comment will be invited. The Michigan DNR will then



hold a public hearing. After that, the final list will be presented to the State of Michigan Joint Rules Committee for final approval.

Haack, R.A. 1997. Update on the revision of Michigan's State-Listed insects. Newsl. Mich. Ent. Soc. 42(1):2.

## ***Tachopteryx thoreyi* status changed**

Mark O'Brien

The Michigan DNR has accepted the proposal from the Insect Technical Advisory Committee (which I served on) that *Tachopteryx thoreyi* (Hagen) should be changed from a Threatened Species to a status of Special Concern. I am pleased that our recommendation was accepted. It is my belief, that although only two records of this species are known from Michigan, it is premature to call it threatened. The habitat of the grayback is not one that casual collectors will visit. Having the species listed as threatened made any

## Proposal to have *Anax junius* named as Michigan's State Insect

I received this message from Gary Dunn, and I am passing it on to readers of *Williamsonia* for their comments. I have not changed the text of Gary's letter except to fix the spelling of *Anax junius*, and the list of other state's insects is not included. Therefore, any errors or omissions are his.

My preference, if a dragonfly were to be named as the state insect, would be *Libellula pulchella* Drury since the Twelve Spot can be found at almost any pond or lake in the state, and *Anax junius* is more limited in its range of habitats.

However, in 1985, the Michigan Entomological Society governing board adopted a resolution to have the Tiger Swallowtail, *Papilio glaucus canadensis*, named as the Michigan state insect. The resolution was sent to the various state representatives, and the bill supporting the honey bee as the state insect was killed. As far as I am aware, no further action was taken on the matter. We support the idea of a valid, unique and popular taxon as the state insect, and we encourage people to let their opinions be known. It may seem like a trivial matter to some that a state insect even needs to be named. If the tiger swallowtail (by precedence) is not named as a state insect, then the MOS supports efforts to have a dragonfly named as the state insect. Please send your comments to Gary.

Mark O'Brien

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Dear Mark:

During the first quarter of 1997, the Young Entomologists' Society and the Michigan United Conservation Clubs will be kicking off a grass-roots campaign to have the green darner dragonfly designated as Michigan's official state insect. Since there is a good possibility that your organization (staff and members) may want to support this campaign I am taking this opportunity to solicit your assistance.

There are several important ways that your organization can help the "green darner dragonfly for Michigan state insect" campaign.

Most importantly, we are seeking letters of support from leading national and state education, conservation, and environmental organizations and we would very much like to have your organization join with us as an official supporter of this campaign. It would also be great if you could mention this campaign in your organization's newsletters. A promotional campaign, most importantly letter writing by children, will be undertaken to convince law makers of the merits of this proposal. (In most states with officially designated state insects, it was the efforts of children that made the difference between the bill passing and not passing!)

I would be most appreciative if you would consider lending your voice to this worthwhile campaign. I have enclosed information on the green darner dragonfly and the proposal to make it the Michigan state insect. If you have questions or need further information, please don't hesitate to contact me.

Sincerely,  
Gary A. Dunn, M.S., F.R.E.S.  
Director of Education  
(Author of *Insects of the Great Lakes Region*)

### A State Insect for Michigan

Why have a state insect? Well, we have a state tree (white pine), a state flower (apple blossom), and a state stone (Petoskey stone). We also recognize the American robin as a state bird and the brook trout as the state fish. Recently we even adopted a state soil (Kalkaska) and a state reptile (painted turtle). Michigan should join with the other 38 states that recognize the contributions that insects make to the quality of our lives.

Insects comprise 85% of the world's animal species, and they are critical to the ecological balance of our earth. Insects are pollinators of flowering plants and they are decomposers and recyclers. Insects are food for many animals and even a few plants. Some insects help control noxious weeds and insect pests. Insects have long been used in song, poetry and art, and their grace, beauty and mysterious metamorphosis are miracles of nature.

The green darner dragonfly would be an excellent representative of Michigan's natural wildlife heritage.

Why the green darner dragonfly? Several important reasons come to mind:

It occurs throughout the state (and visits rural, suburban, and even urban areas; city parks as well as wild places).

It is familiar and easy to recognize.

