ISSN 1061-8503

ARGIA

The News Journal of the Dragonfly Society of the Americas

Volume 16 20 November 2004 Number 3

Published by the Dragonfly Society of the Americas

The Dragonfly Society Of The Americas

Business address: c/o T. Donnelly, 2091 Partridge Lane, Binghamton NY 13903

Journals Published By The Society

ARGIA, the quarterly news journal of the **DSA**, is devoted to non-technical papers and news items relating to nearly every aspect of the study of Odonata and the people who are interested in them. The editor especially welcomes reports of studies in progress, news of forthcoming meetings, commentaries on species, habitat conservation, noteworthy occurrences, personal news items, accounts of meetings and collecting trips, and reviews of technical and non-technical publications. Articles for publication in **ARGIA** should preferably be submitted as hard copy and (if over 500 words) also on floppy disk (3.5˝ or 5.25˝). The editor prefers Windows files, preferably written in Word, Word for Windows, WordPerfect, or WordStar. Macintosh Word disks can be handled. **All files should be submitted unformatted and without paragraph indents**. Each submission should be accompanied by a text (=ASCII) file. Other languages should be submitted only as text (=ASCII) files. Line drawings are acceptable as illustrations.

T. Donnelly (address above) is the editor of **ARGIA.**

BULLETIN OF AMERICAN ODONATOLOGY is devoted to studies of Odonata of the New World. This journal considers a wide range of topics for publication, including faunal synopses, behavioral studies, ecological studies, etc. The **BAO** publishes taxonomic studies but will not consider the publication of new names at any taxonomic level. Enquiries and submission of manuscripts should be made to **BAO** editor, T. Donnelly, 2091 Partridge Lane, Binghamton NY 13903. Final submissions (after review) should be made on floppy disk, or as an e-mail attachment, as above, with illustrations in final form and preferably adjusted to final size.

Membership In The Dragonfly Society Of The Americas

Membership in the **DSA** is open to any person in any country. Dues for individuals in the US, Canada, or Latin America are $15 US for regular membership and $20 US for institutions or contributing membership, payable annually on or before 1 March of membership year. Dues for members in the Old World are $25 US.

Dues should be mailed to Jerrell Daigle, 2067 Little River Lane, Tallahassee, FL 32311

The **BULLETIN OF AMERICAN ODONATOLOGY** is available by a separate subscription at $15 US for members and $18.75 US for non-members and institutions.

Front cover: Halloween Pennant (***Celithemis eponina***); photo by June Tveekrem.

ARGIA — The News Journal of the D.S.A.

In This Issue

You will notice substantial changes in the appearance of this number. Jim Johnson has kindly volunteered his considerable expertise to improving the appearance of our newsletter, and I am grateful to him for this.

This has been an unpleasant season in much of the United States. Record colds for the last winter were followed by record rainfalls in much of the east, followed, of course, by record hurricanes in Florida. It is a wonder that anyone found time for serious dragonfly study, but we recorded a record number of records, if you will. In spite of all the rain and cold, we have scheduled a marvelous series of meetings for 2005. "Tomorrow will be another day." as Scarlett famously said . . .

The annual meeting at Arnprior, Ontario, brings the group back to the marvelous northeast, with its huge odonate diversity. This is one of the most attractive settings that we have chosen for a meeting. Following the post-meeting field trip to the Timiskaming District, the GLOM meeting in western Ontario could well be the next stop for the more hardy of the group.

The 2005 season starts earlier, with the annual mid-March Eglin AFB trip. Even if all you find is ***Cordulegaster sayi***, the trip itself will be well worth the effort. The Southeastern trip this year is in late May to Yazoo, Mississippi. The trip will be well worth while, if only so that you can say, "Yazoo". We promise not to go this year; past attendance by the Donnellys has brought snow and freezing weather (but *not* rain!) to this normally sunny state.

The Northeastern trip in early June will visit one of the premier sites in North America. Ten Acre Pond, in the center of Pennsylvania, has been surveyed regularly for fifty years, with two new species added just last year (this is clearly a national record — perhaps it is a world record?). This is the site where many members of our organization saw their first ***Aeshna mutata***. They are still there, along with ***Anax longipes***, at one of its few inland sites. Come and find out why this site remains so very good — and then visit nearby Bear Meadows and vicinity, where ***Tachopteryx*** and its friends abound.

The GLOM meeting this year is in Fort Francis, Ontario. Not many miles from Minnesota, this is an area of abundant small lakes and bogs. Can you spell "***Somatochlora***"?

Jim Johnson wound up his year with the annual northwest "***Aeshna*** Blitz". While those of us everywhere else were hanging up our nets, the hardy Oregon crowd was having a fine time.

John Michalski returned from New Guinea a decade after his first glorious trip. He reports that the island has not changed much in a decade; I suspect it has changed very little in the 32 years since Ailsa and I went there. It really is a fabulous place, and I suspect John's account will send several readers to their travel agent.

Did you miss the cicadas? Well, they'll be back in 17 years. And then you can observe the effects of scavenger predation on them, and how this affects dragonflies, as Richard Orr has done.

The Ontario group has been busy, and their findings will play a prominent role in next year's annual meeting. Their find of ***Neurocordulia michaeli*** pushes the range of this interesting dragonfly away from the coastal sites where it had previously been found. Who knows where it will be found next?

The Texas gang really blew our sox off this summer. New state records are fine, but they keep coming up with new national records. The ***Leptobasis melinogaster*** is all the more astounding, because the species itself was only recently described from Mexico! This almost puts the first ***Phyllocycla*** specimen (Bocanegra and Czaplak) for the US in some sort of shadow. If it weren't for that ***Leptobasis***, ***Phyllocycla*** would be the bug of the year.

Paul Catling and Brenda Kostiuk add some more provincial records for Saskatchewan, a poorly surveyed province. The northern records for ***Stylurus notatus*** (also the Northwest Territory!) are really remarkable. We used to think that ***Ophiogomphus colubrinus*** was the most northerly of the family. They follow up this report with another Saskatchewan article. Not finished yet, they add ***Enallagma hageni*** to the Northwest Territories' fauna.

Kathy Biggs reports some new species for California. Brian Pfeiffer tells us that Vermont was productive this summer, in spite of the weather. Kreg Ellzey adds ***Enallagma doubledayi*** and Bill Mauffray adds ***Epitheca semiaquea*** to the Louisiana list.

Jim Johnson pushes the range for ***Argia hinei*** up to Utah. The surge of new records reflects the vastly increased activity in the past few years. The range maps that I presented in BAO will be obsolete much earlier than I suspected when they appeared. The Prathers report ***Erpetogomphus compositus*** from Colorado—and add a second locality for ***Cordulegaster dorsalis*** in that state.

We aren't done with new records. Miguel Fernández-Martínez adds ***Triacanthagyna septima*** for the Dominican Republic. This widespread evening flier is still unrecorded over much of an apparently wide range.

Some e-mail communications with Sandy Alexander of the Baltimore Sun led to the inclusion here of a nice article she wrote, highlighting the activities of Bob Solem and Richard Orr. The world is really discovering odes, and articles such as this one probably help a lot to get the word out.

The Feds have taken some action to protect ***Somatochlora hineana*** habitat. This is a slippery problem, especially because the bug has such special requirements.

I promised—and then slipped up—to include the latest common name report in the last ARGIA. Here it is. There'll be a quiz in the morning.

Bill Mauffray reports that the long-awaited FSCA collection expansion is finally taking place! Whew!

There will be an interesting symposium in Bulgaria next summer. It should be interesting, and I hope it is well attended.

I include a new book on Alberta damselflies and a paper on Brazilian ode behavior.

We have a few TRAMEA contributions this time. The Kathy Biggs contribution on chat groups will have some new things for even those of us who thought we knew them all. Kreg Ellzey has a program for ordering your field notes.

It is a great pleasure for us to welcome the DSA to Canada. Useful information is summarized below.

Calendar of Events for 2005

Event	Date	Location	Contact
Eglin Mtg	mid-March	Niceville, Florida	J. Daigle; jdaigle@nettally.com
SE Regional	27–29 May	Yazoo, Mississippi	S. Krotzer; rskrotze@southernco.com
NE Regional	9–12 June	State College, Penn.	H. White; http://www.udel.edu/chem/white/TAP.html
DSA Annual	8–12 July	Arnprior, Ontario	P. Catling; catlingp@agr.gc.ca
GLOM	15–17 July	Fort Frances, Ontario	B. Morgenstern; rrvalley@rainyriverfieldnaturalist.org

DSA 2005 at Arnprior, Ontario, 8–12 July 2005

Paul Catling, **Colin Jones**, and **Brenda Kostiuk** <catlingp@agr.gc.ca>

Please contact us if you have any questions.

The Place And The Fauna: The town of Arnprior <http://www.arnprior.ca> is situated on the Ottawa River at the mouth of the Madawaska River. It was established by Highland Chief Laird McNab and 100 Scottish families in 1825. The area has a rich history based largely on lumbering. From the mid- to late 1800s huge rafts of squared pine timber (upon which people lived) were floated down the Ottawa River for export to Britain for ship building. It was the biggest industry in Canada for decades and Arnprior was in the centre of it.

But what about dragonflies? Within 50 miles, 110 species of dragonflies have been recorded. Ontario has 168 species (one with two subspecies). In town on the Gillies walking trail beside the river (and within several blocks of the our conference hotel) is a spectacular natural forest of White Pines over 100 years old on the high banks of the Ottawa River. Along the river beside this woodland, locally called "The Grove",

up to 30 Elusive Clubtails (***Stylurus notatus***) emerge in only 10 m of shoreline (number 44 on the web site "townmap"—click on community for the map). "Elusive" is a good name for these dragonflies. Adults fly in openings in the grove but, in general, they are notoriously difficult to find and appear to spend much time in the treetops. Although many of these clubtails emerge on the same day, the days vary within and between years. Other species often associated with rivers such as ***Gomphus fraternus*** and ***Gomphus vastus*** are also present on the river and so is the dusk-flying ***Neurocordulia yamaskanensis***. Several dragonflies with rather restricted North American distributions are present in the area including ***Arigomphus cornutus***, ***Arigomphus furcifer***, ***Gomphus borealis***, ***Ophiogomphus anomalus***, ***Cordulegaster diastatops*** and ***Neurocordulia michaeli***. Bogs, fens and a variety of wetlands in the immediate vicinity will produce many other species including the smallest dragonfly in the north, the Elfin Skimmer (***Nannothemis bella***). We will be watching for ***Gomphus ventricosus***, last seen on the Ottawa River many decades ago. On other rivers we will be looking for the first Ontario records of ***Ophiogomphus howei*** and ***Ophiogomphus aspersus***. ***Williamsonia lintneri*** may be waiting to be discovered in a nearby bog.

Plan for the Meeting: Attendees will arrive and register in the evening of 8 July and depart on the morning of 12 July. Two days will be spent on field exploration. Although the field trips have not yet been completely arranged, we will likely visit the Petawawa River, the Mississippi River, White Lake Fen, Beachburg Pools, and Westmeath bog as well as small woodland springs and lake shores. We will make a special attempt to see some of the boreal species which occur in the region, such as ***Coenagrion interrogatum*** which barely occurs in the United States (even Alaska!). Insect repellent, bug jackets, sun screen, lunch, drinks, appropriate clothing and extra (dry) clothes will be needed on field days, as well as cameras, binoculars and nets.

There will be a banquet or BBQ on the last day and an evening program. One day will be devoted to both popular and scientific presentations and workshops. All will require scheduling and an official "call for papers" (presentations, workshops, etc), including brief abstract, will be sent out in the next newsletter. It is now ten months away—not a bad time to start to prepare a presentation! There will be a meeting room with display area. Anyone wishing to put on a display or put up a poster should contact us to ensure space availability and other requirements (tables, electrical outlets).

Post Conference Trip: On 12 July, a two to three day post-conference field trip will depart, probably for areas to the north. The plans will be finalized by participants just before and during the meeting. It is likely that the group will be studying diversity in particular habitats such as fens and/or rivers. There is a possibility that two Emeralds not previously recorded in Ontario (***S. hineana*** and ***S. brevicincta***) occur in fens of the Lake Timiskaming region about 180 miles NW of Arnprior.

Travel: Field travel arrangements will be made for anyone without transportation during the meeting. It takes 50 minutes to travel from the Ottawa airport <www.ottawa-airport.ca/> to Arnprior. Take the airport expressway to Queensway West (which becomes Hwy 417) and proceed directly to Arnprior (do not take the hwy 7 exit to Toronto). The cab fare from the airport to Arnprior is $114.00 CDN. Car rental (Budget, Avis, Hertz, etc) is available at the airport (see under "ground transport" after "welcome" at the airport web site) and costs $75.00 CDN per day (small car, one driver, 250 km per day free, $0.12 per additional km). The least expensive way to get to Arnprior is to take a bus from the airport to the bus terminal in Ottawa on Catherine Street, then take the Greyhound bus to Arnprior. Local bus schedules are available at the airport. Currently the fare to travel downtown is two tickets ($1.80 at the transportation desk on level 1 or $2.60 in exact change) and information on the greyhound bus is available from <http://www.greyhound.ca/en/> Phone: 800-661-TRIP). The buses travel to and from Arnprior about three times a day and the cost one way is $20.00 CDN.

Accommodation: The main conference facility will be the Quality Inn on 70 Madawaska Blvd (number 27 on the web site "townmap"—<http://www.arnprior.ca>—click on "community" for the map): The cost of the double occupancy rooms is $95.20 CDN and this includes 12% taxes. Sixty rooms have been reserved for attendees (8–11 July inclusive) but the reservations will only last until 8 May (60 day hold). Call 613 -623-7991 to book a room. For more information visit the Inn's web site at <www.arnpriorqualityinn.com>. Attendees should confirm costs with the Inn nearer to the meeting date since there is always a possibility that the cost of accommodation will be reduced somewhat. It is also necessary to indicate attendance at DSA in order to qualify for the reasonable deal that has already been negotiated. Alternative motel accommodation several blocks away on Daniel Street includes Twin Maples Motel (613-623-4271) and Arnprior Motor Inn (613-623-7906). There

is also the Country Squire Motel (613-623-6556) on the edge of town near the Trans-Canada Highway. These alternatives are about $20–$30 CDN less per night but have less facilities.

Camping is available in Fitzroy Harbour Provincial Park <http://www.ontarioparks.com/english/fitz-facilities.html> 10 miles northeast of town. The electrical sites are $27.25 CDN, non-electrical $23.25 CDN (2004 rates) and showers, laundry facilities, park store and playground are available. Campsite reservations can be made up to five months beforehand (and reservations should be made months ahead) by calling the reservation number 1-888-668-7275. The $12.00 CDN reservation fee is non-refundable. For more information on the park and map, see the web site.

