



WILLIAMSONIA



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A publication of the Michigan Odonata Survey

1998 SEASON SUMMARY

Mark O'Brien¹

This year has been a very interesting one for the MOS. First of all, our season started pretty early -- Ethan Bright and I started collecting larvae in early April, and the onset of continued warm weather resulted in mass emergences of adults in the first week of May in the Lower Peninsula. All kinds of early records were set this year, all over the state. I received numerous reports from various areas of the state of large numbers of odonates emerging en masse - in a fashion resembling something like Mayfly emergences. On May 5, I saw thousands of teneral damsels flitting in the woods (mostly *Enallagma boreale* and *Chromagrion conditum*) in NW Washtenaw Co. This early surge of warm weather continued into the summer months, which skewed emergences, and also ruined plans for what would have previously "early" forays to search for species like *Tachopteryx thoreyi*. Drought conditions in the eastern Upper Peninsula continued for much of the summer, and we don't yet know how populations of species in the drought areas have been affected.

In June, we received a \$6000 grant from the US Forest Service, which has allowed us to purchase equipment and supplies for our volunteers, as well as provide money for travel expenses and hourly work. It has enabled me to hire Ethan Bright to continue working on the Michigan Odonata larval collection as well as the web site for larval identification. It has been profitable for us to provide collecting equipment for our volunteers, and the MOS certainly has reaped rewards from doing so this year.

The MOS was issued a permit for Threatened and Endangered Insects in Michigan by the Michigan Dept. of Natural Resources, and we also obtained a permit for Hine's Emerald from the U.S. Fish & Wildlife Service. Neither permit was needed for our activities thus far, but they are good to have in hand just in case.

¹ Insect Division, Museum of Zoology, University of Michigan, Ann Arbor, MI 48109-1079.

The MOS Web site (<http://insects.ummz.lsa.umich.edu/michodo/mos.html>) is being used constantly, though I have not yet analyzed the logs for the actual numbers. Ethan's larval web key and the Odonata photos are two of the most-used resources. I have upgraded most of the maps to reflect the current known distributions, and the newsletter is now also being put online in PDF files. Plans for the coming year include a new format for listing the Michigan species, as well as improved resources for identifying adults.

Five MOS field trips were scheduled, resulting in new records for Lapeer Co., Washtenaw Co., and Cass Co. Although participation by MOS members in the field trips was minimal, those that attended had a great time, and we'll continue scheduling them for next year. The July 5 Dragonfly Walk at Hudson Mills Metropark drew about two dozen participants from the general public, and even garnered a front page photo story in the Ann Arbor News. MOS meetings in April and October generated more interest, and we had some very interesting talks presented by Nick Donnelley, Sam Riffell, and Eric Pilgrim.

Various collecting trips were made to areas in the Lower Peninsula: Onsted State Game Area and Ives Road Fen, Lenawee Co.; Indian Springs Metropark and Huron River areas in Livingston, Oakland, and Washtenaw Counties; Embury Road areas in NW Washtenaw Co.; several areas in Cass and Berrien Counties; various areas in Emmet, Cheboygan, Presque Isle, Benzie, and Manistee Counties. In the Upper Peninsula, MOS participants visited Delta, Houghton, Marquette, and Mackinac Counties. A great many specimens were provided over the season from Mecosta Co. by Stephen E. Ross.

Our state species count currently stands at 155. Ranges were expanded and/or confirmed for a number of species in Michigan. The data is not all yet analyzed, but noteworthy records are listed below:

Calopterygidae

Hetaerina titia - Livingston Co.

Coenagrionidae

Argia tibialis - Cass, Lenawee, and Livingston Counties were added to the list.

Enallagma aspersum - several NLP counties were added to the list.

Enallagma basidens - Washtenaw Co. added to the list

Enallagma anna - a **new state record** (to be published in the Great Lakes Entomologist, V. 30 No. 4)

Ischnura kellicotti- Mecosta Co.

Gomphidae

Arigomphus cornutus (Washtenaw Co.) and *A. villosipes* (Cass Co. and Mecosta Co.)

Ophiogomphus anomalus and *A. carolus* records from the western Upper Peninsula

Ophiogomphus aspersus is recommended for **removal** from state list. (see **Williamsonia** 2[4])

Progomphus obscurus - Mason, Newaygo, Jackson, St. Joseph Co. are new additions.

