ISSN 1061-8503

ARGIA

The News Journal of the Dragonfly Society of the Americas

Volume 21 20 March 2009 Number 1

Published by the Dragonfly Society of the Americas

Argia Vol. 21, No. 1, 20 March 2009

Front cover: The Federally Endangered Hine's Emerald (*Somatochlora hineana*) photographed at a fen in Reynolds County, Missouri. Photo by Richard Day/Daybreak Imagery.

In This Issue

Readers will notice a nice list of dragonfly meetings and events this year. Interest in dragonflies and damselflies continues to grow. If you are aware of any other events not listed, please let me know so we can post them. This year's WDA international congress in Xalapa, Mexico precedes the DSA annual meeting in Sullivan, Missouri perfectly to hopefully allow many participants to attend both. It would be especially nice to see some international attendees at the DSA meeting.

Walter Chadwick made a visit to the Florida Everglades in November 2008 and details some of his discoveries. Also in Florida, Jerrell Daigle made another visit to the Corkscrew Audubon Sanctuary in search of *Chrysobasis lucifer* (Lucifer Damsel).

Chip Krilowicz briefly notes aggregations of *Sympetrum ambiguum* (Blue-faced Meadowhawk) and *Lestes congener* (Spotted Spreadwing) that he discovered in New Jersey last year.

Heinrich Fliedner reports *Crocothemis servilia* (Scarlet Skimmer) from Puerto Rico for the first time as well as a male *Erythrodiplax umbrata* (Band-winged Dragonlet) with an interesting wing pattern. Not far away, Dennis Paulson, also reports *C. servilia* for the first time in Jamaica.

John Hudson shares a summer collecting trip in northern Alaska and Canada. Reading this article reminded me of a similar trip I made back in 1996 and reminds me of what an amazing and wild country this is.

Lisa Saperstein shares the tremendous success of the first "Dragonfly Day" held in Fairbanks, Alaska. This makes at least three states that now have an annual dragonfly festival or event and I'm sure there are more planned.

Chris Hill recounts some of the discoveries made in South Carolina last year. A total of four new species were documented for the state. Those are pretty good numbers for a single state, rivaling even Texas!

Finally, Kathy Biggs announces two soon-to-be published books she will be selling on her web site; Dennis Paulson's new field guide and Kathy's revised *Common Dragonflies of California Pocket Guide*. Rob Cannings also reviews Michael Samways excellent new field guide to the Dragonflies and Damselflies of South Africa.

Calendar of Events

For additional information, see <http://www.odonatacentral.org/index.php/PageAction.get/name/DSAOtherMeetings>.

Event	Date	Location	Contact
Dragonfly Days	21–24 May	Weslaco, Texas	<http://tinyurl.com/dlomyy>
DSA SE Regional Meeting	28–31 May	Galax, Virginia	Jerrell J. Daigle <jdaigle@netally.com>
6th WDA Internat. Congress	7–12 June	Xalapa, Mexico	<http://www.ecologia.unam.mx/odonatology2009/>
DSA Annual Meeting	19–21 June	Sullivan, Missouri	Paul McKenzie <paul_mckenzie@fws.gov>
Great Lakes Odonata Meeting	10–12 July	Portage, Indiana	Deb Mikasser <dmikasser@hotmail.com>
Bitter Lake Dragonfly Festival	12–13 Sep	Roswell, New Mexico	<http://www.friendsofbitterlake.com/>

DSA Members, the Missouri Ozarks Beckon

Jane Walker <j.walker_smentowski@yahoo.com> (314-965-6522); **Paul McKenzie** <paul_mckenzie@fws.gov> (573-445-3019 H and 573-234-2132 ext. 107 W)