Facilities: The town has several restaurants, a few nice pubs, lots of shops, a mall, and can supply most shopping requirements. For families there is a museum and recreational centre with pool in town (see the Nick Smith Centre on the web site). There are walking trails in town and maps and trail guides are available in the motels, at the museum and elsewhere. Outside town, younger children will enjoy Storyland Park (<www.storyland.on.ca> 1-800-205-3695), the fishing at the Opeongo Mountain Trout Farm (613-754-5241 <www.omtf.on.ca>), exploring the Bonnechere Caves (<www.bonnecherecaves.com> phone: 1-800-469-2283) and swimming at the Tooey Lake picnic area near Dacre. There is white-water rafting <www.wildernesstours.com; www.ottawaadventure.com> on the Ottawa for the more adventurous. The Diefenbunker, Canada's Cold War Museum near the town of Carp, may also be of interest <www.diefenbunker.ca>. Nearby Pakenham boasts the only five-arch stone bridge in North America (and has ***Gomphus quadricolor*** flying through the arches). For those wishing to visit Canada's capital before or after the meeting there is a great deal to do <http://ottawakiosk.com>.

Weather: A local weather report can be obtained at <http://www.theweathernetwork.com/features/parks/pages/CAON1531.htm>

Maps: Road maps can be obtained by CAA or AAA members through their membership. Basic road maps and atlases are available at the airport, from information and visitor centres and from larger gas stations. Federal topographic maps may be purchased or ordered from Federal Maps Inc. in Ottawa (<http://www.fedmaps.com/main.html> — phone: 613-723-6366).

Regional Odonata Lists And Guides For The Arnprior Area

Catling, P.M., V.R. Brownell and R. Hutchinson. 2001. A preliminary annotated list of the Odonata of Lanark County, Ontario. Pp. 13–23 in P.M. Catling, C.D. Jones and P. Pratt, eds. Ontario Odonata vol. 2. Toronto Entomologists' Association, Toronto, Ontario, Canada. [much of the area to the west of Arnprior is within the county of Lanark; see also additions: Catling, P.M. and V.R. Brownell. 2002. Additions to the Odonata of Lanark County, Ontario. Pp. 4–5 in P.M. Catling, C.D. Jones and P. Pratt, eds. Ontario Odonata vol. 3. Toronto Entomologists' Association, Toronto, Ontario, Canada.]

Catling, P.M., C.D. Jones and P. Pratt. 2000. Ontario Odonata: vol. 1, 2001; vol. 2, 2002; vol. 3, 2004; vol. 4. 2004; vol. 5. Toronto Entomologists' Association, Toronto, Ontario, Canada. [These volumes contain articles on Odonata in Ontario and thousands of observations of Odonata made in Ontario. For information including cover and contents of each volume and to order see <http://www.ontarioinsects. org/publications.htm>]

Holder, M. 1996. The Dragonflies and Damselflies of Algonquin Provincial Park. Algonquin Park Technical Bulletin No. 11. The Friends of Algonquin Park. [A very popular regional guide (nearly out-of-print) that covers the Arnprior area very well. For this and other outstanding books check the web site <http://www.algonquinpark.on.ca/index.html>]

Holder, M.L., C.D. Jones, P.S. Burke and A. Kingsley. In prep. A Field Guide to the Dragonflies and Damselflies of Algonquin Provincial Park. Friends of Algonquin Park. [Published by the same organization as the above booklet, this will be a true field guide to the Odonata of Algonquin Park and the surrounding area (covering approximately 130 species), this book should be printed and available in time for the meeting in July 2005.]

Jones, C.D. and P.S. Burke. 2002. Mass multiple species aggregation of dragonflies at Morris Island, Ottawa River. Pp. 31–32 in P.M. Catling, C.D. Jones and P. Pratt, eds. Ontario Odonata vol. 3. Toronto Entomologists' Association, Toronto, Ontario, Canada. [Morris Island is in the Ottawa River five miles E of Arnprior]

Jones, C.D., C. Michener, C. Purdon, and M.W.P. Runtz. 2000. An annotated checklist of the Odonata of Renfrew County, Ontario. Pp. 39–48 in P.M. Catling, C.D. Jones and P. Pratt, eds. Ontario Odonata, vol. 1. Toronto Entomologists' Association, Toronto, Ontario, Canada. [Arnprior and much of the surrounding area is located in Renfrew County]

Pilon, J.G. and D. Lagacé. 1998. Les Odonates du Québec. Entomofaune du Québec Inc., 637 Boulevard Talbot, Suite 108, Chicoutimi, Québec G7H 6A4. 367 pp. [The province of Québec is directly across the river from Arnprior]

DSA 2005 Northeast Meeting June 9–12, State College, PA

Hal White

Rendezvous in Central Pennsylvania for a historic gathering to celebrate half a century of near-continuous monitoring of Ten Acre Pond, of one of the richest Odonate habitats in North America. Eighty-five species are known from this single locality. Almost single handedly and on a near weekly basis through the flying season, Clark Shiffer has surveyed the pond's dragonflies and damselflies for decades. Even in 2004, the 50th year of survey work, he recorded two species new to the pond and a record number of 70 species. Among the more than 50 species to expect in the second week of June are ***Aeshna mutata***, ***Anax longipes***, four species of ***Leucorrhinia***, and nine species of ***Lestes***.

While Ten Acre Pond may be the most famous locality in Central Pennsylvania and the focus of this meeting, there are bogs, streams, lakes, and a variety of habitats where ***Tachopteryx***, ***Cordulegasters***, Gomphids, Cordulines, and many other interesting species may be found nearby.

A web-site for this meeting will be established at <http://www.udel.edu/chem/white/TAP.html>.

2005 Southeastern DSA Meeting

Steve Krotzer

Ya'll come on down to the 2005 southeastern DSA meeting, scheduled to be held May 27–29 in Yazoo City, Mississippi. The meeting is being organized by Steve and Mary Jane Krotzer. Headquarters for the meeting will be the Comfort Inn in Yazoo City (1-662-746-6444); the rate for lodging should be approximately $62 per night for two people. Other lodging options include Best Western Gateway Inn (1-662-746-0930; $70), Days Inn (1-662-746-1877; $47), and Relax Inn (1-662-746-1388; $44). Yazoo City is conveniently located within easy driving distance of two international airports (Jackson, MS—37 miles; Memphis, TN—150 miles), and it has the requisite Chinese, Mexican, catfish, and steak house restaurants, as well as a variety of fast food joints. For more information about Yazoo City, you can visit their web site at <www.yazoo.org>.

Mary Jane and I, along with Jason Bried, are in the process of gathering records for an upcoming publication on Mississippi Odonata. Although much progress has been made in the last five years, Mississippi remains a relatively poorly known state, and Yazoo City lies in the heart of its most under collected region. None of the ten counties surrounding Yazoo City has as many as ten documented species of Odonata, and seven of the ten have either zero or one documented species. This paucity of records is despite the fact that there is a large National Forest, four National Wildlife Refuges, and numerous wildlife management areas, city and state parks, and other publicly accessible lakes and streams in the region. Clearly, this meeting will provide participants with the opportunity to add many new county records to the Mississippi database, which would make Jason, Mary Jane and myself very happy!!

I look forward to seeing you in Yazoo City next May. If you would like additional information, or if you have any questions, feel free to contact me; my e-mail address is < rskrotze@southernco.com>.

Eglin AFB Odonata Survey in March 2005

Jerrell J. Daigle <jdaigle@nettally.com>, 850-878-8787
Theresa Thom <Theresa.Thom@eglin.afn.mil>, 850-883-1188

The final trip to Eglin Air Force Base to inventory Odonata plus search for the Florida ***Ophiogomphus*** (See ARGIA 14:4 and 15:2) and ***Cordulegaster sayi*** is scheduled for mid-late March, 2005. Theresa is in the process of scheduling the dates. When we find out, we will let the membership know. We will be staying at the Regency Inn (1-866-273-4362) in Niceville, Florida. If there is enough interest, a side trip to Bogalusa, Louisiana for ***Ophiogomphus australis*** is possible. Please let me know if you are interested in attending. Thanks! See you there!

2005 GLOM Meeting in Southwestern Ontario

e-mail from **Bill Morgenstern** <rrvalley@rainyriverfieldnaturalists.org>

The Rainy River Valley Field Naturalists would like to invite you to participate in GLOM (Great Lakes Odonata Meeting) 2005. This event will be held in the Rainy River District near Fort Frances, Ontario from July 15–17, 2005.

Follow the link to find out more. <http://www.rainyriverfieldnaturalists.org>

If you have any questions please feel free to call Bill Morgenstern at 807-274-7314.

Aeshna Blitz '04 Not a Bust

Jim Johnson <jt_johnson@comcast.net>

Mosquitoes, marauding bands of jays and chipmunks, odonates, fresh blueberry pancakes, lightning, rain. For the general public, that sounds like a bad camping weekend (except for the pancakes), but for a small band of intrepid odonatists in the Pacific Northwest it spells the annual ***Aeshna*** Blitz in Oregon.

In 2000 Steve Valley, Eric Coombs and I began the now annual tradition of inviting dragonfly enthusiasts from all over the Northwest to meet informally at a montane "odonate wonderland" somewhere in the wilds of Oregon during early September. One goal was to work the place over really well to find exotic boreal odonates which were only recently found in Oregon such as ***Aeshna sitchensis***, ***A. subarctica***, and ***Somatochlora walshii*** and whatever else that might be lurking in the peatlands. Another goal was simply to hang out with other odonatists and have a good time.

August and September is when things get really interesting at higher elevations and it is the driest period of the year in our region, so there's no better time to schedule a weekend of collecting and camaraderie. It is also the Season of ***Aeshna***, so what better name for our gathering than "***Aeshna*** Blitz"? Well, that first Blitz was a Bust with unending cold rain. Most every Blitz since then experienced some rain, but at least we were able to find some hardy bugs flying about. I don't think we can blame the "Donnelly Effect" for our precipitation woes since our dear editor has never had anything to do with this event, but we do have a team of lawyers working on it.

This year's Blitz was scheduled for 20–22 August at Gold Lake Bog in far southeastern Lane County. This is a beautiful site at an elevation of 4800 feet, sandwiched between pristine Gold Lake on one side and a large sedge marsh on the other for a rich diversity of habitats. The bog itself is a large, open, squishy mat of sphagnum with small, shallow pools and sparse sedge growth; carnivorous *Drosera* grow here in abundance. It is truly a unique place in these parts.

Attendees included Steve Valley of Albany, Steve Berliner of Clackamas, Bob Hamilton of Scio, Cary Kerst and Steve "Mysterious Wonder of Unearthly Proportions" Gordon of Eugene, and myself hailing from Vancouver, Washington — the only Outlander this time around. A 50% "Steve Ratio" is typical for the last couple of years.

Most of us (excluding Steve B.) ran into each other that Friday a few miles away from Gold Lake at what have been termed the "summit ponds"—two ponds where Highway 58 crosses the crest of the Cascade Range at Willamette Pass. Here we found lots of ***Aeshna palmata***, ***A. interrupta***, ***Sympetrum obtrusum***, ***Lestes disjunctus***, ***L. dryas***, and ***L. congener***; a few ***A. umbrosa*** and ***Somatochlora albicincta***; and a lone ***Leucorrhinia glacialis*** for a new Oregon late flight date.

After this we decided to head about 15 miles to the east where the highway crosses Crescent Creek in Klamath County. This is a clear, gravelly stream favored by trout fisherman with patches of sedge marsh along its flanks. ***Ophiogomphus morrisoni*** were still flying in abundance; a few straggling ***Cordulegaster dorsalis*** easily evaded our nets; the sedge marshes were full of ***Sympetrum danae***, ***S. obtrusum***, ***Lestes disjunctus***, and ***L. dryas***; and there was a single late ***Ischnura erratica*** for another new Oregon late flight date.

It was time to get to Gold Lake and set up camp for the weekend. We found Steve B. and his Roadtrek 190 Popular parked in one of the two campsites that Steve G. and Cary reserved. While the sun was still shining, we walked over to the lake outflow where it becomes Salt Creek. There were lots of ***Argia vivida*** here as well as a number of ***Octogomphus specularis*** frolicking on the boulders and logs. Earlier in the season they are yellow and black, but at this late date the yellow is replaced with gray—it's as though you are watching them on a black-and-white television.

As I stood at the head of the creek, I noticed a blur flying toward me that had all the characteristics of a gomphid. I figured it must be another ***Octogomphus***, but I took a swing just in case. I apparently struck it with my net's rim and sent it tumbling head-over-abdomen through the air. Steve G. was standing nearby, noticed it coming down, and very casually stuck out his net to save it from the rushing creek. It turned out to be an ***Ophiogomphus morrisoni***—the first for Lane County! Bob caught another one a bit further down the creek a few minutes later. A good end to our first Blitz day.

The next morning we awoke to cool, crisp mountain air under blue skies. It looked like we were not going to have any weather problems today—at least for a while. This is the driest time of the year, right? Cary treated us to delicious blueberry pancakes which were also enjoyed by a mob of Gray Jays. They were even sitting in the frying pan, picking apart a leftover cake (after it cooled, of course). A Townsend's Chipmunk licked clean the remaining pancake "matter" in Cary's mixing bowl.

It was warming quickly by mid-morning, so we got our gear together and started our one-mile hike to the bog on the other side of the lake. We each went separate ways, occasionally bumping into each other to share what we had found. I was finding a lot of ***Aeshna interrupta***—clearly the dominant species here at this time—with a number of ***A. canadensis*** and a few ***A. palmata*** mixed in. Other species present were ***Somatochlora semicircularis***, ***Leucorrhinia hudsonica***, ***Libellula quadrimaculata***, ***Lestes disjunctus***, ***L. congener***, ***L. dryas***, ***Amphiagrion abbreviatum***, ***Nehalennia irene***, ***Enallagma boreale***, and ***E. cyathigerum***. Steve G. found ***Ladona julia***, ***Plathemis lydia*** and ***Libellula forensis*** over at the lake.

I bumped into Cary as I was making my rounds and he pulls out a bunch of ***Aeshna*** for me to look through. At the bottom of the pile is an ***A. sitchensis***—another new Lane County record! Cary's was the only ***sitchensis*** found all day. A while later I came across a ***Somatochlora walshii***—the third new Lane County record of the weekend! Cary collected another ***walshii*** a short time later claiming that he was able to do so only after hearing that the species was present. Both of these species have only been found at a handful of sites in Oregon.