It is associated with aquatic habitats, one of the richest and most valuable habitats for Michigan wildlife and symbolizes the need to conserve and protect these valuable habitats. Furthermore, Michigan has more freshwater than any other state, including the Great Lakes and 11,000 small lakes, and is known as a "water wonderland" and the Great Lake State to the rest of the nation.

The state seal even shows a little bit of dragonfly habitat.

It is highly beneficial (consuming many biting flies) and does not bite or sting.

It offers a unique teaching opportunity for educators (designating a state insect encourages people to learn more about the importance of insects in everyday life)

Having the green darner dragonfly as state insect would be a point of pride for citizens of Michigan. Each summer we would be reminded of Michigan's rich natural heritage whenever we see the glistening body of this beautiful green and blue dragonfly.

No other state has adopted this insect (although Alaska has the 4-spotted skimmer).

#### The Green Darner Dragonfly

The green darner dragonfly, known to scientists as *Anax junius* Drury, is one of the largest and most common dragonflies in North America. It occurs throughout Michigan and can be found in the vicinity of ponds and streams on warm sunny days from May to September.

Dragonflies have inhabited Michigan for the past 300 million years. Their prehistoric ancestors were among the first of the winged insects and some species had a wingspan of up to two feet. Dragonflies have existed in their present form and size for the past 180 million years and have been here throughout the human history of the region and state.

Dragonflies actually spend only a small portion of their life as aerial adult insects. During the early stages of their life they can be found in ponds and streams. The female dragonfly either drops her eggs in the water or inserts them into mud or plant stems. The immature stage (called a nymph) hatches from the egg and leads an aquatic existence in the shallow waters of ponds and slow moving

streams. Like the adults, dragonfly nymphs are carnivores and eat other small animals such as insects, tadpoles, and small fish. They use a special hinged, extendable mouthpart to quickly seize their prey. Are two to three years of development the aquatic nymphs leave the water, crawl up a plant stem and prepare for one of nature's most fascinating phenomena, metamorphosis. A soft and wrinkled adult dragonfly squirms out of the ruptured nymphal skeleton and rests while its wings and body expand and harden. In a short while the new adult dragonfly is ready to take to the air.

Adult green darner dragonflies are the largest and most powerful of the dragonflies, often reaching a length of 3 inches. Their long, slender abdomen is blue or blue-green, while the large, muscular thorax is a brilliant emerald green color. The green head has a prominent black target-shaped marking only the top. With four vibrant wings that glimmer in the summer sun like living bits of colored cellophane, they are skilled aerialists capable of flying at speeds of up to 50 MPH (I think 20-30 mph max is correct—ed.), often twisting and turning as they go --occasionally stopping to hover in one place. Dragonflies are very wary, and their oversized, multifaceted compound eyes make it easy for them to see in all directions simultaneously. The males select and defend a territory -- a special hunting ground from which all other dragonflies are forcibly chased (that is unless they're a female green darner). Since the adult dragonflies are not dependent upon water for their survival, they can often be encountered flying across the countryside searching for flying insects to eat. Thus they may be encountered in fields, yards, and open woods throughout the state. They are even known to be migratory, and large groups of green darners can be seen flying from one area to another.

#### Dragonflies in Human Culture

Dragonflies have been honored and revered by peoples from many lands. The Indians of South Americas believe that dragonflies are the souls of the dead coming to visit their families. In China and Japan dragonflies adorn pottery, china, silk gowns, tapestries and murals and their likenesses are sculpted in silver and bronze. In medieval times three blue dragonflies adorned the heraldic coat of arms of the Doublet de Persan of Normandy. There are even poems about them:

Today I saw the dragon-fly  
Come from wells where he did lie.

An inner impulse rent the veil  
Of his old husk: from head to tail  
Came out clear plates of sapphire mail.

He dried his wings: like gauze they grew;  
Through crofts and pastures wet with dew  
A living flash of light he flew.  
--Alfred, Lord Tennyson

See the dragonfly  
his face is practically nothing  
--but an eye!  
-- Chisoku

There are several interesting superstitions about dragonflies. They have been nicknamed "devil's darning needles" by people who believed they flew around sewing up the eyes or ears of naughty boys (yes they have long, needle-like bodies but they lack stingers and can't bite people); they've been called "horse-stingers" by people who saw them darting at horses (only to catch the horseflies that

were trying to bite the horses); to others they are known as "snake-doctors" and are supposed to guard snakes (they do inhabit damp areas where snakes often abound, but they have no association with these reptiles). They do, however, have one nickname that is an accurate description for their best attribute; they are fondly referred to as "mosquitohawks" because of their big appetite for these pesky biting insects!