Stylogomphus albistylus - Gogebic, Dickinson, Oakland and Presque Isle Co.

Stylurus plagiatus (Wayne Co.), *S. scudderi* (Marquette Co.) and *S. spiniceps* (Alpena and Livingston Co.).

Aeshnidae

Gomphaeschna furcillata - three counties in the NLP

Nasiaeschna pentacantha - records from Benzie and Mecosta Co.

Macromiidae

Macromia taeniolata- Washtenaw Co.

Cordulegastridae

Cordulgaster diastatops/bilineata - several sites were visited and specimens collected in the northern half of the lower peninsula.

Approximately 1300 records were added to the MOS database this year, which included larval and adult specimens from Michigan State University's collection, as well as numerous records from our collecting trips. The study of the Odonata of the Huron Mountains in Marquette County was pretty much wrapped up this year, and the report on our work there will be submitted to the Bulletin of American Odonatology in the coming year.

The following people deserve thanks for providing the MOS with specimens, and data:

1. Brian Sholtens donated specimens from Emmet and Cheboygan Counties, collected in 1997 -including the first LP records (in this century) for *Gomphaeschna furcillata*.

2. Carl Freeman provided numerous photos and took specimens in Benzie and Manistee Counties, as well as some specimens from Lake and Mason Counties. Carl's hospitality at his place in Arcadia is also greatly appreciated. Carl provided photos of the second UP locality for *G. furcillata* in Benzie Co. Carl picked up a number of significant records that are just being databased as this issue is being prepared.

3. Stephen Ross collected and photographed Odonata in Mecosta Co. - he added over 30 county records for his efforts, and included are significant records for *Ischnura kellicotti*, *G. furcillata*, *Arigomphus cornutus* and *Stylurus notatus*.

4. David Cuthrell of the Michigan Natural Features Inventory provided us with hundreds of Gomphid larvae and exuviae that kept Ethan Bright very busy during the fall.

5. John F. Douglass provided 60 specimens from Grand Traverse Co., collected in 1992-94, and added 7 county records for Zygoptera.

6. Dick Taylor provided a number of specimens from Oakland and Macomb Counties.

7. Michele Jokinen collected in Houghton Co.

8. Joel Weichsel led us to his old research site in Livingston Co. where we caught *Hetaerina titia* as well as *Stylurus spiniceps*. He also gave us his voucher specimens from his work on *Hetaerina* in the early 1980's.

9. Laura Krueger and Chris Clampitt of the Nature Conservancy provided us with specimens from TNC preserves.

10. Nick Donnelly, Sid Dunkle, and Ken Tennessen provided Michigan data from their collections.

I also heartily thank Ellie Shappirio for her continued work in the larval collection. She has really made a difference in her hours as a volunteer in the UMMZ. Margi Chriscinske has been spending many a Sunday afternoon identifying larvae amongst the Michigan material. Michele Jokinen worked very hard at entering data into the MOS database, and she'll be hard to replace now that she has taken a full-time job elsewhere in the University.

Lastly, I thank the people that have accompanied Ethan and/or me on MOS field trips: Ellie Shappirio, Bev Shepard, Renee Sandora, Dick Taylor, Laura Krueger, Adrienne and Marjorie O'Brien, and Bill Westrate. If I have forgotten to acknowledge someone's contributions, please forgive the omission.

As we move towards the coming collecting season, let's see if we can make 1999 an even more successful year than 1998!

NEW DATA FORMAT

Mark O'Brien

Over the Christmas break, I spent some hours translating county dot-map records onto a spreadsheet so that the data could be incorporated by others for use by mapping programs. The reason was that the MOS database only provides records based upon actual specimens, not literature records or Kormondy's papers. However, the maps in the MOS Collector's Handbook are based on Kormondy's papers as well as recent efforts. Although the maps are useful, they are not easily updated for use by others. Therefore, it not only made good sense to provide data so that Nick Donnelly could use it for his North America dot-maps project, but also to create an easily read datasheet that the MOS members could use.

I made a transparent map overlay with the counties numbered 1-83 (84 for Isle Royale) starting with the SE corner and moving W. Then, it was a straightforward task to simply have a list of the species on the left and the numbers 1-84 at the top of the spreadsheet. Lay the overlay on a dot map, and start hitting the X key for the numbers that have dots below them as I counted across the spreadsheet. After finishing that, I coded the numbers so that 01 = Monroe, 02= Lenawee, etc. The end result was that one set of data was sent to Nick Donnelly as a file with all the counties listed for each species, and another set became a list of species with dots indicating county records, which will appear in the Spring issue of *Williamsonia* and will also replace the dot maps in the back of the next edition of the MOS Collector's Handbook.