By about 2:00 P.M. we had covered the bog pretty well and clouds were building in the sky by that time anyway, so we started back for camp. It wasn't long before the sky was completely overcast and we felt occasional rain drops on our faces. We were fortunate, however, that it didn't really start to rain, and I mean RAIN, until the next morning after we had taken down our tents. This time it was Steve B.'s turn to make blueberry pancakes, as well as bacon, and we happily devoured them under his Roadtrek 190 Popular's awning which was just big enough for us all to stand under. By the time we finished breakfast it was really pouring and thundering so we made our quick farewells, jumped into our vehicles, and headed for home. Did I mention that this is the driest time of year in the Pacific Northwest?

Return to New Guinea

John Michalski

Probably there are a lot of you who don't know my name. Back in the early 1990s I was writing little bits and pieces for ARGIA all the time — usually jocular, half-serious asides about my little trips to the tropics, and summaries of the DSA national meetings.

The last major adventure I had was in the south Pacific nation of Papua New Guinea. That trip, which was in 1994, came at a turning point in my personal life, and you may read about it in the ARGIA archives, if you so choose. Put simply, I had a great time, met a lot of gracious people, made some friends, discovered a handful of undescribed damselflies, and have wanted to go back ever since.

That chance finally came around in the spring of 2004. Making the decision rather suddenly, there was barely enough time to purchase airline tickets, buy some new camera equipment, make arrangements for people to look after things at home, and contact some of my New Guinean pen-pals to let them know I was coming back.

Papua New Guinea, or PNG as it is known by its residents, is a tough place to get around, and you don't just hop off the plane and try your luck, unless you have no time constraints. My two months there entailed travel by jet airliners, missionary-flown prop jobs (all the way down in size to a couple of four-seaters), private cars, taxis, public "buses" called PMVs (which are usually unadorned flatbed trucks where you ride atop piles of trade goods), coffee bean trucks, garbage trucks, passenger steamer, aluminum boats, and dugout canoes. And — oh yeah — lots of walking. My luck was very good, and I enjoyed fairly free access to every destination I gave myself, but of course there were privations and it's not for everyone. Most nights I slept with families in native huts built of palm wood, bamboo, or grass, and the pigs and chickens were close company. And the food, while healthy enough, is uninspiring — plain roasted sweet potato for breakfast, lunch, and dinner, supplemented with fish and whatever fruits were on hand. I ate heartily, and still lost 15 pounds in seven weeks.

New Guinea's attractions are its wild, mostly untouched countryside, and its primitive (but friendly) people with their traditional cultures still largely intact. I was struck by how very little the place had changed since I was last there in 1994. (And here you need to know that I traveled in the company of longtime native friends, who confirmed my impressions as we passed the weeks together.) Nothing was different, except perhaps there were more shoes on feet than I remembered — but they were rubber flip-flops, and there still weren't many of these. Many children — many, many children under the age of, say, ten years old — had still never seen a white man in person, so I was a novelty par excellence. (This had its ups and downs. People got to know you very quickly, which was good for your personal safety and security, but on the other hand they never left you alone for a second. You are a distraction not to be missed at any cost!)

The roads were in worse shape, but apart from that everything looked, sounded, tasted, and smelled just about the same. People complained of crime (serious, but shouldn't prevent you from coming, so long as you can handle yourself in any American or European city), there's a high level of infant mortality, more than 90 percent of the people grow and hunt all their own food, and progress in the Western sense is very, very slow. Still, I wager their lives are a good deal more stable than ours. I mean, September 11th and the Iraq War have not affected them in any way whatsoever. Not in the least. People such as ourselves might not elect to swap lives with them, but I suspect their routine will continue fairly unaltered long after our society has turned, (like the lifeless, sand-blown ruins of Ancient Egypt), to dust. Okay, I'm done preaching!

If you want to go there, get a copy of Lonely Planet's travel guide to PNG. That's practically all I had to go on back in 1994, and it did not fail me even once. It will give you everything you need to know about local customs and etiquette, how to get around and stay out of trouble, and where things are and what you can expect to pay. And, if you haven't thought of visiting, reading this book may change your mind.

This time, I was visiting old friends, buying lots and lots of native artwork, and taking digital photos of odonates for a forthcoming monograph on the fauna of Melanesia. In all three, I exceeded my dearest wishes.

The dragonfly fauna of New Guinea and the neighboring islands comprises almost 600 species, and I reckon I obtained publishable photos of about 50 of

them. Not bad for something I did in my spare time! The camera I chose was the Sony mini-DVD burning HandyCam 201. With one megapixel, it won't tempt the professionals, but as it recorded both still images and sparkling motion pictures, I found it ideal as a single, very small and light unit that performed multiple tasks. As a classroom science teacher, the videos I shot will be priceless. And the digital stills are, at their best, good enough for publication when the subjects are close enough and in sufficiently bright light (if you need to "zoom" or photograph in low light, the images become rather grainy). Each mini-DVD can hold over 2000 high-quality images, or a half-hour of video, and ten discs amply accommodated my needs for seven weeks of constant use. A nine-hour battery, with the standard-issue one-hour battery as a backup, were enough to get me through a week away from a source of electric current. And Sony's hardware does not require a transformer to accept current in any country worldwide (though I needed a simple plug adapter for the wall outlets in PNG, which were of the Australian variety).

What makes up PNG's dragonfly fauna? Well, there's only one gomphid species, strangely enough (***Ictinogomphus australis lieftincki***), though I did succeed in finding and photographing one. There's a predictable assemblage of bushy aeschnids, including some not-too-foreign-looking ***Anax*** and ***Gynacantha***, and others in the same ballpark, such as ***Agyrtacantha***, ***Anaciaeschna***, and ***Plattycantha*** (lovely all), but also some weirdoes like ***Oreaeschna***, a thick black and yellow thing that lives in the mountains. I have never seen one alive. Most of PNG's corduliids take the form of long, skinny, bronze ***Synthemis***, which you will eventually see patrolling over highland mountain roads on clear sunny days, and dark, unmarked, bronzy-green ***Macromias***, which I have never encountered myself. High in the central mountains are stocky, yellow-spotted ***Hemicordulias***, though these I did not see this time around. Other genera include ***Eusynthemis***, ***Guadalca***, ***Metaphya***, ***Procordulia***, and ***Epopthalmia***. (Some of these are found only in outlying island-groups, like the Moluccas or the Solomons.) Perhaps not surprisingly, I did not get any live photographs of aeschnids or corduliids.

The libellulids read as follows: ***Aethriamanta***, ***Agrionoptera***, ***Bironides***, ***Brachydiplax***, ***Camacinia***, ***Crocothemis***, ***Diplacina***, ***Diplacodes***, ***Huonia***, ***Hydrobasileus***, ***Lanthanusa***, ***Lathrecista***, ***Lyriothemis***, ***Macrodiplax***, ***Microtrigonia***, ***Nannodiplax***, ***Nannophlebia***, ***Nannophya***, ***Nesoxenia***, ***Neurothemis***, ***Orthetrum***, ***Pantala*** (naturally), ***Potamarcha***, ***Protorthemis***, ***Raphismia***, ***Rhodothemis***, ***Rhyothemis***, ***Risiophlebia***, ***Tapeinothemis***, ***Tetrathemis***, ***Tholymis***, ***Tramea***, ***Trithemis***, ***Urothemis***, and ***Zyxomma***.

That (if I may be permitted to look upon the fauna somewhat paternally) is a pretty nice list. Most of it hails from fairly standard Asian-Pacific stock. The real New Guinea specialty-items here (and I realize I am likely to leave out someone's favorite) would be ***Agrionoptera***, ***Bironides***, ***Diplacina***, ***Huonia***, ***Lanthanusa***, ***Microtrigonia***, ***Nannophlebia***, and ***Protorthemis***. These are all forest-loving dragonflies, and very strange they are, most of them. In particular, I was always struck by the way ***Huonia***, with its black-and-green body colors, clubbed tail, and habit of squatting on mid-stream boulders, appears to fill the ecological niche of the absentee gomphids. Along the way you are likely to encounter a great many ***Brachydiplax***, ***Neurothemis***, ***Orthetrum***, ***Rhyothemis***, ***Tramea***, and ***Zyxomma***, and these serve to "flesh out" the experience, as PNG has many species not found elsewhere in such abundance.

I was able to obtain natural (unposed) photos of ***Ictinogomphus***, ***Agrionoptera***, ***Brachydiplax***, ***Diplacina***, ***Huonia***, ***Neurothemis***, ***Orthetrum***, ***Rhyothemis***, ***Trithemis***, and hand-held will have to do for ***Nannophlebia*** and ***Zyxomma***.

The damselflies of PNG include a half-dozen species of beautiful, iridescent ***Neurobasis***, about a dozen of the tiny, blue-bodied, iridescent-winged ***Rhinocypha***, one representative of the weird, stout-bodied ***Diphlebia***, a variety of ***Indolestes*** and ***Lestes*** (some with very strange wings, though none of which I have encountered in the wild), and a broad assemblage of megapodagrionids, from the genera ***Argiolestes*** and ***Podopteryx***. Isostictids are represented by ***Selysioneura***, ***Tanymecosticta***, and several others on the offshore island groups. Platystictids come in the form of numerous ***Drepanosticta***, and protoneurids are represented by the large genus ***Nososticta***. New Guinea does not, for a tropical island, present a large number of genera, but they themselves are often populated with many, many species. ***Nososticta***, for example, includes no fewer than 46 taxa at the time of writing.

In the course of events I was able to obtain some fine photos of ***Neurobasis***, ***Rhinocypha***, ***Argiolestes***, ***Drepanosticta***, and ***Nososticta***. In most cases, only one species per family—but I came across a good variety of ***Argiolestes***. Think of a rather sturdy, black-bodied ***Lestes***, on the large side, with various splashes of

bright colors swatched across its sides, or with a cadmium-yellow head, or flame-orange legs, and white tail-tip, and you begin to get the picture of ***Argiolestes***. Like *Heliconias* butterflies, they are all built alike, like dough punched with one cookie-cutter, but each species is painted with its own bright color palette.

Back in 1994, I observed that PNG streams were startlingly poor in species diversity — a typical mountain stream has no more than three species at a time, most only one or two, and a great many show nothing at all, at least to someone on a limited schedule. I identified a typical species assemblage in the mountains of Morobe Province: ***Argiolestes***, ***Diplacina***, and ***Huonia***. In 2004, I named them my "Morobe Trifecta." Eventually, I settled on "Michalski's Dictum" — *Where you see* ***Argiolestes***, *you will find* ***Diplacina***. (Admittedly, it's only useful in extremely narrow circumstances.)

The zygopteran groups in which PNG really distinguishes itself are the Argiinae and the Platycnemididae. The latter includes the endemic genera ***Arrhenocnemis***, ***Asthenocnemis***, ***Cyanocnemis***, ***Idiocnemis***, ***Lieftinckia***, ***Lochmaeocnemis***, ***Paramecocnemis***, ***Rhyacocnemis***, ***Salomocnemis***, ***Thaumatagrion***, and ***Torrenticnemis*** — all of them populated with strange and wonderful creatures, some of them real oddballs.

The Argiinae find their fullest expression in PNG, with amazing specialty-items like ***Archboldargia***, ***Hylaeargia***, ***Palaiargia***, and ***Papuargia***, each odd and wonderful in its own unique way. Other coenagrionids are ***Aciagrion***, ***Agriocnemis***, ***Archibasis***, ***Argiocnemis***, ***Austroagrion***, ***Austroallagma***, ***Austrocnemis***, ***Ceriagrion***, ***Ischnura***, ***Mortonagrion***, ***Papuagrion***, ***Plagulibasis***, ***Pseudagrion***, ***Teinobasis***, and ***Xiphiagrion***. Some of PNG's ***Ischnura*** are weird, thick, hairy critters that live way up in the mountains, and Lieftinck used to call them ***Oreagrion***. Donnelly convinced me to do his dirty work and synonymize it.

While going about my business, I managed to capture images of ***Palaiargia***, ***Agriocnemis***, ***Argiocnemis*** (say them both three times fast), ***Ceriagrion***, ***Ischnura***, ***Pseudagrion***, and ***Teinobasis***. I also came across a fairly wide assortment of the platycnemidid ***Idiocnemis***, with its scalloped wing margins and spiny legs. Some species are violet with black stripes, and others are brown with diagonal slashes of turquoise or moss-green. All prefer to perch in pinpoints of sunlight along splashy forest streams.

It was a great trip — emotionally fulfilling, good exercise, and not a little tough, but I am so very glad to have done it. Because the economy is moving so slowly there, PNG's forests are almost undiminished since I last visited ten years ago. The standard of living is also unchanged, but the people are well fed and villagers everywhere were very pleased to take me in and show me around. I felt safe and secure (especially outside of the few large towns, which deserve your respect) and most of a traveler's concerns will arise from the paucity of modern facilities (banks, supermarkets, hospitals), and the necessity of having to carry everything you need on your back the whole time. In other words, you have to manage your money carefully to avoid getting stranded, and if you are visiting more than one climatic zone — for example, the hot, steamy Sepik River, followed by the cold, rainy Highlands — you will always be carrying substantial amounts of baggage that you aren't currently using. I had a tiny camping stove, kerosene, and collapsible pots and pans that I didn't need any time I stayed with a family; sweat pants and jacket used only in the mountains; a mosquito net used only on the Sepik River; a tripod used almost never; sneakers for streams and hiking boots for muddy trails; and so on. Because of this, my backpack weighed almost 45 pounds, and that's quite a bit when you're hiking over a mile high. But good exercise!

So, go to Papua New Guinea: they could use the income, and they'll welcome you like visiting royalty. Mind you, you'll get no privacy for the entire trip, but at least you'll sleep knowing that people are looking out for you.

[John Michalski is happy to advise on travel to areas throughout PNG and may be contacted at <jmichalski@easthanoverschools.org>]

Notes on the 2004 impact of the 17-year Periodical Cicada on Potomac River Dragonflies

Richard Orr

One of the most famous North American entomological events is the emergence of brood X (ten) of the 17-year old locusts. Brood X is the largest and best documented of the periodical cicada broods.

All mid-Atlantic entomologists are familiar with the basic story. Every 17 years during May and June, three species of *Magicicada* emerge together in phenomenal numbers. These large heavy 25–50 mm red-eyed Homoptera dominate the landscape for about a month. Their numbers are truly impressive with up to 1.5 million per acre; but densities of a few tens, to hundreds, of thousands per acre are more the norm. However, shear numbers really cannot convey the experience of conducting field work during the height of Brood X.

As luck would have it, the emergence of Brood X occurred during the final year of my three year National Park Service study of the dragonflies and damselflies along the Potomac River in Washington D.C. and Maryland. As the principle investigator for Versar Inc. (the contractor), one focus of my study is to determine emergent times of state-listed dragonfly species by collecting and identifying the cast skins found at various sites along the river.