#### Are Dragonflies Important?

Dragonflies are important and beneficial to humans. As mentioned previously, they consume large numbers of biting flies and other insect pests. As nymphs they are living indicators of water quality; their absence is one of the first signs of declining water quality. Destruction and degradation of aquatic habitats has resulted several species of dragonflies being listed as endangered, threatened or special concern species. Thus far the green darner's ability to utilize a wide variety of aquatic habitats has spared it from this fate.

#### For further information:

Contact the Young Entomologists' Society  
Gary A. Dunn, Director of Education  
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## EXUVIAE

#### ANOTHER RUN OF WALKER

The Toronto Entomologists' Association announces that it is preparing to REPRINT the 3-volume set *The Odonata of Canada & Alaska* by Walker & Corbet and is interested in gauging the interest of potential buyers before reprinting. This is NOT a photocopy but a true reprinting - the interior pages are the same quality as the original book, on acid-free paper; the cover is a deluxe-quality hardcover but is not the same as the original. The cost will be in the range of \$220 Can. (\$165 U.S.) for the 3-volume set. If you have an interest in purchasing these books, please reply to

T.E.A. c/o Alan Hanks, 34 Seaton Drive, Aurora, Ontario  
L4G 2K1, (905) 727-6993; or e-mail to  
nmg.vanderpoorten@sympatico.ca

#### COMPUTER AVAILABLE

The MOS has an IBM PC available for a volunteer that wishes to compile data, catalog, etc. It's an IBM PS/2 50Z, which is meaningless to most people. However, if you are comfortable with DOS-based wordprocessing and databases, it's certainly a fine computer, complete with 9-pin printer. Contact Mark O'Brien for more information at 313-647-2199.

#### ADDITIONS/CORRECTIONS TO THE MOS MEMBER LIST

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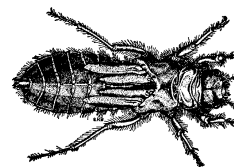
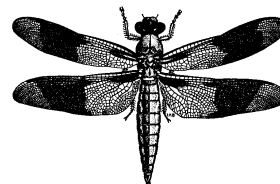
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## Michigan Odonata Survey Spring Meeting and Workshop

**1- 5 pm Sunday, May 18, 1997**

Matthaei Botanical Gardens  
1800 N. Dixboro Rd.  
Ann Arbor, MI 48105



Come and join us for a spring organizational meeting and a workshop. Topics to be covered are:

- Status of the Michigan species catalog
- How to participate in the Survey
- Organized field trips?
- Species to look for
- Interesting Places to collect

### Workshop

- Collection and preservation of adult and larval Odonata
- Quick guide to identification of larvae

We'll be collecting in Fleming Creek and some nearby ponds to demonstrate collection techniques, led by Ethan Bright. Bring a pair of boots or waders or prepare to get wet, rain or shine, since the larval stages don't care about the weather. We'll also be on the lookout for adults on the wing.

The MOS meeting will be held in Room 131 at Matthaei Botanical Gardens, a University of Michigan facility. Parking is free, and there is no fee for the workshop. Any printed materials (i.e., if we have the MOS Collector's Handbook finished by then) will be available at nominal cost.

For further information, contact Mark O'Brien at 313-647-2199 (museum) or 971-6033 (home) or email at [mfobrien@umich.edu](mailto:mfobrien@umich.edu)

## Musings from the Editor

The first issue of *Williamsonia* was well-received by everyone. I had a lot of encouraging reactions from the readers. Given that the popularity of Odonata seems to be ever-increasing, the timing for the newsletter and for the survey seems right. There seems to be a checklist being prepared or a survey underway for a number of states, and that is really great. The realm of dragonflies is being enjoyed by more people than ever before. Talented amateurs, avocational naturalists, and professionals alike

are contributing to expanding our knowledge of the group. With the popularity of the Dragonfly Society of the Americas, the various web sites, state surveys, and new publications flowing out the door it's a very exciting time. It really is a labor of love for many, since monetary rewards are not forthcoming nor expected. Sometimes the satisfaction of having done a piece of work that will be used or appreciated by others is enough.