The new record listing will better enable anyone to look and see what species are recorded from a particular county without having to leaf through many pages of maps. The data can now also be easily exported to other end-users of the information such as natural heritage programs.



**Michigan Odonata Survey
Spring, 1999 Meeting
Saturday, March 27, 2-5 pm
Museum of Zoology
1109 Geddes Avenue, Ann Arbor**

Brainstorming for 1999
Slide Show
Refreshments
Get Acquainted with fellow members!
Have a fun afternoon with us at the UMMZ!

“WINTER” COLLECTING OF ODONATA LARVAE IN MECOSTA COUNTY, LATE NOVEMBER-EARLY DECEMBER 1998.

Stephen E. Ross²

During the spring and summer of 1998, I collected nearly 200 specimens of Odonata adults and exuviae in Mecosta County in west central Michigan, but made no effort at larval specimens. The “El Nino” year of 1998 blessed the area with a warm 1997-98 winter, warm spring, a hot, clear and dry summer and a fall that remained tolerable for collecting of larvae long after the last of the adults died (*Sympetrum costiferum* on 2 November). Collecting and observation of adults during this time was excellent.

From 27 November to 6 December, 12 sites were sampled for larval Odonata. These sites were: two roadside stream crossings; two Department of Natural Resources State Game Area (SGA) dam outflows; beaver ponds (2, sampled as Ashegun Lake); six SGA lakes - (Haymarsh Lake, Haymarsh Lake #3, the Featherbed Flooding, Lost-Tubbs Lakes, Pickerel Lake); one Leatherleaf (*Chamaedaphne*) bog (Ashegun Lake) and one public access beaver dam lake (Brockway). In the Haymarsh Lake area, two low wet areas a short distance (and separated) from the lake that remain wet all year were sampled but produced no Odonata larvae. Weather conditions during this time were mild for the season, ranging from 42° to 60°F (5° – 15° C) and clear to heavy overcast. Ice had to be broken on 27 November and collection was ended by fringing ice after 8 December, though it had become quite unpleasant to sort through netted sediments on 6 December – the last day of collecting.

Thirty-two species of Odonata larvae were collected during this time period, 11 days, representing 46% of the 69 species collected as adults from 14 May to 30 September 1998. Two new county record species were found (*Enallagma hageni* and *Somatochlora williamsoni*). *Aeshna umbrosa* was collected for the first time since May of 1924 when collected by Fortney and Moody (UMMZID Collection) and is yet not known from an adult specimen. All other species collected have an adult representative for the county.

Other observations of interest: An astonishing number of small water boatmen, of about six species, were netted and a few specimens were collected with nearly every dip. One sweep through grasses dangling in the water at the out flow of Pickerel Lake Dam on 25 November caught several thousand of one species. An equally interesting selection of freshwater mollusks of about five species was netted from the lake edges. And numerous Green and Leopard Frogs

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e-mail: rosssb@tucker-usa.com

(*Rana clamitans* and *Rana pipiens*) were netted or observed active in the frigid water.

While sampling through various types of litter in the water, the least productive sites were in oak leaf litter; moderately productive in maple leaves. Nets full of a 'bottom soup' of decomposing litter also generally produced few larvae. The most productive area for finding Odonate larvae was in upright vegetation fringing lakes and the outflows of the dams where the floating (streaming) *Potamogeton* and *Elodea* leaves were sampled.

Acknowledgments

I thank Ethan Bright, of the University of Michigan, for identifying the specimens, all of which are housed in the UMMZ and have been catalogued in the UMMZ Odonata Collection.