Along the Potomac River in mid-May 2004, just prior to the actual Brood X emergence, the cicada nymphs had started moving towards the surface. After a heavy rain, numbers of the giant young Homoptera were eroded into the river where the lucky ones were washed ashore. Thus even before the official start of the Brood X emergence, these water-logged, fat cicada nymphs already far out numbered emerging dragonflies as they lined the bank of the Potomac.

By late-May through mid-June during maximum cicada activity, the numbers of adults were astronomical. These large bright red-eyed bugs would fly into you every few minutes and the "unrelenting pulsating humming spaceship sound" was so loud that it was painful to the ears; the shear biomass of cicadas was unbelievable.

[Editor's Note: Even if you have never lived within a Brood X area you have likely heard their song. I have been told that, with a slight electronic modification, the cicada's song was used as the background machine sound in the classic 1953 movie War of the Worlds].

Predator satiation is likely why periodical cicadas evolved the long extended mass emergence strategy. These cicadas have a much slower flight and are in general easier to capture by predators than other cicadas. During the height of their season the adults and their discarded nymphal skins cover the ground, bushes and trees. The striking red and black color of the adults makes them standout out. Smaller predators from squirrels, mice, shrews, frogs, fish, snakes, turtles and birds to larger predators such as raccoons, foxes, and opossums soon become stuffed, while tens of thousands of cicadas continue to emerge. These predators also become so focused on the cicadas that they tend to ignore other types of prey items. If you think a dragonfly looks fat and tasty, you should see these cicadas. [Additional Note: My 85 lb dog, which I often take into the field with me, would stuff himself full of cicadas until he was sick — and as far as I know he never tried to eat an emerging dragonfly. Of course if my dog ever did throw-up a pile of gomphids dragonflies he would be confined to the house for life].

The cicada emergence (late May through June) occurred during the time of the annual emergence of the Potomac River's ***Gomphus*** and ***Neurocordulia*** species. Many other odonate species emergences also overlapped Brood X, at least in part; but it was the impact the cicadas were having on ***Gomphus*** and ***Neurocordulia*** that initially caught my eye.

During 2002 and 2003 while collecting cast skins the evidence of predation in the form of scattered leftover wings was omnipresent. This scattering of wings was a common sight and on some occasions the wings out numbered the cast skins which indicated that at least 25% (4 wings = 1 cast skin) of the emerging dragonflies were eaten on the spot. During mass emergences of ***Gomphus vastus***, mortality rates in 2002 and 2003 at some sites along the Potomac climbed in excess of 50% again based upon the number of scattered wings. By checking foot prints and scat, raccoons seemed to lead the pack of predators during the night while during the day, birds — from herons to flycatchers to wood warblers, seemed to rise to the occasion. Raccoons and birds were only the top of the preda-

tory iceberg since it was obvious that if you were a predator species (vertebrate or invertebrate) along the Potomac River, the emerging soft-skinned dragonflies were an easy, tasteful, and nutritious treat.

During May and June of 2004 (with Brood X), two very obvious differences were noted when compared to the same period in 2002 and 2003 (without Brood X). First, dragonfly wings were noticeably absent in 2004. It was obvious that few predators wanted to eat dragonflies when they had a belly full of cicadas! I could spend hours, collecting hundreds of skins, and only find a couple of wings scattered here and there along the shore. The emerging dragonflies were having a banner year, with negligible predation thanks to the cicadas.

Second, the number of dead adult dragonflies found in June 2004 was far in excess of the numbers found in previous years. The reason for this is not that more dragonflies were dying but that they were not being eaten by scavengers. Again, why eat a dying or dead dragonfly when there are lots of dead and dying cicadas to eat? This worked to my advantage since along the Potomac River ***Neurocordulia obsoleta*** is abundant while ***N. yamaskanensis*** is far less common with their existence previously made known only from cast skins. This year I just looked among the dragonfly carcasses until I found my first adult specimens of ***Neurocordulia yamaskanensis*** (thank you cicadas!).

Did the dragonflies feed on the adult cicadas? It may be surprising, but I would say, generally not. It was likely a size thing. I observed ***Hagenius brevistylus***, ***Epiaeschna heros***, and ***Anax junius*** successfully take them out of the air and onto the ground but it always ended in the buzzing cicada getting away. The dragonflies may have taken a leg or two but not the entire insect. There are a number of species of dragonflies along the Potomac River which are likely big enough to successfully kill and eat a cicada, but I never saw it happen. I also received a couple of remarkable photographs from Mary LaMarca of a ***Gomphus vastus*** downing a Brood X cicada in a parking lot along the Potomac River at Pennyfield lock on June 19th. Human intervention ended the struggle with both insects flying off in different directions. The Cobra Clubtail is not a big dragonfly and it is hard for me to believe that it would have succeeded (if that was its goal) of killing the much larger cicada had it been left alone.

I have asked myself on these occasions if it is within the dragonfly's behavioral makeup to go after big prey, not for the kill, but to deliberately take an appendage or get a large bite of flesh before their prey can escape. If so, then dragonflies may have been feeding on the adult cicadas. [Additional Note: I would really be interested if anyone has seen a dragonfly capture and kill a periodical, or even one of the larger annual, cicadas.]

It is unfortunate that the relationship between the survival of emerging dragonflies and the emerging cicadas did not register with me before the Brood X emergence was well underway. If I had thought of this earlier I could have easily quantified the results to a more rigorous standard — even so the results in the field data are unmistakable. I plan on being better prepared in 2021 — so stay tuned.

Interesting papers on cicada predation:

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Reid, K.H., and A. Nichols. 1970. Predation by reptiles on the periodic cicada. Bull. Md. Herpetol. Soc. 6: 57.

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Broad-Tailed Shadowdragon, *Neurocordulia michaeli* Brunelle, New to Ontario

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Exuviae found on the remnant abutments of a bridge in a boulder-stream, spring-fed pool beside the Petawawa River (Figure 1) near Petawawa, Renfrew County, Ontario (45.8908° N, 77.3072° W) in June 2003 (by PMC) were smaller than the exuviae of ***Neurocordulia yamaskanensis*** (Stygian Shadowdragon) from throughout much of Ontario. It was suspected that these exuviae were ***Neurocordulia michaeli*** (Broad-tailed Shadowdragon), but the extent of overhang of the dorsal spine on segment 9 separating ***N. michaeli*** and ***N. yamaskanensis*** is difficult to evaluate and the distance from the nearest known populations in northern New Brunswick suggested that a conclusive identification would have to be based on adults.

On 3 June 2004 three mature larvae were collected (by PMC, MJO, BK) from beneath stones under boulders in water ½ to 1 m deep in the riffles at the head of the pool. They were placed in a dish with an emergent rock in a rearing cage. One male and two females emerged the following day. The male was smaller than most ***N. yamaskanensis*** and had an extensive suffusion of amber at the base of the hind wing rather than the dark spot characteristic of ***N. yamaskanensis***, a ventral tubercle on the cerci (upper terminal appendages) and the mesotibial keel (on the tibia of the middle leg extending back from the foot) was 10% of the tibial length. The third abdominal segment was wider than the second. Thus this male specimen possessed the distinctive features of ***N. michaeli*** (Brunelle 2000, Needham & Westfall

Figure 1. Spring-fed pool beside the Petawawa River where *Neurocordulia michaeli* adults and larvae were collected (photo by MJO on 25 June 2004)

2000). It was compared with the paratypes at the Canadian National Collection (CNC at Agriculture Canada in Ottawa) and proved to be referable to ***N. michaeli***. The females had mesotibial keels approximately 7% of the mesotibial length and the distal end of abdominal segment 3 was as wide or wider than segment 2. They also compared well with paratypes at CNC. The adults which emerged were placed in the Canadian National Collection (CNC). Thirty-six exuviae were collected on the old bridge abutments (Figure 2) on 25 June 2004 [by MJO and RO; specimens at the NHIC (Natural Heritage Information Centre, Peterborough) and CNC].

Also in the side channel stream at this site on 3 June 2004 were six emerging ***Ophiogomphus anomalus*** (Extra-striped Snaketail) and many exuviae of recently emerged ***Gomphus adelphus*** (Moustached Clubtail). ***Dorocordulia libera*** (Racket-tailed Emerald), ***Helocordulia uhleri*** (Uhler's Sundragon), ***Ladona julia*** (Chalk-fronted Skimmer), ***Leucorrhinia hudsonica*** (Hudsonian Whiteface), ***Leucorrhinia intacta*** (Dot-tailed Whiteface), and ***Libellula quadrimaculata*** (Four-spotted Skimmer) were collected in a woodland clearing nearby and ***Gomphus adelphus*** was frequent along the river. The side channel stream receives a large amount of water when the river is high but only a small amount when the river is low. During periods of low water in summer, this side channel pool is much colder than the main stream.

Three exuviae apparently referable to ***N. michaeli***, based on identification by Benoit Ménard, were found at Rock Island Rapids on the Missinaibi River (Figure 3), Missinaibi River Provincial Park, Cochrane District (49.6532° N, 83.2520° W), 1–2 km N of the Hwy. 11 bridge on 22 June 2003 (by MJO). Exuviae were found on low rock faces and in rock crevices within 2 m of the river. This site was revisited on 26 June 2004 (by MJO and RO). About 100 ***Neurocordulia*** individuals were seen flying at dusk and ten females, five males, and 46 exuviae were collected (NHIC, CNC, ROM), all referable to ***N. michaeli***. Adults flew primarily over slower flowing rocky pools connected to the main river, rather than above the rapids in the main river channel. Flying with ***N. michaeli*** at dusk were ***Epitheca spinigera*** (Spiny Baskettail) and ***Epitheca canis*** (Beaverpond Baskettail). Other Odonata documented at this site based on either collected exuviae or adults on 22 June 2003 or 26 June 2004 were ***Aeshna canadensis*** (Canada Darner), ***Basiaeschna janata*** (Springtime Darner), ***Boyeria grafiana*** (Ocellated Darner), ***Calopteryx aequabilis*** (River Jewelwing), ***Calopteryx maculata*** (Ebony Jewelwing), ***Coenagrion resolutum*** (Taiga Bluet), ***Cordulegaster maculata*** (Twin-spotted Spiketail), ***Enallagma boreale*** (Boreal

Figure 2. Old remnant bridge abutments beside the Petawawa River where *Neurocordulia michaeli* exuviae were collected (photo by MJO on 25 June 2004).

Bluet), ***Enallagma hageni*** (Hagen's Bluet), ***Gomphus adelphus*** (Moustached Clubtail), ***Gomphus lividus*** (Ashy Clubtail), ***Gomphus spicatus*** (Dusky Clubtail), ***Hagenius brevistylus*** (Dragonhunter), ***Ladona julia*** (Chalk-fronted Skimmer), ***Leucorrhinia proxima*** (Red-waisted Whiteface), ***Macromia illinoiensis*** (Illinois River Cruiser), ***Ophiogomphus anomalus*** (Extra-striped Clubtail), ***Ophiogomphus rupinsulensis*** (Rusty Snaketail), and ***Stylogomphus albistylus*** (Least Clubtail).

Fifteen exuviae collected (CNC, NHIC) from a Hwy. 11 bridge abutment at the Groundhog River, Fauquier, Cochrane District (49.3140° N, 82.0433° W) on 27 June 2004 (by MJO, RO), compare well (in their small size) to exuviae from the Petawawa and Missinaibi Rivers and also appear to be ***N. michaeli***. This location is about 95 km east of the Missinaibi River site. Both the Missinaibi and Groundhog Rivers flow northward to the Moose River which eventually empties into southern James Bay.

On 2 August 2004 both ***N. yamaskanensis*** and ***N. michaeli*** were found (by CDJ, JJD) at an additional location on the Petawawa River at Schooner Rapids, Algonquin Provincial Park, Nipissing District (46.04° N, 77.79° W). At dusk one female ***N. michaeli*** was captured along with one female ***N. yamaskanensis*** among a swarm of Odonata, largely comprised of ***Aeshna canadensis***. Other Odonata species known from Schooner Rapids include ***Argia moesta*** (Powdered Dancer), ***Cordulia shurtleffii*** (American Emerald), ***Dorocordulia libera***, ***Enallagma exsulans*** (Stream Bluet), ***Gomphus adelphus***, ***Gomphus borealis*** (Beaverpond Clubtail), ***Hagenius brevistylus***, ***Helocordulia uhleri***, ***Ladona julia***, ***Libellula quadrimaculata***, ***Macromia illinoiensis***, ***Nasiaeschna pentacantha*** (Cyrano Darner), ***Ophiogomphus anomalus***, ***Ophiogomphus rupinsulensis***, ***Somatochlora elongata*** (Ski-tailed Emerald), and ***Stylogomphus albistylus***.

Prior to these observations in Ontario, ***Neurocordulia michaeli*** was known only from New Brunswick and Maine (Brunelle 2000, Donnelly 2004). The nearest newly discovered population in Ontario is 640 km (400 miles) WSW of the nearest region of known occurrence in Canada in northern New Brunswick and approximately 480 km (300 miles) W of the nearest known occurrence in Maine. The habitats at the Ontario sites are typical. Brunelle (2000) refers to rapid streams and rivers with a coarse cobble or boulder benthos.

Neurocordulia michaeli is a crepuscular species that flies for 45 minutes each evening after sundown

Figure 3. Rock Island Rapids on the Missinaibi River. *Neurocordulia* adults were flying over rocky pools connected to the main river (photo by MJO, 26 June 2004)

(Brunelle 2000) and evidently feeds on emerging mayflies (Ephemeroptera). The daylight hours are probably spent at rest in the understory of surrounding forest. Due to its habits it is probably most easily detected by the exuviae, which resemble those of ***N. yamaskanensis*** but are smaller with a less rotund abdomen.

Based on global conservation status ranks (G ranks) assigned by Nature Serve (<www .natureserve.org/explorer>), ***Neurocordulia michaeli*** is ranked G2 [Imperiled; at high risk of extinction due to very restricted range, few populations (often 20 or fewer), steep declines, or other factors.] and is therefore the most globally imperiled species of dragonfly occurring in Ontario (see Oldham *et al*. 2000). However, in light of these recent discoveries in Ontario, ***N. michaeli*** has a much larger distribution than previously known and undoubtedly additional populations will be discovered. Two of the Ontario populations (Rock Island Rapids, Missinaibi River Provincial Park, and Schooner Rapids, Algonquin Provincial Park) are in provincial parks where the species will be afforded some protection.

Acknowledgements: MJO and CDJ would like to thank Ontario Parks (W.J. Crins and B. Fielders) for issuing collecting permits allowing us to document records in provincial parks. Benoit Ménard first identified the Missinaibi River ***Neurocordulia*** exuviae as ***N. michaeli*** and Paul Brunelle examined some of our collections and provided useful information on ***N. michaeli***.