However, not being a particularly "important" group in terms of traditional economic entomology (and certainly in the scheme of insect species, the Odonata are way down on the list), many experts in this group are Odonata taxonomists second, and work in another capacity first (they often find time to make #2 No. 1 when the chance arises!). One reason is that universities have not usually hired Odonatologists from the pool of people with PhD's when a vacancy in an entomological or biological position has turned up, and with so few positions available and with a large pool, it is no wonder that the situation is the way it is. With the current emphasis on molecular biology, it doesn't look good for any "traditional" systematists in any group, even with all the lip service provided by the National Biological Survey and the recommendations by Systematics Agenda 2000. So, are we heading back to the era when naturalists were lawyers or bankers or doctors (now add, computer specialists) by day and Coleoptera, Diptera, or Odonata systematists "by night?" Send me your thoughts on this!

#### Collecting Permits

As this issue is being prepared, I am in contact with the Michigan DNR about collecting permits for MOS participants so that you can collect in Michigan State Parks. It would be a "blanket" permit, not one for a particular park. The reason is that technically, a permit IS required, although in the past, all one really had to do was ask permission of the local park manager. I don't recall any of them ever saying "no." With a survey however, we have some responsibility to ensure that we adhere to certain standards of collecting, that the data is properly kept, and will be made available to the DNR if requested. As one of the aims of the survey, data will be made available to state agencies. I believe what will happen is that the MOS will receive a permit with the names of the participants attached or each participant will receive a permit. It will only be for Odonata. The Michigan Lepidoptera Survey has preceded us in this, and their efforts have probably made it easier for our survey to be recognized as a valuable asset to the MNDR Div. of Parks and Recreation. By the time of the May meeting, I am sure the full details will be available, and perhaps the permits as well.

You do not need a permit to collect insects on state forest, state game area, or National Forest property. However, a courtesy call to the local ranger never hurts, and he or she may have some good suggestions for suitable habitats and may also welcome a chance to talk about an interesting group of insects.

#### Newsletter "Official"

With the blessing of the UMMZ, *Williamsonia* is an "official" publication from the Museum (note the listing of the Regents, etc. on the back cover). Many recipients sent in checks for a one or two-year subscription after the first issue. Thank you! Although I will send issues to anyone wishing to receive a copy, your donations are greatly appreciated to defray costs, since the MOS does not charge dues or membership fees. If you wish to make a donation, make your check payable to the Univ. of Michigan Museum of

Zoology. If your group publishes an odonatological newsletter, let's just make a "trade" – you send me yours, and I'll send you ours.

#### Ohio Dragonfly Survey

In February, Mike, Ethan and I traveled down to Columbus, OH for the ODS meeting. It was a very worthwhile trip, as we exchanged information with a lot of people, and were treated to some very good talks about *Somatochlora hineana*, *Cordulegaster erronea* and other species. The Ohio people are well-coordinated, and their now mature survey has been successful. One big difference from us of course, is that the Ohio Biological Survey has a stake in the Odonata survey, and with the cooperation of Ohio EPA and Ohio DNR, the group has brought all kinds of people together. They really serve as a model for the other surveys to emulate.

#### Hell and Paradise?

Mike Kielb and I have talked about holding a joint collecting day or weekend in Hell and Paradise, Michigan. It started as a joking "Wouldn't it be neat to publish a paper on the difference in the Odonata fauna of Hell and Paradise?" Well, what we propose is for a group to collect in Hell, (near Pinckney) and for another group to collect on the same day or weekend in Paradise, MI (in the UP near Whitefish Point). Not only would we get a big difference in the fauna, but it would be a lot of fun. Is anyone interested in coordinating this event?

#### MOS Collector's Handbook

The MOS Collector's Handbook will be ready by the May 18 meeting. I anticipate that it will be sold for about \$5 to cover the cost of printing, but I won't know for sure until it is completed.