Odonata larval specimens collected 25 November to 6 December 1998

<i>Lestes inaequalis</i>	<i>Aeshna umbrosa</i>	<i>Leucorrhinia frigida</i>
<i>Lestes vigilax</i>	<i>Basiaeschna janata</i>	<i>Leucorrhinia intacta</i>
<i>Argia fumipennis</i>	<i>Nasiaeschna pentacantha</i>	<i>Ladona (Libellula) julia</i>
<i>Chromagrion conditum</i>	<i>Arigomphus furcifer</i>	<i>Libellula incesta</i>
<i>Enallagma cyathigerum</i>	<i>Gomphus lividus</i>	<i>Libellula luctuosa</i>
<i>Enallagma hageni</i>	<i>Gomphus spicatus</i>	<i>Libellula quadrimaculata?</i>
<i>Enallagma signatum</i>	<i>Cordulia shurtleffi</i>	<i>Libellula pulchella</i>
<i>Enallagma vesperum</i>	<i>Dorocordulia libera</i>	<i>Plathemis (Libellula) lydia</i>
<i>Ischnura posita</i>	<i>Epitheca cynosura</i>	<i>Pachydiplax longipennis</i>
<i>Ischnura verticalis</i>	<i>Epitheca spinigera</i>	<i>Somatochlora williamsoni</i>
<i>Anax junius</i>	<i>Erythemis simplicicollis</i>	

would suggest a population of unknown size that overwinters as larvae. There is, however a shortage of supporting data. Much work needs to be done

Anax junius Overwintering Project

Dave Westover³

I've recently become interested in the question of whether a second population of *Anax junius* that manages to overwinter as larvae in the northern states, actually exists.

In 1995, I collected 2 *A. junius* exuviae at my favorite pond in southern Wisconsin on 17 June. With a 3 month larval stage, the eggs would have had to hatch in mid-March. This seems extremely unlikely in Wisconsin's climate. In 1998, I saw my first migrant adult *A. junius* on 12 April, which is earlier than most years. But on 25 May, again at the pond mentioned above, I saw and photographed a teneral *A. junius*. On 7 June 1998 I collected a single exuvia of a female *A. junius*.

These dates would suggest a population of unknown size that overwinters as larvae. There is, however a shortage of supporting data. Much work needs to be done to establish the existence and status of this population. Do they interbreed with the population with 3 month larval stages? How long is their larval stage? Is it 10 months? 11 months? A lot of questions and very little in the way of answers. With this in mind, I would like to get a group of people together in the northern tier of states, i.e., MN, WI, MI, NY, VT, NH, ME, etc., to collect larvae of *A. junius* in their local areas throughout the month of May. If this population exists, we should find larvae that are fully developed and ready to emerge shortly. We can also expect to find much younger larvae that will be the progeny of adult migrants that have mated and oviposited in the spring of 1999. If enough people participate in this larval search, and we get some good results, another search in November for larvae that overwinter, may also be in order. If this sounds interesting to you, please get in contact with me soon. Spring is right around the corner, even if it doesn't feel like it!

E-mail me at : westy@gdinet.com, or write to me via snail mail.

OPPORTUNITIES FOR ASSISTING THE MOS

We are indeed fortunate to have quite a few talented "amateur" Odonata enthusiasts that have really been turning

³324B North Monroe St., Waterloo, WI 53594.

ANNOUNCEMENT

45th Annual Meeting of the
Michigan Entomological Society
"Insect and Ecosystem Diversity in the
Great Lakes Region"

4 June 1999

Ralph A. MacMullen Conference Center
Higgins Lake, Michigan

(check the MES web page for more information as it becomes available:
<http://insects.ummz.lsa.umich.edu/mes/mes.html>)

The MOS will be represented by Mark O'Brien, and we encourage others to attend. The site is about 11 miles S of Grayling, and there are LOTS of good habitats to collect in.

There are overnight accommodations at the RAM center. You may also contact the Michigan Entomological Society, c/o Dept. of Entomology, Michigan State University, East Lansing, MI 48824-1115 for more information.

MOS members are urged to attend what should be an excellent meeting.

up new records and adding important data to our knowledge of the Michigan fauna. The MOS certainly could not begin to adequately sample various areas of the state with only a couple of persons in the field.

However, we lack coverage for significant parts of the state, and as we all know, a few people cannot adequately survey a state the size of Michigan. What we need is to find people or groups that might be interested in doing surveys of particular streams or watersheds. Exuviae, for example, would be easily collected without requiring special equipment, and they are excellent indicators of what species occur in a certain habitat. What we'll need to do is develop a set of fact sheets that can be mailed to various nature centers, etc. that illustrate some of the aspects of what the MOS is trying to do. In that vein, I need a volunteer to act as a conduit to other organizations -- more of an outreach type of job, and that person would work with our mailing list and expand it to include a variety of nature centers, nature and land preserves, and other environmental organizations. Laura Krueger started the basic mailing list while she was here, so we have a good beginning. Perhaps we can work on the details of such a project at the Spring Meeting on March 27.