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A Summer for the Record Books in Texas

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This summer has proven to be one for the record books in Texas. It seemed as though every time I checked my e-mail, there was a new species discovered for the state or a population of some "rare" species found in someone's backyard. Below I have detailed the records that are new for the United States and or Texas. Including the records below, Texas is pulling further away from the pack with an amazing 219 species now recorded for the state.

Argia oenea (Coenagrionidae), Fiery-eyed Dancer: A population of this species was discovered for the first time in Texas at Chinati Hot Springs (Presidio Co.) by Robert Tizard on 1 May. This is a tropical ***Argia*** that extends from Panama to Arizona and now into Texas. On 15 September, Greg Lasley and Kelly Bryan, visited the same location and photographed and collected a single male.

Enallagma antennatum (Coenagrionidae), Rainbow Bluet: Greg Lasley found and collected ***Enallagma antennatum*** on the 1 September 2004 along Palo Duro Creek in southern Hansford Co. at the bridge crossing of Texas FM 520. This is approximately 18 mi SW of Spearman and represents the first record of this species in Texas, though it is known from just over the border in Oklahoma.

Aeshna persephone (Aeshnidae), Persephone's Darner: On 27 September, James Lasswell and Jack Brady were collecting along Calamity Creek as it was approaching dark, when "a big dragonfly came whizzing by." A solid swing later and it was revealed to be ***Aeshna persephone.*** Only the single specimen was seen, but it represents the first record of its presence in Texas. The specific locality was on the Woodward Ranch, 20 miles south of Alpine in Brewster County.

The closest previous record for this species is Catron County, New Mexico.

Phyllocycla breviphylla (Gomphidae), Dark-tailed Forceptail: In 2002, Dave Czaplak photographed a single teneral female, at Santa Ana National Wildlife Refuge in Hidalgo Co., of what was thought to be ***Phyllocycla breviphylla*** (Czaplack 2003). A positive identification was not possible from the photograph, but subsequently two females were collected in late May 2004 by Omar Bocanegra at Anacua Wildlife Management Area in Cameron Co. (see Bocanegra and Czaplak in this issue). These captures represented the first confirmation of this species in the United States. Additional individuals of this species were later seen by Martin Reid and David Dauphin in late August and a single male was collected by Dauphin at the Mission West RV Park in Mission (Hidalgo Co.) on 26 August. These observations suggest the establishment of a population of this species in the Rio Grande Valley. All of the individuals seen or collected are somewhat intermediate between ***P. breviphylla*** and ***P. elongata*** in the appearance of the thoracic stripes and there is some speculation that ***P. breviphylla*** may actually be a synonym of ***P. elongata***. For more information on this discovery see Bocanegra and Czaplak in this issue.

Erythemis attala (Libellulidae), Black Pondhawk: Tom Langschied has been sitting on an apparent gold mind of odonatological goodies. In late September, and then again in early October, Tom discovered ***Erythemis attala*** on the King Ranch (Kleberg Co.) where he works. No specimens have been collected, but a photograph confirms the identification. Within the United States, this species was only known as a stray to Alabama. Its normal range includes the Antilles and Brazil to Mexico. Indications are that there is an apparent breeding population at this south Texas locality. Other interesting and finds on the ranch include ***Acanthagrion quadratum***, ***Coryphaeschna adnexa***, and ***Tholymis citrina***.

Erythemis mithroides (Libellulidae), Claret Pondhawk: A single male of this species was photographed at Santa Ana National Wildlife Refuge (Hidalgo Co.) on 1 May by Martin Reid. This represents the first record for this species in the United States and thus far it has not been seen again. ***Erythemis mithroides*** is tropical ranging southward to Brazil and Paraguay. There is evidence that the Mexican populations of this taxon may actually represent an undescribed species (pers. comm. Dennis Paulson).

Leptobasis melinogaster (Coenagrionidae): On 19 June, Tom Langschied and Jim Sinclair discovered a population of this Mexican species in on the King Ranch (Kleberg County). It represents a new genus and species for the United States. This species was only recently described from Mexico, by Enrique Gonzáles based on two males collected in Jalisco and Oaxaca states (Gonzáles, 2002). This is a particularly interesting damselfly unlike other members of the genus ***Leptobasis***. Enrique reported "When I examined the first male of this species from Jalisco state, I hesitated assigning it to any known genus of Coenagrionidae because the specimen has some unusual characters." There is apparently a breeding population of this species at the King Ranch as several individuals have been seen. Females and larvae remain unknown. No common name has been established for this species.

All of these finds indicate the tremendous opportunity for discovery in the Odonata, especially in southern states like Texas. It is truly amazing that in a four-month period six species have been discovered for the first time in Texas and half are new for the United States! With the growing popularity of Odonata and the advent of digital cameras, many more discoveries are waiting to be made. Other species like ***Anax walsinghami***, ***Aeshna psilus***, ***Cannaphila insularis*** and ***Macrothemis*** spp. that I have always considered uncommon in Texas are turning up everywhere including right here in Austin in the case of the first two! I believe some of these species are certainly expanding their ranges, but I attribute most of these discoveries to the growing number of people now looking at dragonflies and damselflies.

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Phyllocycla breviphylla Collected in the United States

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The genus ***Phyllocycla*** was first reported in the United States in 2002 from a photograph of a teneral female taken at Santa Ana National Wildlife Refuge in Hidalgo County, Texas (Czaplak 2003). Although several photographs were taken from various angles, the species could not be positively identified but was assumed to be either ***P. breviphylla*** or ***P. elongata***. On 29 May 2004, two female ***Phyllocycla*** were collected at Anacua Wildlife Management Area in Cameron County, Texas. They were identified as ***P. breviphylla*** and are apparently the first specimens collected in the U.S.

P. breviphylla was originally described by Belle (1975) who distinguished it from ***P. elongata*** (Belle 1976), which is morphologically similar. It is known from San Luis Potosi, Mexico to Nicaragua, while ***P. elongata*** occurs from southern Coahuila, Mexico southward to Guatamala (Needham *et al*. 2000, Förster 2001). Czaplak (2003) indicated the thoracic pattern of the teneral ***Phyllocycla*** sp. from Santa Ana NWR to be intermediate between the descriptions of ***breviphylla*** and ***elongata***. This specimen was observed in tall grass within the riparian forest along the Rio Grande River. The two recently collected females, which were somewhat teneral when collected, also differ from the original species description in the pattern of the thorax. The pale metepisternal stripes of both specimens are incomplete and extend to the metinfraepisternum. These specimens were collected while perched on shrubs in full sun adjacent to a dirt road within the riparian corridor of the Rio Grande River.

The known odonate fauna of the U.S. continues to grow due largely to discovery of Neotropical species along the southern U.S./Mexico border. A population of ***P. breviphylla*** is evidently established in south Texas (see Abbott this issue), adding to the local odonate specialties of the Rio Grande Valley.

Thanks to Sid Dunkle for verifying the specimens and the Texas Parks and Wildlife Department for the issuance of a permit to collect at state managed lands.

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Three Additions to the Odonata of Saskatchewan, and some Notable Records

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Walker (1940) listed 47 species for the province of Saskatchewan and provided some useful information on occurrence in saline lakes. Most recently 88 species have been shown to occur in Saskatchewan following a national status ranking <http://www.usask.ca/biology/skabugs/dragon/odonata.html> but some of these are poorly documented and of uncertain status so all that can be said with confidence at this point is that roughly 80 species occur in the province. The University of Saskatchewan aquatic insect pages lists 72 species.

Most of the species in the national ranking list are a reflection of recent published work (e.g. Westfall & May 1996, Needham *et al*. 2000, Hutchins 2002, 2003a, b, 2004, Donnelly 2004a, b, c). Three species

reported below are additions to the Odonate fauna of Saskatchewan (***Argia fumipennis violacea***, ***Enallagma antennatum***, ***Ischnura perparva***). Two others are additions to the status ranking, but reported previously in 2004 (***Stylurus notatus***, ***Enallagma anna***). One other (***I. verticalis***) has not been reported from Saskatchewan in the scientific literature, but is on the ranking list. Justifying specimens collected by the authors have been deposited in the Canadian National Collection (CNC), Agriculture Canada, Ottawa.

Argia fumipennis violacea, Variable Dancer. In Canada this species has not been found west of Ontario, but it is known from the Dakotas and Montana (Westfall & May 1996, Donnelly 2004c). A pair was collected on the Souris River at the hwy 39 bridge (49.0751° N, 102.7648° W) on 30 July 2004.

Enallagma anna, River Bluet. Previously known in Canada from Alberta and Ontario (O'Brien & Pratt 1998, Jones 2002, Donnelly 2004c). The only Saskatchewan record that we are aware of is the listing on the University of Saskatchewan aquatic insect page. A male was collected on the Souris River at the hwy 39 bridge (49.0751° N, 102.7648° W) on 30 July 2004. Other species present here included ***Argia fumipennis violacea***, ***Calopteryx aequabilis***, ***Enallagma antennatum***, ***E. civile*** and ***E. ebrium***.

Enallagma antennatum, Rainbow Bluet. Although not previously known in Canada west of Ontario, this species has been reported from the northern portions of Montana and North Dakota (e.g. Donnelly 2004c). It was found at a number of localities: small stream in open prairie north of Val Marie (49.3251° N, 107.7327° W) on 9 July 2004 (three seen); Frenchman Creek near Eagle Butte south of Val Marie (49.2036° N, 107.6897° W) on 9 July (25 seen); Frenchman Creek at Val Marie (49.2472° N, 107.7240° W) on 9 July 2004 (one seen); Souris River at the hwy 39 bridge (49.0751° N, 102.7648° W) on 30 July 2004 (25 seen); Souris River on hwy 9 N of Northgate (49.0487° N, 102.2973° W) on 30 July (13 seen). At all locations on Frenchman Creek, a muddy turbid, and often fast moving creek, it was associated with ***Enallagma hageni***.

Ischnura perparva McLachlan in Sélys, Western Forktail. Widespread in northwestern North America, this species is reported in Canada from British Columbia, Alberta and Manitoba (Westfall & May 1996, Donnelly 2004c). Although common in British Columbia, it is apparently rare and local eastward. A single male was collected on Lodge Creek at the hwy 13 bridge (49.2027° N, 109.9838° W) on 13 July 2004. The creek is slow with occasional pools and riffles and flows through dry prairie with associated oxbow ponds. ***Enallagma hageni*** was common and ***Ischnura damula*** was also present.

Ischnura verticalis (Say), Eastern Forktail. Although this species occurs near the Saskatchewan border in Montana (Westfall & May 1996; Donnelly 2004c) and in southeastern Manitoba (Hughes & Duncan 2003), it has not been reported for Saskatchewan except as a species with undetermined status in a recent ranking (see above). One was collected on Frenchman Creek at hwy 21 (49.4840° N, 109.3675° W) on 10 July 2004. The creek was clear, slow moving with abundant aquatic buttercups and sedges along the shore. Associated species included ***Enallagma ebrium***, ***E. hageni*** and ***Ischnura cervula***. Three males and one female were collected at the Souris River at hwy 9 N of Northgate (49.0487° N, 102.2973° W) on 30 July. At this latter location ***Enallagma antennatum***, ***E. carunculatum***, ***E. ebrium***, and ***Ischnura damula*** were also present.

Stylurus notatus (Rambur), Elusive Clubtail. Since this species was recently discovered at Hay River in the Northwest Territories (Catling et al. 2004), its occurrence at the ferry crossing over the North Saskatchewan River 30 km ESE of Maidstone (53.0224° N, 108.8293° W) is not remarkable. It was first reported from Saskatchewan in 2004 based on an older collection from near Lloydminster (Hutchings 2004). The Maidstone locality is thus the second record for the province. Three exuviae were found on 28 July among a few hundred exuviae of ***S. intricatus*** on a sandy shore below riffles. It was reported as new to Saskatchewan on the basis of collection.

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Dragonflies Recorded in 2004 from the Saskatchewan Portion of the Cypress Hills Interprovincial Park

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The Cypress Hills, straddling the southern Saskatchewan-Alberta border are an elongate hilly plateau at 1400 m with lakes and streams and lodgepole Pine and spruce forest. These isolated hills, resembling the Rocky Mountain foothills much further to the west, are in direct contrast to the surrounding dry and treeless shortgrass prairie. Much of the area is included within Cypress Hills Interprovincial Park. The dragonflies of the Alberta section of the park were surveyed by Hilton (1985) who recorded 31 species and reported an interesting fauna that was 22% cordilleran and 42% boreal in origin.

On 11 July 2004 we collected (with appropriate permits) and observed dragonflies at 3 locations in the Saskatchewan portion of the Cypress Hills Pak. The locations were: (1) marshy pond on Highland Trail in pine-spruce forest, 49.64771° N, 109.4970° W; (2) hillslope in spruce woods, hwy 271 near Fort Walsh, 49.6028° N, 109.7968° W; (3) pond near park entrance in mixed forest, 49.(3)758° N, 109.4853° W.

The following 16 species were recorded (locations as given above following species name). Voucher specimens are deposited in the Canadian National Collection (CNC) in Agriculture Canada, Ottawa): ***Aeshna eremita***, (1) (2) (3); ***Aeshna interrupta***, (1) (3); ***Aeshna palmata***, (1); ***Coenagrion resolutum***, (1) (3); ***Cordulia shurtleffii***, (1) (3); ***Enallagma boreale***, (2) (3); ***Enallagma ebrium***, (3); ***Enallagma hageni***, (1) (3); ***Epitheca canis***, (1) (3); ***Leucorrhinia hudsonica***, (3); ***Leucorrhinia proxima***, (2) (3); ***Libellula quadrimaculata***, (1) (2) (3); ***Somatochlora minor***, (1); ***Sympetrum corruptum***, (2); ***Sympetrum internum***, (2) ***Sympetrum pallipes***, (1).

Epitheca canis is an addition to the Cypress Hills area (not reported by Hilton 1985) and a range extension of 150 miles southwest from the boreal region of Saskatchewan north of Saskatoon into this isolated forested upland (Donnelly 2004). The western cordilleran ***Aeshna palmata***, was already known from the western block of the park (Hilton 1985) and from the

adjacent border region in Saskatchewan.