Welcome to all odonate enthusiasts planning to attend the DSA annual meeting in Missouri this summer. (For pre-meeting trips 17–18 June and post-meeting trips 22–23 June, see further details below). The meeting will take place 19–21 June in Sullivan, Missouri. Meeting headquarters will be at the Comfort Inn in Sullivan (573-468-7800) where we have reserved a block of 30 rooms. Located off Interstate I-44 at Exit 225, 736 South Road, Sullivan, MO 63080, the Comfort Inn has given us a discounted double occupancy rate of $71.99 + tax. To get the

discounted rate, mention that you are from the DSA or Dragonfly Society. Please make your reservations as early as possible to receive the discounted rate. June 10 is the cut off date. Other motels in the area include Sullivan Super 8 (573-468-8076), Baymont Inn (573-860-3333), and EconoLodge (573-468-3136). Cabins and camping are available at Meramec State Park on a first come, first served reservation (573-468-6519). Be sure to register for the meeting on-line at <http://tinyurl.com/5s7s6t>.

Sullivan is approximately a 1.5–2.0 hour drive southwest of St. Louis Lambert Field airport. From the airport, drive west on Interstate I-70 (to Kansas City), go south on Interstate I-270 (to Memphis), then go west on Interstate I-44 (to Tulsa) to Exit 225 in Sullivan. Meramec State Park is off Exit 226. For those members planning to drive in from the east, plan on using either I-70/I-270 or I-44 to go around St. Louis. A large section of US Hwy 40 is closed from I-270 eastward. Other fly in options include Kansas City and hubs in Springfield, Jefferson City, and Columbia. DSA attendees should plan to arrive on Thursday, 18 June to take advantage of collecting trips starting from the "parking lot" of the Sullivan Comfort Inn Friday 19 June at 8:00 AM. Please be sure to register through OdonataCentral.

We have planned 2½ days of collecting/photographing (Friday, Saturday afternoon, and all Sunday) in the scenic Ozarks. Saturday morning has been set aside for paper presentations and the business meeting. Saturday evening we will gather for a buffet banquet at the Flying J Restaurant.

Collecting trips have been planned for the Meramec, Bourbeuse, Huzzah, and Courtois Rivers, and several fishless ponds. Possible river species include: *Arigomphus submedianus*, *A. villosipes*, *Gomphus fraternus*, *G. externus*, *G. graslinellus*, *G. lineatifrons*, *G. ozarkensis*, *G. quadricolor*, *G. vastus*, *G. ventricosus*, *Ophiogomphus westfalli*, *Progomphus obscurus*, *Stylogomphus sigmastylus*, *Macromia illinoiensis*, *M. pacifica*, and *Neurocordulia xanthosoma*. Fishless pond species include: *Rhionaeschna mutata*, *Anax longipes*, *Enallagma aspersum*, and *Lestes eurinus*. Friday evening will include a road running trip to catch late feeding species such as *Somatochlora linearis*, *S. ozarkensis* and *S. tenebrosa*. Finally, we have also planned a visit to a Hine's Emerald (*S. hineana*) site on private property. This trip will include collecting opportunities on the upper Meramec River as we work our way back to the motel. For this trip we will need an estimate of possible attendees, so contact Jane Walker for details.

Trip leaders will have the necessary permits to cover members at all designated trip localities. While Missouri no longer requires a collection permit for terrestrial invertebrates, a permit is required for Species of Conservation Concern and for anything collected from Conservation Areas and Accesses, plus State Parks. State listed odonate species that we are likely to find include: *Arigomphus maxwelli* (rare), *Gomphus fraternus* (only one record), *G. ventricosus* (three records) and *Somatochlora ozarkensis* (rare). If you wish to apply for your own collection permit, the application form may be downloaded as either a PDF file, <http://mdc4.mdc.mo.gov/Documents/11827.pdf>, or Word document, <http://mdc4.mdc.mo.gov/Documents/8908.doc>.

Two Pre-meeting Trips Planned (Please note that we have cancelled the float trip on the Meramec River.)