OHIO ODONATA SOCIETY ANNUAL MEETING

The OOS will be holding its annual meeting on Saturday, March 20, at Spring Hollow Education Center in Westerville, OH (N or Columbus). The meeting will be held from 10:00 a.m. to 1:00 p.m., and is open to anyone interested in Odonata. For more information on the meeting, or for instructions on how to get there, contact Bob Glotzhober at bglotzhober@ohiohistory.org or call at 614-297-2633.

DRAGONFLIES ARE TOPS IN DECORATING

According to the OOS Newsletter, The Ohio Dragonflyer, an article in the 12/6/98 Columbus Dispatch states that dragonflies have replaced butterflies as the preferred insect motif in homes and gardens. I didn't know if it was just because I have been more aware of dragonflies or if they had in fact become more popular, but I have noticed more dragonfly-based artwork on a variety of items.

UMMZ PUBLICATIONS AVAILABLE

Due to lack of space, and an overabundance of back issues, the various divisions of the UMMZ have claimed the excess copies. Many duplicates will be distributed free of charge or sold at a fraction of the former cost, at the discretion of the various divisions. The MOS will distribute the excess

copies of Odonata-related papers after they have been inventoried. Many papers by E.B. Williamson, L.K. Gloyd, C.F. Byers, J. Leonard and others have been published by the UMMZ, dating back to about 1912. For a complete list of what papers will be available, check the MOS web site sometime in March.



RECENT PUBLICATIONS OF INTEREST

- Glotzhober, R. and D. Riggs. 1998. Adapting the Townes Malaise trap for collecting live Odonata. *Bull American Odonatology* 5(3):43-48.
- O'Brien, M.F. and P.D. Pratt. 1999. *Enallagma anna*, a damselfly new to the Great Lakes Region (Odonata: Coenagrionidae). *Great lakes Entomologist* 31(3&4):211-213.
- Pratt, P.D. and P.M. Catling. 1999. Distribution of *Hetaerina titia* (Odonata: Calopterygidae) in the eastern Great Lakes Region. *Great lakes Entomologist* 31(3&4):205-208.
- Steffens, W.P. 1998. New distribution records of *Somatochlora hineana* (Odonata: Corduliidae). *Great Lakes Entomologist* 31(1):25-26.
- Waltz, R.D. 1999. Gleaning on Coreidae (Heteroptera) by *Tachopteryx thoreyi* (Odonata: Petaluridae). *Great Lakes Entomologist* 31(3&4):209-210.

NEW ON THE MOS WEB SITE

In the last issue of *Williamsonia*, I gave a quick review of the Dragonflies of Wisconsin book (which I highly recommend) by Karl and Dorothy Legler and Dave Westover. Since then, Dave Westover and I have been collaborating on getting up some web pages devoted to photographing dragonflies on the MOS web site. The links to "Photographing Dragonflies with Flash" can be found on the main MOS pages, and you can also go there directly by linking to <http://insects.ummz.lsa.umich.edu/michodo/westover/>. I will also have some nice examples of Dave's dragonfly photos on the site.

Ethan Bright's pages on larval Odonata continue to be updated and improved. Ethan is now attending UM as a doctoral student, but is still devoting as much time as possible to the web project and the UMMZ larval collection. He and his wife Susan are expecting a young larva of their own this spring, and we wish them the best of luck on their new endeavor.

SPECIAL OFFER FOR STUDENTS: A REDUCED RATE SUBSCRIPTION TO ODONATOLOGICA

Bill Mauffray

Students in the Americas can now qualify for a reduced cost subscription to *Odonatologica* for 1999. Any student (not already subscribing to *Odonatologica* within the last 2 years) who would like to obtain a subscription, can apply for the special student rate of \$55.00 (includes postage and handling). The conditions are that the student must provide a brief statement of their interest and work in Odonata and must make a commitment to provide the IORI library with at least one copy of all reprints, articles and their thesis covering Odonata subjects. This rate will continue for up to four years and will adjust annually with the normal subscription rate: regular rate - \$28.00.

As an added incentive, an additional 10% discount will be added to all publications purchased through the I.O.R.I. during 1999-2000. This includes the forthcoming revised Manual of the Dragonflies of North America (see article in this issue) due out next winter; and this is over an above any other advertised discounts. This will reduce your net subscription cost to about \$47.50 if you buy the "Manual."