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Another Addition to the Odonata of the Northwest Territories

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A current checklist of the Odonata of the Northwest Territories (NWT), Canada, was published in 2004 (Catling *et al*. 2004). The discovery of two populations of ***Enallagma hageni*** near the southwest corner of Great Slave Lake brings the list of species for NWT to 41. Thirty individuals were captured along 20 m of shoreline of a large dugout pond (61.08596° N, 118.29758° W) on hwy 1 northwest of Enterprise on 25 July 2004. It was the most frequent species of Odonata at this location. Also present were ***Enallagma ebrium***, ***Nehalennia irene***, ***Aeshna juncea***, ***Aeshna eremita,*** and ***Aeshna interrupta lineata.*** On the same day one individual of ***E. hageni*** was collected further east along hwy 1 in a calcareous, open fen (61.07326° N, 117.56653° W). ***Lestes disjunctus***, ***L. forcipatus*** and ***Nehalennia irene*** were also present at this location. ***Enallagma hageni*** was previously known from northern Alberta and northern British Columbia (Donnelly 2004). The newly discovered localities represent an extension of known range of 150 miles to the north and are at the northern limit of the distribution of the species.

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Simply Superb! A new California State Record, and a Bit of California Odonata History

Kathy Biggs

In April of 1977, Rosser Garrison and Dennis Paulson published "A List and New Distributional Records of Pacific Coast Odonata" in The Pan-Pacific Entomologist, Vol. 53, No. 2. Their species reports became the state lists for California, Oregon, and Washington. This creation of the California list was the basis of the 'awards' given by the CalOdes discussion group that were presented to Rosser and Dennis for their being "the fathers of CA Odonata" at the 2003 annual DSA meeting held in California. In their official list of 105 California species, thirteen species that had been listed elsewhere as occurring in California were removed, including ***Ischnura ramburii*** (Rambur's Forktail), which was "rediscovered" in California by Jeff Cole in 1999, and ***Pseudoleon superbus*** (Filigree Skimmer).

I. ramburii was removed because the lone record from 1861 was for ***Agrion defixum***, which was declared to be a synonym of ***I. ramburii*** by Calvert in 1895. The lone description was from a northern California locality, which seemed an unlikely occurrence (indeed!). When ***I. ramburii*** actually was found in California, it was in southern California in Riverside Co. at Dos Palmas (east of the Salton Sea). Since 1999, it has been discovered to be fairly common at several other southern CA locations including a number of sites in San Diego, San Bernardino and Imperial Counties.

Pseudoleon superbus was removed from the California list in the 1977 Garrison and Paulson manuscript because, although it was incorporated in a California list in 1910 by Muttkowski, there were no further reports or any specimens found in any museums or collections, nor were any individuals of this species found in surveys of dragonflies in the state in the 1970s. It was felt that perhaps the confusion concerning the reality of the species' occurrence in California might have originated because a specimen/sighting had been labeled/reported merely as from "California" while meaning from Baja California.

Perhaps the reasoning for the removal of ***P. superbus*** may well have been accurate, because, along with the surge of ***Paltothemis lineatipes*** (Red Rock Skimmer) found dispersing throughout California this spring/summer, a lone female ***Pseudoleon superbus*** (Filigree Skimmer) was found on 9 May 2004 by Douglas Aguillard in San Diego County! It has been thought that perhaps the Red Rock Skimmers mentioned earlier were emanating from Baja California where Dennis Paulson had noted above average rainfall prior to these events. And perhaps the Filigree Skimmer came from there too as that is the nearest known population of them to the discovery site: Pine Valley Creek near the trailhead, just west of the community of Pine Valley, San Diego County.

Doug Aguillard was fairly new to Odonata, but he knew enough to know that what he was seeing was somehow different, and luckily he had his camera with him. He e-mailed photos to me of an "unusual whitetail or something" and I was quite excited when I viewed them. His photos are now the first confirmed record (photos only) of ***Pseudoleon superbus*** in the state of California. The three photos he took show a female Filigree Skimmer perched on pale colored dead wood near the creek. Those of you with Internet access can view the photographs at Doug's "Dragonflies of San Diego & Imperial Counties" web site at <http://sdbirds.basiclink.com/filigree_skimmer.htm>

Other species present at the Pine Valley Creek trailhead on the date the ***P. superbus*** was discovered were ***Sympetrum illotum*** (Cardinal Meadowhawk), ***Libellula saturata*** (Flame Skimmer), ***Anax walsinghami*** (Giant Darner), ***Ischnura perparva*** (Western Forktail), and ***Argia vivida*** (Vivid Dancer). This site where the ***P. superbus*** was found is the same site where Doug and DSA member Bob Parks had found ***Aeshna walkeri*** (Walker's Darner) last year. This discovery puts the California state Odonata list at 109 species. Subsequent visits to the site to attempt to relocate her or others of ***P. superbus*** have been unproductive. I personally hope she was full of fertilized eggs and that her offspring will be found next spring!

The View from Vermont

Brian Pfeiffer

The top of a ski slope isn't where I typically look for dragonflies. But during my backpacking trip this fall from Canada to Massachusetts, along the spine of Vermont's Green Mountains, dragonflies weren't exactly abundant. So when an ***Aeshna*** species landed near the double chair lift, I dumped my backpack and stalked the subject.

As I approached close enough to eyeball the thoracic pattern, something didn't add up. ***Aeshna constricta*** (Lance-tipped Darner)? Nope, the cerci weren't right. Only after I had the bug in hand did it dawn on me that this was ***Aeshna subarctica*** (Subarctic Darner). It was Vermont's second record (on 27 September 2004) for this northern species.

That's the way the season went this year in Vermont. Slowly, deliberately, step by step (even on hiking trips), a few, proud folks are cracking the code of Odonata diversity and distribution in this under-surveyed state. We're proud of our progress. So when our esteemed ARGIA editor Nick Donnelly requested a Vermont season summary, I naturally jumped at the opportunity. But only when I sat down to write, did it dawn on me how few of us there are (about three) regularly wetting our feet for odes in this state (which is not to discount the contributions of growing numbers of casual odonatists). Consequently, this report will include only a few highlights from this season past. And it will conclude with some personal thoughts on how Vermonters and others might proceed into the future with the discovery and conservation of Odonata across the state.

Aeshnidae (Darners): Vermont's first ode of the season, ***Anax junius*** (Common Green Darner), made its characteristic April arrival on an uncharacteristically warm day (70˚F) on 30 Apr in West Haven

(Rutland County), a hotbed of ode diversity in the state's south-central section. Other Aeshnids, besides the aforementioned ***A. subarctica***, didn't make much news this year, with the exception of ***A. clepsydra*** (Mottled Darner), infrequently encountered in the state, flying in good numbers at the aptly named Lily Pond in extreme southeastern Vermont (Bennington County) on 17 August.

Gomphidae (Clubtails): With the possible exception of ***Somatochlora***, Gomphids may be the least-understood odonate taxon in Vermont. ***Ophiogomphus*** (Snaketails) will be getting some attention in the future. Notable was a teneral ***Ophiogomphus rupinsulensis*** (Rusty Snaketail) flying in Windsor County on 4 June. At a single site, the outlet to Marshfield Pond in Washington County, the following seven Gomphids were flying on 1 Jul: ***Arigomphus furcifer*** (Lilypad Clubtail), ***Gomphus borealis*** (Beaverpond Clubtail), ***Gomphus exilis*** (Lancet Clubtail), ***Gomphus spicatus*** (Dusky Clubtail), ***Gomphus adelphus*** (Moustached Clubtail), ***Hagenius brevistylus*** (Dragonhunter), ***Stylogomphus albistylus*** (Least Clubtail).

Cordulegastridae (Spiketails) and **Macromiidae (River Skimmers)**: No big news here. Still undiscovered in Vermont (but most certainly somewhere) is ***Cordulegaster obliqua*** (Arrowhead Clubtail), designated by odonatist Mike Blust (The Boghaunter, Vol. 3, No. 2) as the next likely new dragonfly discovery in the state. And for those who like a challenge, ***Macromia illinoiensis*** (Illinois River Cruiser) was flying in high numbers along the Connecticut River below Vernon Dam (Bennington County) on 17 August. (To be fair, the Connecticut River itself is technically in the state of New Hampshire, but a few of those ***M. illinoiensis*** were indeed flying along the Vermont shoreline.)

Corduliidae (Emeralds): The search for ***Williamsonia lintneri*** (Ringed Boghaunter) continues in Vermont, so far without success. But in the process, ***Williamsonia fletcheri*** (Ebony Boghaunter), was flying in limited numbers (two females) at its only known site in Vermont (in Washington County) on 9 May and in greater numbers (25 individuals) on 17 May. This count included ***W. fletcheri*** flying at a newly discovered fen nearby, which may or may not have breeding individuals. ***Somatochlora***, of course, demands further investigation in Vermont. ***Somatochlora kennedyi*** (Kennedy's Emerald) and ***S. minor*** (Ocellated Emerald) turned up in Vermont's northeastern corner (Essex County) on 26 June.

Libellulidae (Skimmers): Libellulids were more or less predictable in Vermont this year. ***Libellula semifasciata*** (Painted Skimmer) was an exception, with records coming from Washington County on 19 June and Windsor County on 21 June. Based purely on anecdotal and gut-level evidence, ***Sympetrum costiferum*** (Saffron-winged Meadowhawk) seemed more abundant than in recent years past. The unpredictable and uncommon ***Sympetrum danae*** (Black Meadowhawk) was vouchered in Grand Isle (Grand Isle County) on 11 September. And the enchanting ***Pantala flavescens*** (Wandering Glider) was eclosing (and flying as mature adults) from a flooded ditch in Bradford (Orange County) on 25 August.

Calopterygidae (Jewel Wings): ***Hetaerina americana*** (American Rubyspot) got some new attention in Vermont this fall, with a population being discovered at various sites along the West River in Dummerston (Windham County) 6 September. They were also flying along Lewis Creek in Ferrisburgh (Chittenden County) on 31 August. Few or no other locations are known in the state for this delightful damselfly.

Lestidae (Spreadwings): The season's first-noticed ***Lestes eurinus*** (Amber-winged Spreadwing) were flying as tenerals at a bog in Lamoille County on 27 May, which may be an early date for the species owing to an unusually warm spring. In Caledonia County, six ***Lestes*** species were flying on 14 August: ***Lestes congener*** (Spotted Spreadwing), ***Lestes disjunctus*** (Common Spreadwing), ***Lestes dryas*** (Emerald Spreadwing), ***Lestes forcipatus*** (Sweetflag Spreadwing), and ***Lestes rectangularis*** (Slender Spreadwing), ***Lestes vigilax*** (Swamp Spreadwing).

Coenagrionidae (Pond Damsels): A male ***Coenagrion resolutum*** (Taiga Bluet) was a crowd pleaser to the folks gathered at a bog in Marshfield (Washington County) during the northeast gathering of the Dragonfly Society of the Americas on 25 June. Another crowd pleaser, ***Enallagma antennatum*** (Rainbow Bluet) was located at its only known site in Vermont, described as the state's most eutrophic pond, in Rutland County on 19 June and 28 June. The biggest news from Vermont this year was that Mike Blust located ***Ischnura hastata*** (Citrine Forktail) in Vermont, from the state's two southern counties, Windham County on 5 August and Bennington County on 11 August. A novice odonatist, Dave Hoag, added a northern record for ***I. hastata*** on 10 August, from Grand Isle County in Vermont's Champlain Valley. It's consistent with findings in Vermont, certainly with butterflies and likely with odonates, that the ranges of

certain southern species extend northward into the milder lowlands along Lake Champlain.

The Vermont Vision: Opportunity awaits odonatology in Vermont. To be sure, some legends have swung nets in this state, including Frank Carle, Hal White, Blair Nikula, Paul-Michael Brunelle, Dennis Paulson, Nick Donnelly and many others. Don Miller has valuable odonate data from years of explorations. Even so, Vermont has a lot to learn. Accordingly, here's a humble proposal on how we can proceed over the next several years:

1. Create a Unified Database — Vermont needs a single source for historic and future odonate data. We hope to have a unified database by next spring.

2. Gather Historic Data — We intend to collect historic odonate data from museums, including the extensive collection at the University of Vermont, and from any willing odonatists who have surveyed here.

3. Investigate Key Species or Habitats — Before beginning a full-fledge odonate atlas project, which is by no means certain at this point, we should select key species or natural communities for more intense and targeted investigation. These might include: species overdue for discovery in Vermont; rare, threatened or endangered species; species at the edge of their range here; species whose taxonomy warrant further investigation; bogs not yet protected by conservation easements or public ownership; and larger rivers.

4. Only after these preliminary investigations should Vermont evaluate the merits of a statewide Odonata atlas project.

It should also be pointed out that odonate investigations may have a new source of funding in Vermont. Like other states, Vermont is undergoing a planning effort to designate priority wildlife species. Known as the Comprehensive Wildlife Conservation Strategy, Vermont's final state plan will help govern spending of federal State Wildlife Grant fund. Because of work to date on Odonata, the order is among those given high priority in the planning process. The plan won't be complete until July of 2005.

Enallagma doubledayi Population in Kisatchie National Forest, Natchitoches Parish, Louisiana

Kreg D. Ellzey, 3416 Gum Springs Loop, Hornbeck, LA 71439

On 5 June 2004, the author accompanied Gayle and Jeanell Strickland on a field trip into the pineywoods of the Kisatchie Ranger District, Kisatchie National Forest, Natchitoches Parish, Louisiana. The primary goal of this trip was the collection of new Louisiana Odonate images for the Strickland's growing digital image collection. In pursuit of this goal a very noteworthy discovery was made.

While visiting a borrow pit along road FS 350, the Strickland's collected a tandem pair of ***Enallagma doubledayi*** (Atlantic Bluet). To date, ***E. doubledayi*** has been reported from Marion County, Mississippi (Lago *et al*· 1980), along with two records from northeast Texas in Collin and Anderson Counties (Abbott, 2001). However, according to Mauffray (1997), no records previously existed for Louisiana, making this pair a first for the state. Strickland (2004) reports the GPS coordinates of this location are 31° 27.59´ N, 93° 11.96´ W. The specimens will ultimately be deposited at the LSU Collection of Arthropods in Baton Rouge.

On 8 June 2004, the author returned to the location to conduct a follow-up survey to attempt to determine if the population was possibly mixed with another ***Enallagma*** species. In a personal communication, Abbott (2004) mentioned that both ***E. doubledayi*** records from Texas were discovered mixed with ***E. civile***. However, after examining approximately ten male ***Enallagma specimens*** with a loupe, it was noted that all appeared to be ***E. doubledayi*** at this particular location. The total population of which was estimated to be around forty individuals.

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Epitheca semiaquea (Selys) Added to the Louisiana List

Bill Mauffray, International Odonata Research InstituteGainesville FL; <iori@afn.org>

In Mauffray (1997) I did not report ***Epitheca semiaquea*** from Louisiana. When I was sorting through specimens returned to the FSCA by Thomas Donnelly, I found a specimen which I had collected that was simply labeled "***Tetragoneura***". Donnelly has identified it as ***Epitheca semiaquea***. The male was collected in Vernon Parish and has the following data: Kistachie Natl forest, approx 2 mi N of SR-10 on Forest Rd 400, Hillside bog/trib of Drake Creek. 30-Mar-1992. Coll. by William F. Mauffray and Malcolm Vidrine.