1. Columbia and Surrounding Environs. Wednesday-Thursday, 17–18 June. (Plan on arriving 16 June.) Paul McKenzie and Linden Trial will lead trips to Rocky Forks Conservation Area, Finger Lakes State Park, Mark Twain National Forest just southeast of Columbia, and private property with a large population of *Ischnura kellicotti*. Other target species include: *Anax longipes*, *Arigomphus lentulus*, *Gomphus externus*, *G. graslinellus*, *G. militaris* and *Dythemis velox*. No block of rooms has been reserved in Columbia, but the following is a list of possible accommodations with telephone numbers: At the east end of town near I-70 and Rt. 63 (exit 128A): Comfort Inn (573-814-2727); Country Inn & Suites (573-445-8585); Hampton Inn & Suites (573-886-9392); and Super 8 (573-474-8488). Contact Paul McKenzie for more information: e-mail: <paul_mckenzie@fws.gov>, phone (573-445-3019 H and 573-234-2132 ext 107 W). Columbia, Missouri is a two hour drive west of St. Louis Lambert Field Airport on I-70. People flying into Columbia would travel north on Rt. 63 from the Columbia airport to the I-70 hotels listed above. People attending this pre-trip will head to Sullivan the afternoon of 18 June so we will be available for field trips in/near Sullivan on Friday 19 June. People participating in the 17–18 June pretrip should make their reservations at the Sullivan Comfort Inn or alternative lodging for 18–22 June.

2. Southwest Missouri Prairie Country, Wednesday and Thursday, 17–18 June. Individuals interested should plan on arriving 16 June. Tim Vogt will lead a trip to Joplin, Missouri, La Petite Gemme Prairie, Prairie State Park and Clear Creek Conservation Area. Target species include: *Argia nahuana*, *Arigomphus lentulus*, *Dythemis fugax*, *D. velox*, *Gomphus militaris*, and an odd *Cordulegaster* Tim thinks could be a new subspecies. Suggested lodging is the Lamar Super 8 (417-682-6888) in Lamar, Missouri. Contact Tim Vogt for more information, e-mail: <Somatochlora_sp1@yahoo.com>, phone (573-636-5824 H). Note: because this pre-trip is on the opposite side of

the state from Sullivan, Missouri, participants in attendance may not reach the Comfort Inn until Friday 19 June. Participants attending this pre-trip that arrive in Sullivan Thursday 18 June should contact Jane Walker if you plan to meet at the Sullivan Comfort Inn at 8:00 AM Friday 19 June.

Post Trip Opportunities (1–2 days depending on interest)

1. A Two-in-One Field Trip to Kaintuck Hollow Fen, DeWitt Pond, Mark Twain National Forest wildlife pond, Mills Creek and Little Piney Creek Conservation Area. One group will be collecting with Paul McKenzie, <paul_mckenzie@fws.gov> and Tim Cashatt and the second group will be photographing with Richard Day, <richard@daybreakimagery.com>. The two groups will visit each site at different times in order not to interfere with each other. Target species include: *Anax longipes*, *Argia bipunctulata*, *A. plana*, *Chromagrion conditum*, *Enallagma carunculatum*, *Gomphus militaris*, *G. ozarkensis*, *Lestes eurinus*, *Ophiogomphus westfalli*, and *Stylogomphus sigmastylus*. Contact Paul McKenzie for more information.

2. Gasconade River, Big Piney and Little Piney Rivers. Target species include: *Arigomphus villosipes*, *Gomphus lineatifrons*, *G. ozarkensis*, *G. quadricolor*, *G. vastus*, *Ophiogomphus westfalli*, and *Stylogomphus sigmastylus*. Contact Tim Vogt for more information: <Somatochlora_sp1@yahoo.com>.