#### *Somatochlora hineana* in Michigan?

Wayne Steffens, of Duluth, MN writes that he just received word (03/21) that he has been funded by the US Fish & Wildlife Service to survey the UP for *Somatochlora hineana*. That's good news! In addition, Bob Glotzhober emailed me: "...Last Thursday/Friday I participated as a guest at the Federal Endangered Species Recovery Team meeting for the Hine's Emerald, *Somatochlora hineana*. The team is working on a draft for the recovery plan. One item they did was to set up three "Recovery Units": 1. NE Illinois & NW Indiana (includes current DesPlains River population) 2. NW Ohio, NE Indiana, & Southern fringe of MI (historical population at Oak Openings & Mud Lake, plus nearby areas) and 3. Northern Wisconsin and portions of the UP of MI (includes the Green Bay population).

There is some hope that the ridge & swale fens of Green Bay peninsula and the population there may have a counter-part in similar habitats in the UP."

## New larval Odonata records for Michigan

Ethan Bright

Sorting and identifying of odonate nymphs have revealed several interesting finds for the State of Michigan and important reference specimens for the UMMZ Odonata larval collection. Over one thousand specimens have been identified and entered into the UMMZ database, and more new records almost certainly will be announced.

An important find is a larva of *Nasiaeschna pentacantha* (Rambur) from a stream outlet to Brooks Lake in Newaygo Co., Michigan, collected by T. H. Langlois (UMMZ-Fish Division) on 2 August 1926. Although there is one confirmed report of an adult from Newaygo Co., and a more recent but unconfirmed sighting in Oakland Co. (M. O'Brien, pers. comm.), this represents the first larval record and (though dated) evidence of a breeding population here in the state.

Two important larval specimens of *Neurocordulia* have been placed in our collection. The first record is an exuvia of *N. yamaskanensis* (Provancher) collected in 1953 by E. J. Kormondy from Douglas Lake, Cheboygan Co. (UM Biological Station). This specimen is probably one of two that Kormondy (1958) referenced in his survey of Michigan Odonata. The other specimen known from Michigan and listed in Kormondy's work is an teneral male described as *N. obsoleta* Say by Byers (1927) in his survey of Michigan Odonata. E. B. Williamson tentatively identified this specimen as *N. yamaskanensis* in 1930, and Byers (1937) evidently agreed with this assessment by replacing *N. obsoleta* with *N. yamaskanensis* on the list of species occurring in Michigan. In 1955, Kormondy definitely agreed with Williamson's identification of the specimen and removed *N. obsoleta* from occurring in the state (Kormondy 1958). Interestingly, Needham and Westfall (1955, p. 359) reference Byers' 1937 work to indicate both *N. obsoleta* and *N. yamaskanensis* as occurring in Michigan, and my guess is that one of the authors mistakenly referenced Byers' work of 1927, not his later correction of 1937!

Recently a second larval *Neurocordulia* sp. has been deposited into the UMMZ collection, this one collected in 1992 by S. Yanoviak in the Pine River of the Huron Mountains, Marquette Co. Pine River is an undisturbed lake-connector stream draining surface waters from Mountain and Pine Lakes. Using a more recent taxonomic treatment of larval characters (P. Brunelle, pers. comm.), I have identified this specimen as *N. obsoleta*. However, this specimen is clearly not mature (with only minute wing pads developed), therefore I am hesitant to proclaim a new state record. Efforts will be made this year to revisit the site to attempt to collect more mature larval specimens and perhaps rear the specimens to the adult stage.

Of the two species of *Boyeria*, *B. vinosa* (Say) is apparently the most widespread and common species in Michigan. Thus, discovery of a mature female larva of *B. grafiana* Williamson from Michigan is gratifying addition to the UMMZ larval Odonata collection. This specimen, collected in 1924 in the "Gull River" by an unknown collector, is probably from Gull Lake outlet, south of Gull Lake in Kalamazoo Co. (new county record).

### Literature Cited

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The above illustration comes from a postcard sent from Boris Belyshev to Dolly Gloyd in 1981. According to Barry O'Connor, the caption says "Happy New Year! Two larvae [nymphs?] - which is better?" It's certainly sexist, but it's an interesting piece of odonatological miscellanea. My apologies if anyone finds this offensive! --Mark