This special is valid only in the Americas. The *Odonatologica* Subscription/ Foundation-SIO application can be copied from the web site at: www.afn.org/~iori/siomemb.html or you can simply write a note requesting a subscription along with a brief description of your studies or interest in Odonata and at which university, school, or institution. Please include your name, mailing address, phone number, fax number and e-mail address and send along with a check or money order in US funds to:

Bill Mauffray
International Odonata Research Institute % Div of Plant
Industry
P.O. Box 147100
Gainesville FL 31614

UPDATED MANUAL OF THE DRAGONFLIES OF NORTH AMERICA: EXPECTED WINTER 1999-2000

by James G. Needham, Minter J. Westfall, Jr., and Michael L. May 1999. ca. 650+pp. ISBN: 0-945417-94-2. ca. \$75.00

The long-awaited monographic revision of the classic "Manual of the Dragonflies of North America", by Needham and Westfall (1955) is expected in Winter of 1999-2000. It will include numerous additional species described, or discovered within the area treated, since 1955. including northern Mexico and the West Indies. A total of about 360 species will be treated. Revised keys to species and revised diagnoses will allow identification of all adults and known larvae of these important aquatic insects. Revised by Westfall and May, this work is the companion volume to the new book on damselflies of North America, published in 1996. Numerous new illustrations are included for all added species, plus several pages of color plates. The work will include a revised checklist to species, an extensive bibliography, glossary and index.

The IORI, by special arrangement with the publisher, is now taking advance orders at 10% from the estimated publication price of \$75.00. That is \$67.50 plus S&H of \$5.00 US, \$7.50 Outside US. (Total of \$72.50 in the U.S. \$75.00 outside the U.S.) There is a chance that page and production cost will drive the cost up, and postal rates may also go up; but, if you order in advance, you will be protected from the potential price increase. This offer is valid until, July 31, 1999. All profits go to IORI to cover operating expenses, web site, salaries, etc. The I.O.R.I. is a not for profit organization under section 501-C-3 of the Internal Revenue Code. for more info :www.afn.org/~iori/

Make your check to I.O.R.I. and send it along with a note requesting the updated manual to:

Bill Mauffray
International Odonata Research Institute % Div of Plant
Industry
P.O. Box 147100
Gainesville FL 31614

Please be sure to include your mailing address, phone number and e-mail address. Your copy(s) will be shipped within a week of receiving them from the publisher.

1999 MEETING/SYMPOSIUM SPECIAL

I am taking advanced orders for poly and cellophane envelopes, Dunkle Florida Field Guides, and the Westfall and May 1996 Damselfly book. If you let me know prior to June 20 1999, I will bring your order to you at either the DSA meeting or Symposium in New York. No shipping charges, plus take a 10% meeting discount from the listed prices at www.afn.org/~iori/oystore/html. I would need your order by e-mail or letter by no later than June 20, 1999, to give me time to package it.

Send email to mauffray@afn.org
or snail mail to Bill Mauffray, I.O.R.I. % DPI, P.O. Box 147100,
Gainesville FL 32614
Internet Address <http://www.afn.org/~iori/>



POSITION ANNOUNCEMENT

Wetland Plant Ecologist, Illinois Natural History Survey

Appointment: Wetland Plant Ecologist- Assistant Research Scientist (grant-supported full-time position), Illinois Natural History Survey. The position is stationed at the Survey's offices on the campus of the University of Illinois at Champaign-Urbana.

Job Description: The Wetland Ecologist will conduct biological assessments of Illinois Department of Transportation (IDOT) project areas, with emphasis on wetlands. Primary responsibilities involve completing routine on-site wetland determinations, including analysis of vegetation, soils and hydrology. The successful applicant will also participate in long term wetland mitigation projects, including locating and evaluating potential mitigation sites, assisting with site design, selecting appropriate species for revegetation, and designing and implementing monitoring programs. Duties include collecting and analyzing field data and conducting quantitative vegetation sampling to characterize and map plant communities and wetlands, and

preparing and submitting reports for funding agencies. Independent research and publication in peer reviewed journals will be encouraged as time permits.