Nick and Ailsa Donnelly Fellowship for 2009

DSA offers assistance with travel of presenters to DSA meetings. The fellowship is open to anyone presenting a talk or poster at the DSA annual meeting, but preference will be given to individuals from outside the United States presenting a talk who would otherwise not be able to attend due to financial constraints. Typically the fellowship will be in the amount of $1000, but ultimate discretion is given to the Executive Council. Applications are now being accepted for the 2009 Meeting in Sullivan, Missouri. If you would like to apply, please send an e-mail to John Abbott, <jcabbott@mail.utexas.edu>, with the title and abstract of your talk or poster, a brief statement indicating your financial need, and a CV or resume. The deadline for applications is 1 May 2009.

Northeast DSA Meeting Announcement

Bryan Pfeiffer <bryan@wingsenvironmental.com> and **Pam Hunt** <biodiva@myfairpoint.net>

The Northeast meeting of the Dragonfly Society of the Americas will be the weekend of 31 Jul to 2 Aug in and around southeastern New Hampshire. Our base will be Salem, New Hampshire, about 20 miles southeast of Manchester—which has a major airport, and 35 miles northwest of Boston. It will be important for participants to reserve their lodging as soon as possible (see below). Details on the meeting and online registration are available at <http://www.wingsenvironmental.com/nedsa/>.

As many of you know, the Northeast regional meeting often convenes in June, but the abundance of other odonate meetings in late May and June has prompted us to schedule a summer meeting this year with some exciting opportunities (besides the traditional summer-flying northeast species):

Calopteryx dimidiata (Sparkling Jewelwing)
Enallagma pictum (Scarlet Bluet)
Ischnura kellicotti (Lilypad Forktail)
Aeshna clepsydra (Mottled Darner)
Stylurus spiniceps (Arrow Clubtail)
Somatochlora linearis (Mocha Emerald)
Celithemis martha (Martha's Pennant)
Erythrodiplax berenice (Seaside Dragonlet)

Plus these possibilities (either rare or at the edge of their flight season):

Hetaerina americana (American Rubyspot)
Lestes unguiculatus (Lyre-tipped Spreadwing)
Anax longipes (Comet Darner)
Stylurus amnicola (Riverine Clubtail)
Somatochlora georgiana (Coppery Emerald)
Somatochlora incurvata (Incurvate Emerald)
Libellula needhami (Needham's Skimmer)
Libellula vibrans (Great Blue Skimmer)

In many respects, this is a prospecting trip. We have evidence of many of these species in the region, but need to know more about their distribution and abundance. We will be collecting data for the New Hampshire Dragonfly Survey, a statewide project now in its third year. Extra investigation in out-of-the-way places will be encouraged.

More than anything, this meeting will be a summertime opportunity to see colleagues and some nice dragonflies.

Now is the time to reserve your lodging. Our base will be the Park View Inn in Salem, New Hampshire, <http://www.parkviewinn.com>. Although the motel would not set aside a block of rooms for us, it is the most reasonably priced lodging in the area and ideal for our field sites. So, reserve a room now by calling 866-721-5139 and telling the desk that Shannon has approved the 10% discounted rate for our group. (Don't forget to ask for a non-smoking room if that's your preference.) Rooms have wireless, refrigerators and microwave ovens. Here are our prices (including tax):

Queen-sized bed: $62.10
King-sized bed: $71.99
Two beds for two people: $74.70

Even if you have not yet signed up to attend the Northeast meeting but, suspect you'll be there, reserve your room now. You can always cancel (24 hours before you're supposed to arrive).

We are still working on other lodging and camping options. If you're looking for something more upscale, we have an $86.40 rate (for up to four people in a room) at the Sleep Inn in nearby Londonderry, New Hampshire, <http://tinyurl.com/bhw7t2>. Tell them that Keith has approved the rate for the DSA meeting. You must reserve these rooms by 30 June.