While reorganizing the ***Epitheca*** into the new Odonata cabinets at the FSCA, I found another male specimen which I had previously identified as ***E. cynosura***. I compared it with the one Donnelly had checked and it is also an ***E. semiaquea***. This one was collected in Lasalle Parish: Belah, R3E T8N Sec 28, old gravel pit lake, 6-Apr-1991, coll by W. F. Mauffray. Both specimens are in the FSCA, however I will deposit one into the Louisiana state Collection of Arthropods in Baton Rouge. Donnelly (2004) notes that there is a broad gap in the distributional records for this species and did not report any between North Central Florida and Texas. These records help fill the gap a little.

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[editor's note. At the Iowa meeting I presented a discussion on ***Epitheca*** species, which are very confusing in western Louisiana and eastern Texas. I reported ***E. petechialis*** lacking wing spots from Vernon and Caddo Parishes, Louisiana. Identifying ***Epitheca*** species in this part of the world is a major challenge!]

A New Damselfly for Utah

Jim Johnson <jt_johnson@comcast.net>

While touring National Parks in southern Utah on 5 Oct 2004, I decided to make a brief stop at the Virgin River at La Verkin, Washington County. Almost immediately, I found what I suspected was an ***Argia hinei***. I had no previous experience with this species, but the small size, overall pale violet coloration, and strikingly whitish areas on the venter of the thorax pointed to ***A. hinei***. I collected two additional males before departing. The next day I stopped at the same location on the Virgin River as I was passing through hoping to find some tandem pairs. I found another lone male, but no females that appeared to be ***A. hinei***.

Upon returning home, I consulted Damselflies of North America (Westfall and May 1996) and confirmed that I had indeed collected ***Argia hinei***. The same reference did not include Utah in the species' distribution, as neither did Nunnallee & Paulson (2003) nor Donnelly (2004). The Utah specimens currently reside in my collection.

Other species present at this location over both days were as follows: ***Hetaerina americana***, ***Archilestes grandis***, ***Argia lugens***, ***A. moesta***, ***A. nahuana***, ***A. sedula***, ***Enallagma civile***, ***E. praevarum***, ***Ischnura barberi***, ***Erpetogomphus compositus***, ***Brechmorhoga mendax***, and ***Paltothemis lineatipes.***

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First Colorado Record of *Erpetogomphus compositus* Hagen in Selys

Inez and **Bill Prather**, 13810 Weld County Road 1, Longmont CO 80504

On 8 July 2004, while collecting dragonflies along the Delores River in Mesa County, Colorado, approximately 0.4 km from the Utah border, we observed several ***Erpetogomphus compositus*** Hagen in Selys perching on rocks by riffle areas. We were able to collect one male voucher specimen, a species not previously listed by Evans (1988) or Evans (1995). This species represents a new state record for Colorado. ***Erpetogomphus compositus*** Hagen in Selys was not unexpected in Colorado, and is known from all states west and south of Colorado (Needham *et al.* 2000). The total number of Odonata now recorded from Colorado is 108 species (Evans 1988, Evans 1995, Prather 2003).

On that same day we collected a male of ***Cordulegaster dorsalis*** Hagen in nearby West Creek. A birder, Andrew Spencer, had photographed this species the previous year at this site and the adult specimen confirms the identification. This is only the second Colorado locality. The previous known Colorado locality was Dinosaur National Monument, Moffat Co., Colorado, and at that time a state record (Evans 1988). It appears that both records can be referred to as ***C. d. deserticola*** Cruden. This phenotype falls into the fringes of the Great Basin distribution area as noted by Cruden (1969), and is not ***C. d. dorsalis*** Hagen as listed by Needham *et al.* (2000). All specimens are deposited in the C.P. Gillette Museum of Arthropod Diversity, Colorado State University.

Acknowledgments: We thank Dr. B.C. Kondratieff, Colorado State University for his verification of the specimens.

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Final Call for Georgia Data

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My goal is to publish the Georgia list which I have been working on for about ten years in BAO this winter. I have finished the literature research and I am working on the final write-ups on the paper. I will follow the same format as my Louisiana (1997) paper. Please e-mail or snail-mail me your Georgia data. Please indicate whether the record is an adult, larval, sight, or photographic record. If the record is a scarce species for Georgia, then send me specific locality, date, collector, etc., information. I need early and late date information also. Please refer to www.afn.org/~iori/galist.htm and e-mail me at iori@afn.org.

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First Record of Triacanthagyna septima for the Dominican Republic

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On 25 February 2004, a male specimen of ***Triacanthagyna septima*** (Selys, 1857) was captured in Punta Cana, Dominican Republic (18˚35´N 68˚19´W) by M. Avilés, and was identified by Miguel A. Fernández-Martínez. The identification was later confirmed by S.W. Dunkle. The individual was caught while flying around the lights of a tourist resort three hours after sunset. This species has been reported in Florida, Puerto Rico, Jamaica, Cuba, Mexico, Guatemala, Nicaragua, Costa Rica, Panama, Colombia, Venezuela, Surinam, French Guiana, Brazil and the Cayman Islands. However, no record existed until now of the presence of this species in the island of Hispaniola.

Knowledge about the distribution and habits of this genus is usually difficult to acquire due to its crepuscular habits, commonly flying at dusk and dawn, while remaining inactive during the day.

Dragonfly Study — the Baltimore Sun's Version

story by **Sandy Alexander** (reprinted with permission)

Bob Solem stepped into the tall grass near the lake in Ellicott City's Centennial Park and held his net ready, waiting for the right moment. He whipped the net through the air and scooped up his prey: a small, black-winged dragonfly called a Slaty Skimmer.

Holding the bug by its long, lacy wings, he showed it to a dozen other odonating nature-lovers who were trekking through the park looking at a Black Saddlebags, an Eastern Amberwing and a Fragile Forktail that was barely the size of a sewing needle.

Bird watching has long been popular, and butterfly watching has caught on in the past decade. But odonating is gaining ground. Dragonflies and damselflies — a group of insects called odonates — are becoming the target of enthusiasts' watchful eyes.

Dragonfly walks and odonate clubs from Massachusetts to California are listed by the dozens on the Internet, and odonators from across the country gather at the Valley Nature Center in Weslaco, Texas, every year for Dragonfly Days.

Locally, outings like the one that drew Solem, sponsored by the Howard County Bird Club, are also offered by the Audubon Naturalist Society in Chevy Chase, which holds lectures and field trips about odonates. And some nature centers and bird clubs, including the Harford Bird Club, have added dragonfly walks to their schedules.

"When I first started this 20 years ago, nobody could care less," said Richard Orr, a dragonfly enthusiast from Columbia who leads odonate expeditions for the Howard County chapter of the Maryland Ornithological Society. "One to two people would show up [at his lectures]. But those days are over. In the last three years, it has just exploded."

Odonates have distinctive markings — green heads, striped bodies or spotted wings, for example — that vary depending on the species, sex and maturity of the insect. People can identify them "by using visual clues like birders do," Orr said.

But Orr pointed out an advantage odonating has over birding: Dragonflies and damselflies are active during hot summer afternoons, when birds are less likely to be visible.

Orr, who is an assistant director at the National Invasive Species Council, gives seminars locally and contracts with national organizations to study the insects.

He said the main reason for the increasing popularity of dragonfly watching is the publication of the first field guides to odonates.

"Before the guides were created, there was no way for amateurs to identify the insects," Solem said. He and his wife, Jo, became interested in dragonflies nine years ago and used scientific materials to learn their Latin names and descriptions.

"Even then", he said, "you were hard pressed to identify what you've got."

Now, people can go into natural areas with enlarged photographs and detailed diagrams of what to look for.

Orr estimates that about 170 odonate species live in Maryland and as many as 50 in Centennial Park.

He says there is not yet a top-notch guide to dragonflies in the Baltimore area. But several books, including Stokes Beginner's Guide to Dragonflies and Dragonflies Through Binoculars, have been helpful in getting people started. One good book, Damselflies of the Northeast, was just published, he said.

At the beginning of the recent walk, Orr explained that the most visible differences between dragonflies and damselflies are that dragonflies are more stout and hold their four wings horizontally when they land; damselflies are more slender and hold their wings together above the body when they are still. Both types have males and females.

And now they are starting to develop a following.

"I think it's probably the most conspicuous, large-sized animal around ponds and streams," Orr said. And, he added, they are easy to spot during the summer, when people are near bodies of water.

For naturalists, adding odonates to the creatures that can be watched and catalogued "provides a more multifaceted experience outside," said Jo Solem.

She also thinks the insects hold a fascination for people. "An awful lot of [people] remember watching and catching bugs as children," she said.

Dragonfly facts

Dragonflies can fly forward and backward, using a darting motion to escape predators.

They beat their wings more than 30 times a second.

They can fly as fast as 60 mph.

They have compound eyes with 10,000 to 30,000 facets.

They consume large numbers of mosquitoes and black flies.

Source: Illinois Department of Natural Resources at http://dnr.state.il.us.

Agency to Designate Habitat for Dragonfly

John Flesher, Associated Press writer (distributed by e-mail)

Traverse City, Mich.—prodded by a lawsuit, the U.S. Fish and Wildlife Service has agreed to designate critical habitat for an endangered dragonfly found in only a few Midwestern wetland areas.

The agency reached a settlement with five environmental groups that accused the government of shirking its responsibility to protect the Hine's Emerald dragonfly.

A federal judge in Washington, D.C., signed an order last week to implement the agreement, said Brent Plater, an attorney for one of the groups, the Center for Biological Diversity.

The settlement "will force the Bush administration to put the developers' interests aside and rely on science, protecting our region's precious natural heritage," Plater said Tuesday.

Fish and Wildlife will begin developing a regulation next year to identify and protect the habitat, spokeswoman Gloria Parham said. The agency expects to issue a final rule by May 2007.

Once an area is designated critical habitat, federal agencies must consult with Fish and Wildlife scientists before taking or authorizing actions that might threaten the species, such as issuing permits to drain

wetlands. The designation affects only projects that require federal approval.

The Hine's Emerald dragonfly has disappeared from Indiana and Ohio, and is known to exist only in small pockets of Michigan's northeastern lower peninsula and in Illinois, Missouri and Wisconsin. The 2½-inch-long insect has bright emerald-green eyes and a metallic green thorax, with yellow stripes on its sides.

Habitat loss is the biggest reason for its decline. Wetlands in the upper Midwest have been drained for farming and urban development.

New Common Names for some North American Odonata

Dennis Paulson, Chair of the Common Names Committee*

After lengthy deliberation, the committee has drawn up a small list of North American Odonata species for which common names are to be changed. We change existing names with some reluctance, as they are already in use in popular guides, but we think the new names are sufficiently more appropriate for the species that this action is justified. The goal of having a committee for common names is to promote stability in these names as well as to coin new names when needed. However, as odonate common names are so recently conceived, we are taking the opportunity early in their history to correct names that we considered misleading.

Lestes disjunctus, Northern Spreadwing
Lestes australis, Southern Spreadwing

Lestes disjunctus and ***L. australis*** have been considered subspecies of the same species (***Lestes disjunctus***, Common Spreadwing) since Walker (1952) studied the species. Donnelly (2003) showed that the two forms overlap widely, behave as different species, and can be distinguished in the hand. Thus they must be recognized as a more northerly and a more southerly species distinct from one another. We feel that the continued use of Common Spreadwing for either species would generate confusion.

Argia fumipennis violacea, Violet Dancer
Argia fumipennis fumipennis, Smoky-winged Dancer
Argia fumipennis atra, Black Dancer

This is one of a very few North American odonates in which named subspecies can be easily recognized in the field. We think that field naturalists are better served by having common names for these geographic variants, described by Gloyd (1968). The species ***Argia fumipennis*** is still to be called Variable Dancer. There is precedent in other taxa (e.g., North American reptiles and amphibians) in having both species common names and subspecies common names.

Chrysobasis lucifer, Lucifer Damsel

This species was not given a common name when first reported from the United States (Paulson 2000). This name is proposed as evocative of the bright abdomen tip (lucifer means "light-bearing") of males of this species and also agrees with the scientific name.

Macromia illinoiensis, Swift River Cruiser
Macromia illinoiensis illinoiensis, Illinois River Cruiser
Macromia illinoiensis georgina, Georgia River Cruiser

This species has been called Illinois River Cruiser, but we consider that name inappropriate for such a wide-ranging species. The subspecies are distinguishable where they are found in typical form (Donnelly and Tennessen 1994), and those who live in the range of those subspecies can use the subspecies common names if preferred.

Ophiogomphus sp nov, Sioux Snaketail

This species, about to be described by Tennessen and Vogt (2004), occurs in the same region of Wisconsin and Iowa that was historically inhabited by the Sioux Indian tribe.

Stylogomphus albistylus, Eastern Least Clubtail

With the naming of the following closely related species, the common name of ***S. albistylus*** needs to ***be modified.***

Stylogomphus sigmastylus, Interior Least Clubtail

Specimens from the western part of the range of ***S. albistylus*** have been distinguished as the new species ***S. sigmastylus*** (Cook and Laudermilk 2004). The two species have hybridized where their ranges meet in Kentucky and Tennessee. Most field observers will probably continue to call them "least clubtail," as they can only be distinguished in the hand.

Cordulegaster sp nov, Ouachita Spiketail

This species, about to be described by Tennessen (2004), occurs in the Ouachita Mountains of Arkansas.

Erythemis simplicicollis* + *Erythemis collocata, Common Pondhawk

Donnelly (2004) has presented evidence that these two species, formerly Eastern Pondhawk and Western Pondhawk, respectively, intergrade over a large area of the western Plains and should be combined. The committee does not unanimously agree with this conclusion, but if the species are combined, the inclusive species needs a new name; thus Common Pondhawk.

Leucorrhinia proxima, Belted Whiteface

This species has been called Red-waisted Whiteface, but in the eastern part of its range the pale color at the abdomen base is yellow, quickly covered by white pruinosity in mature males. Thus mature males in the East look like Frosted Whiteface, ***L. frigida***, while those in the West look like Crimson-ringed Whiteface, ***L. glacialis***! The new name is color-neutral and thus adequately describes both populations.

Orthemis discolor, Carmine Skimmer

This species has been called Orange-bellied Skimmer, but some populations have the underside of the thorax brown to gray, rather than orange (becoming more orange in specimens), and even when orange, the underside of the thorax does not serve as a field mark. Thus the committee decided that the bright red coloration of males is a better field mark and deserves recognition in the common name. The species does not overlap in distribution with the bright red Antillean Skimmer, and males of both of them can be distinguished from the usually purplish Roseate Skimmer, although the latter species apparently has red individuals in some populations.