Qualifications: Bachelor's degree in an appropriate discipline (with field experience) required. Master's preferred. Strong skills are required in field identification of midwestern vascular flora with an emphasis on wetland species and threatened and endangered species. Familiarity with current federal wetland determination methods and current wetland restoration/creation techniques is strongly desired. Ability to identify hydric soils and interpret wetland hydrology is desired. The Wetland Ecologist should have the scientific skills and ability necessary to collect and analyze field data for the completion of ecological studies, as well as strong verbal and written communication skills to translate survey and research findings into appropriate management recommendations, and reports and presentations to scientific and lay communities. The Wetland Ecologist should have good interpersonal and organizational skills. The applicant must have a valid automobile driver's license, and be willing to travel overnight throughout Illinois and work under adverse weather conditions.

Salary: \$25,000 to 28,000.

Benefits: Vacation and sick leave. State Universities Retirement System. State Health Insurance.

Availability: 31 May 1990.

Application: To ensure full consideration, applications should be received by 22 March 1999. Send cover letter, resume, and the names, addresses and telephone numbers of three references to:

Ms. Susan Key, Human Resources Manager
Illinois Natural History Survey
607 E. Peabody Drive
Champaign, IL 61820
voice: 217 244-7790; fax: 217 333-4949.

Specific questions regarding this position should be referred to Allen Plocher, Search Chair, Center for Wildlife Ecology, Illinois Natural History Survey, (217) 333-6292. Applicants should note that this position is exempt from the State Personnel Code and is under the Board of Natural Resources and Conservation (BNRC) and follows BNRC policies and procedures. This is not a Bargaining Unit position nor a Merit Comp position. The Illinois Natural History Survey does not discriminate on the basis of race, color, sex national origin, age or handicap in admission to or treatment or employment in programs or activities in compliance with the Illinois Human Rights Act, the Illinois Constitution, Title VII of the 1964 Civil Rights Act, Section 504 of the Rehabilitation act of 1973, as amended, and the U.S. Constitution. [Posted 1 February 1999]



Can an Odonate Loop?

Jody Clark (etc@traverse.com).

I am wondering if anyone else has observed a dragonfly do a loop? Last summer I watched two dragons chase each other up the old road near our house, then fly into a small pine plantation. It was a fast and furious flight. I could not catch any marks that would allow identification, but they seemed to be of the same species. From their size and the shape of the abdomen, I would judge them to be Aeshnidae (damers). They were not marked, so I had no way of telling which was which, but it appeared to be a territorial battle, with a

clear winner. One dragon flew off and the other did the kind of victory flight one might expect of a fighter pilot. My line of sight was clear and complete. This victory flight included what I registered as a loop. The dragon flew along a baseline then curved up and around in a vertical circle. Just like could happen to an inexperienced pilot, the dragon wings lost their lift at the top of the loop and the insect stalled. It looked like the tip of the tail suddenly slapped over, for the dragon appeared suddenly to be on its back in the air. It was like the dragon entered the first part of the loop, which slowed the body of the flight, but the unchecked speed of the tail slapped the insect over on to its back. I use the term "slapped" because the tail was allowed to come only so far, and it stopped moving as fast as if it had hit a solid surface. From this point recovery was in the blink of an eye, for I did not see it happen. We all have had an Odonata suddenly disappear, reappearing to the side or above or below the line of flight we were following. I call this "jinking." The next thing my eye registered was this dragon flying back out of the pines in normal flight.

Has anyone seen a dragon loop? Has anyone seen the wings of a dragon lose their lift? Has anyone seen any Odonate on its back in the air? Has anyone seen the recovery?

Thanks for considering this curiosity.

WILLIAMSONIA ALERT!

No, not the newsletter, but the dragonfly. *Williamsonia fletcheri* is the smallest of our corduliids, and also one of the earliest to be on the wing. An inhabitant of Sphagnum bog areas with open pools, this elusive dragonfly has been collected in only a few localities in Michigan – Grand Traverse Co., Mackinac Co., Schoolcraft Co. and Chippewa Co. The earliest date thus far in Michigan is May 24, the latest is June 5. The adults should be looked for on sunny mornings along 2-tracks bordering the bogs, where they often sun themselves soaking up the spring sun. You should start looking in potential habitats in the Northern Lower Peninsula and Upper Peninsula as early as possible, as we don't yet know how early they do emerge. A related species, *Williamsonia linteri*, has possibly been seen in Wisconsin, and as all previous records were from the Northeast, sightings in the UP might be possible. The **Dragonflies of Wisconsin** has nice color photos of these two species. If you think you have sighted any adults, email mfobrien@umich.edu asap!