Orthemis "Antillean", Antillean Skimmer

This bright red Florida and West Indian species is distinct from the other ***Orthemis*** occurring within its range (Donnelly 1995), although whether it already has a scientific name is yet to be determined. As it is to be included in forthcoming books, we have given it a common name.

Sympetrum vicinum, Autumn Meadowhawk

This species has been called Yellow-legged Meadowhawk, and indeed immature individuals have pale legs, a distinguishing feature. However, the legs turn brown with maturity, and this has misled many who encounter this very common species. To avoid further confusion, the common name has been changed. Other ***Sympetrum*** are common during autumn, but this is the species that persists the longest at the end of the flight season.

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Common names committee: Tim Cashatt, Jerrell Daigle, Nick Donnelly, Sid Dunkle, Bob Glotzhober, Dennis Paulson, Steve Valley.

Florida State Collection of Arthropods (FSCA) Collection Expansion

Bill Mauffray, International Odonata Research Institute, Gainesville FL; <iori@afn.org>

Recently the Florida State Collection of Arthropods was awarded an NSF grant that included funding to purchase new Odonata cabinets. Twelve banks of cabinets with capacity for 54 drawers each arrived in late June. They differ from the standard Cornell cabinets by utilizing four inch high drawers instead of the standard three inch ones. This size allows Odonata stored in an envelope with a 3×5 data card to be stored in the upright position. Each cabinet holds 54 drawers, so the 12×54 drawers expanded the collection capacity by 648 drawers. This is approximately double of what we had before. During July and August, Jerrell Daigle, Ken Tennessen and myself all pitched in to reorganize and expand the existing collection into the new cabinets. We took drawers in reverse sequence (beginning with ***Zyxomma*** in Libellulidae) from the existing collection and moved the contents to alternating draws in the new cabinets, beginning at the end of the drawer sequence in the new cabinets. This resulted in there being one empty drawer for every full drawer in the collection. As of this writing the Libellulidae, Corduliidae and Macromiidae, and Cordulegastridae have been reorganized. This additional space gives us the needed space to accept the Carl Cook collection, Ken Tennessen collection, as well as, accumulated material from Fred Sibley, Jerrell Daigle, Bill Mauffray, Duncan Cuyler and others that has been donated within the last three years.

During the expansion, many taxonomic changes have been incorporated into the collection including moving all the ***Plathemis*** and ***Ladona*** from within ***Libellula*** and moving ***Tetragoneura*** into ***Epitheca***. Specimens identified only to genus are being added at the end of each genus. This will make it easier for researchers working within a particular group, to have access to unidentified or questionable material, encouraging the discovery and description of still unidentified new species within the collection. The bulk of the IORI collection has also been incorporated into the main collection because it is redundant to manage two separate collections under the same roof. The IORI collection is being converted to a synoptic collection.

In 2005 I will apply for another NSF grant for data entry of the Odonata collection, and hope to have a web searchable database as a result of this proposed grant.

Book notice: Damselflies of Alberta, by John Acorn

Dennis Paulson

I can't recall if anyone has mentioned the new book Damselflies of Alberta . It was just published in 2004 by the University of Alberta Press. You can get a hint of its nature by its subtitle "Flying Neon Toothpicks in the Grass." This is an intensely personal book, written by someone who observes and appreciates all aspects of nature and loves to educate anyone who will pay attention. Much attention is paid to John in Alberta, where he could truly be called a "nature personality." The book treats the 22 species of zygopterans in Alberta in great detail and is without question a scholarly treatise. But it's worth having a copy just because it's a good read. Throughout it John tells stories about damselfly biology, damselfly research, and damselfly researchers, bringing subjects to life with his own particular brand of generosity and humor. How many books have you seen in which some of the species are introduced by limericks? Enough said.

Well, not quite enough. I recommend reading the Preface of this book and taking it to heart. John criticizes rightfully the present paradigm that forces scientists to write in cold, objective terms in their scientific papers, no matter their passion for their subject. Thank goodness this paradigm doesn't extend to books, and that his publisher gave him the latitude to put as much of himself in this book as he wished.

To obtain book: U. of Alberta Press, Ring House 2, Edmonton, Alberta T6G 2E1, Canada (<uap@ualberta.ca>) for $29.95 CDN

Paper notice: Cues for Territory Choice in Two Tropical Dragonflies, by Paulo de Marco Jr. and Daniela C. Resende

ABSTRACT — Classifications in mate systems of Odonata are generally based in the male ability to control the female access to oviposition resources. In this paper we discuss the criteria for male territory selection in the dragonflies ***Perithemis mooma*** Kirby and ***Orthemis discolor*** (Burmeister) (Libellulidae), in Viçosa, Brazil, controlling the availability of perches and aquatic vegetation. ***P. mooma*** males defended territories with vegetation and thus their choice was probably related to the oviposition resource of the females. ***O. discolor*** males preferred sites with tall perches, possibly because their choice was related to a mate-seeking resource. Interactions with another libellulid more active and aggressive, ***Planiplax phoenicura*** (Ris), changed the preference of ***O. discolor*** males to vegetated areas highlighting the influence of community composition and interactions on territorial site selection.

Reference: Neotropical Entomology 33(4):397–401 (2004)

First announcement of the International Symposium on the Odonata Fauna of the Balkans and Current Problems of its Conservation.

Convened in the framework of the Bulgarian Dragonfly Year, 2005 by the International Odonatological Foundation (S.I.O.) and the Bulgarian Biodiversity Foundation (Smolyan, Western Rhodopes, Bulgaria, 13–20 June, 2005)

Place of the Meeting: A chartered coach will transfer the participants from Sofia to Smolyan on 12th of June 2005.

Corresponding Person: Dr Milen MARINOV, P.O.Box 134, BG-1000 SOFIA, Bulgaria; e-mail: <milen.marinov@biodiversity. bg> .

Symposium Program: Presentations are expected in all fields of research related to the odonate fauna of the Balkan peninsula, including history, species diversity, taxonomy, biology and behaviour, community structure, etc. Country-wise assessments of current knowledge and future perspectives will also be appreciated.

Mid-Symposium Field Trip (15 June): This will go through the Western Rhodope Mts, visiting a number of interesting odonate sites.

Post-Symposium Tour (17–20 June): This will introduce the participants to the odonate diversity of the Eastern Rhodope area; ca 40 (out of the 46 currently known) species of this region are expected to be encountered.

Estimated Costs; Registration (incl. Mid-Symposium Trip, and transportation Sofia-Smolyan-Sofia): Euro 90

Hotel: person/night: single room: Euro 20; double room: Euro 15

Post-Symposium Tour (incl. accommodation, transport and guide): Euro 180

Special reduced prices are expected; they will be announced at a later date.

(Pre) Registration Form: This should be returned to: Dr M. Marinov, P.O. Box 134, BG-1000 SOFIA, Bulgaria; or by e-mail: <milen.marinov@biodiversity. bg>

+ Name:
+ Address:
+ e-mail:
+ Intends to participate at the Symposium (12–16 June 2005)
+ Intends to participate at the Post-Symposium Tour (17–20 June 2005)
+ Expects to be accompanied by … person(s)
+ Requires a hotel room at … Euro
+ Expects to present a paper/poster YES NO
+ Preliminary short title …
+ Considers to participate at the Symposium, and would appreciate receiving the forthcoming information, when available
+ Date …
+ Signature …

Using Dragonfly Discussion Groups to Help Determine Distribution and Flight Data

Kathy Biggs

California has never had an official state Odonata Survey, yet in the last several years, without government or any other funding, and with no formal framework, there have been five new species added to the state list (see above for the most recent). Hundreds of new county distribution and flight data records have also been made since 1998.

The data: In 1998, California had an average species per county calculation of 25.39 with the average number of counties in which a species was found at 13.72. Now, as the end of 2004 approaches, the species per county average is 45.57 and the average number of counties a species is recorded in is 24.25. Both of these averages have nearly doubled in the last half-decade. This is, of course, due to the larger number of people now pursuing Odonata, rather than a dramatic increase in the Odonate fauna here!

The reporting of most of these new records has largely been possible because of California's CalOdes Yahoo Group. Founded on 18 January 2002, by Doug Aguillard, this Yahoo group was setup to work in conjunction with my web site, California Dragonflies, and my book, Common Dragonflies of California. The discussion group has become the forum for the reporting of Odonata sightings in California.

Discussions on this site assist in furthering all of our members' knowledge in various areas, but it is particularly the reporting of sightings with date and place attached that has allowed our comprehension of the status and distribution of California's dragonflies and damselflies to increase at such a dramatic rate. This type of Yahoo group has many wonderful features that can allow a group to go beyond just the sharing of sightings. The Yahoo groups' features can be very useful not only in the collecting of but also the distribution of dragonfly data within the group.

Yahoo group features

Messages: E-mail can be sent to the whole group, all at once, or recipients can be individually chosen. This is by far the most used and useful feature for sharing Odonata information and keeping those folks interested in dragonflies aware of each other. Members may sign up to receive each message individually, in a daily digest, or not to receive any e-mail at all and read the messages on the web site only.

Files and Database sections: Files and databases can be viewed and/or uploaded/downloaded by members. Distribution charts, flight data charts and files about how to collect and maintain dragonfly collections, etc. can be stored here. We have files that can be downloaded by members for state application forms for collecting, and our site makes available files such as At Risk Odonata by George Bick, for members.

Photo albums: This feature allows all members of a group to place and view photographs. Useful in confirming identifications and/or showing regional differences or maturity progression of species, it is also a place where members can share their photographic/scanning skills.

Links section: This section is very useful for sharing links to the dragonfly web sites throughout and beyond the state and, when used in conjunction with the other features, this section can make the group's site a true educational process.

Current Yahoo Odonata discussion groups

Region	Group	URL
California	CalOdes	http://groups.yahoo.com/group/CalOdes/
Great Lakes	Great Lakes Dragonflies	http://groups.yahoo.com/group/gl_odonata/
Northeast	Northeast Odonates	http://groups.yahoo.com/group/NEodes/
Southwest	SoWestOdes	http://groups.yahoo.com/group/SoWestOdes/
South East	SE Odes	http://groups.yahoo.com/group/se-odonata/
Texas Odes	TexOdes	http://groups.yahoo.com/group/TexOdes/

Calendar section: Dates can be put on a calendar; this could be used to list talks and symposiums about dragonflies, etc. Our group isn't using this feature but could do so. **Chat system**: Chat times can be arranged for the members to "converse" in "real time". This feature does allow for the use of "voice chat". We haven't tried it yet but I know of people who teach on-line courses in other subjects through this feature.

Polls section: Another area available where information and opinions could be gathered.

There are several such dragonfly discussion groups already in existence. As long as people can be found to set them up, moderate them, and note new data and do the updating of charts, etc, these groups can be a great way to accumulate data for an area. The Odonata-L group functions much like the Yahoo groups for the gleaning of information and the discussion of dragonflies worldwide. The Yahoo Groups go one step further in that files can be shared within the group:

Odonata-L (worldwide):
mailto: Odonata-l@listhost.ups.edu

At this point in time, databases for Odonata distribution probably exist for all U.S. states by county. This is the base information needed to start such information collections. In California, we started with an Excel file made by Dennis Paulson and based on information collected by Dennis and Rosser Garrison when they published A List and New Distributional Records of Pacific Coast Odonata in The Pan-Pacific Entomologist, Vo. 53, No. 2. Dennis kindly updated the chart to include any specimens he had collected since then, and we were off! DSA members Tim Manolis and Andy Rehn (with only a little help from me) surveyed museums throughout the state to add to these records. Then we added our own personal records, and after CalOdes was established in 2002, we gleaned data from those members when they reported sightings (currently there are 105 of us).

I encourage others to start such groups and thereby add to our knowledge of Odonata.

Disclaimer: Yahoo.com has bought the firm our son works for, and he is now a Yahoo employee. His employment by Yahoo.com started after the Yahoo CalOdes group was started and has not influenced my idea to share this article.

Odonata List Available for the Birder's Diary Program

Kreg D. Ellzey, 3416 Gum Springs Loop, Hornbeck, LA 71439

Record keeping programs have become a valuable asset not only to bird watchers, but also to those keeping lists of other critters such as butterflies, reptiles and plants. The newest version of the record keeping program from Thayer Birding Software — Birder's Diary version 3 (BD3) — now lets users create their own taxonomic lists with the program's built in taxonomic editor. These custom lists can then be saved, exported and shared with other users of the program.

Recently, the author created a custom list of North American Odonata for use with the program. It is based on the most recent version of Paulson and Dunkle's online checklist (2004) and currently contains some 449 species. Once downloaded and imported, the list will allow other users of BD3 to record their dragonfly and damselfly sightings, and generate life lists and other reports, just like they would their bird sightings.

To download and import a copy of the Odonata of North America list for BD3, follow the steps below:

Before Getting Started: Make sure you have updated to the most recent version of BD3. Please check the Thayer Birding Software web site at http://www.thayerbirding.com for more details. It is also recommended that you backup your copy of BD3 before attempting any upgrades or installations.

1. Run the BD3 program.

2. Click [Help], then choose [Internet: Discussion Forums] from the drop-down menu.

3. Once your browser window opens, click the link to access the Data Swap forum. (Note: You may have to register to use the forum for the first time.)

4. Click on the subject entitled "Odonata of North America — August 2004."

5. Next to the title of the first (top) message, you will

see the word "Attachment."

6. Right-click on "Attachment" and save the file to your computer.

To import the Odonata list into BD3

7. Unzip the previously saved file to your computer. (If necessary, a free-trial program to handle this process can be found at http://www.winzip.com.)

8. Click [File], then choose [Import/Export…] from the drop-down menu.

9. Within this smaller window click over to the [Taxonomy] tab.

10. Click the [Import] button.

11. Locate the previously unzipped file (from step 7) and choose [Open].

This should initiate importation of the Odonata of North America list into your copy of BD3. A confirmation window should follow once the import process is complete. If you require further assistance with this operation, please refer to your Birder's Diary help files or video tutorials. Enjoy!

note: The author is not affiliated with Thayer Birding Software and can provide no technical support for the program. The Odonata list is available free of charge by the author, through the Thayer Birding Software web site, to current users of BD3. It will not work on older versions of Birder's Diary or with other listing programs.

Thanks to Dennis Paulson (2004) for his corroboration and permission to make the list freely available to other users of BD3. The author will attempt to update the list as new taxonomic additions and changes are made public. Please check Thayer Birding Software's Data Swap web site for future updates.

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Binghamton, New York Vol. 16, No. 3, 20 Nov. 2004

TRAMEA

Back Cover: Neon Skimmer (*Libellula croceipennis*). Photo by Bob Parks