7th Annual Dragonfly Festival at Bitter Lake National Wildlife Refuge in Roswell, New Mexico

Robert Larsen <roblrsn@yahoo.com> and **Jerry K. Hatfield** <dragonflywatcher1029@yahoo.com>; photos by Jerry K. Hatfield

The Friends of Bitter Lake held their 7th Annual Dragonfly Festival at the Bitter Lake National Wildlife Refuge northeast of Roswell, New Mexico on 6–7 September 2008. According to park ranger and planner of the event Steve Alvarez, this year's event drew a whopping 2,000 plus people in attendance over the scheduled two day event. About 1,000 people participated in the two hour dragonfly tours on the refuge. Many of the visitors attended the hourly lectures and photographic presentations, and viewed the new permanent state-of-the-art displays at the Joseph R. Skeen Visitor's Center. The displays included a life-size fossil replica of dragonfly wings and a touch glass display of dragonflies which brought up video presentations of each species touched.

The two hour dragonfly tours were led by James Lasswell, Bill Landemann, Gordon Warrick, Robert Larsen, and Jerry Hatfield. Other tours of the Refuge included a hike to the Ink Pot sink holes in the Salt Creek Wilderness and closed areas of the refuge led by park officials Jeff Howland, Cecil Kimberlin, and Steve Alvarez. Vans for the tours were provided by Bitter Lake, Bosque Del Apache, and Sevilleta National Wildlife Refuges along with the City of Roswell Parks and Recreation Department.

Among the organizations that showcased displays at the festival were Dexter National Fish Hatchery, Guadalupe Mountains National Park in Texas, Lincoln National

Joseph R. Skeen Visitor's Center.

Odonata display in the visitor's center.

Sympetrum semicinctum (Band-winged Meadowhawk).

Libellula composita (Bleached Skimmer).

Forest, Living Desert State Park, Oasis State Park, Bottomless Lakes State Park, and the Rio Grande Nature Center and Zoo in Albuquerque. Guadalupe Mountains National Park had a very nice photographic display of the park's dragonflies and a nice list of their species. The New Mexico Department of Fish & Game also had interesting displays of their wildlife viewing areas.

The endangered Pecos Puzzle Sunflower was in full bloom in Hunter Marsh and provided a stunning backdrop for the dragonfly tours. Along the west slough, the endangered Wright's Marsh Thistle (which grows up to 14 feet) was also in bloom.

A list of the dragonflies and damselflies observed during the two day event highlighted some 53 species. Among the damselflies were the American Rubyspot (*Hetaerina americana*), Smoky Rubyspot (*H. titia*), Plateau Spreadwing (*Lestes alacer*), Paiute Dancer (*Argia alberta*), Blue-fronted Dancer (*A. apicalis*), Violet Dancer (*A. fumipennis violacea*), Kiowa Dancer (*A. immunda*), Lavender Dancer (*A. pallens*), Powdered Dancer (*A. moesta*), Aztec Dancer (*A. nahuana*), Springwater Dancer (*A. plana*), Blue-ringed Dancer (*A. sedula*), Dusky Dancer (*A. translata*), Double-striped Bluet (*Enallagma basidens*), Tule Bluet (*E. carunculatum*), Familiar Bluet (*E. civile*), Arroyo Bluet (*E. praevarum*), Plains Forktail (*Ischnura damula*), Mexican Forktail (*I. demorsa*), Black-fronted Forktail (*I. denticollis*), Citrine Forktail (*I. hastata*), and Desert Firetail (*Telebasis salva*).

Dragonflies included were the Common Green Darner (*Anax junius*), Blue-eyed Darner (*Rhionaeschna multicolor*), Eastern Ringtail (*Erpetogomphus designatus*), Plains Clubtail (*Gomphus externus*), Sulphur-tipped Clubtail (*G. militaris*), Russet-tipped Clubtail (*Stylurus plagiatus*), Four-spotted Pennant (*Brachymesia gravida*), Pale-faced Clubskimmer (*Brechmorhoga mendax*), Halloween Pennant (*Celithemis eponina*), Checkered Setwing (*Dythemis fugax*), Swift Setwing (*D. velox*), Eastern Pondhawk (*Erythemis simplicicollis*), Western Pondhawk (*Erythemis collocata*), Seaside Dragonlet (*Erythrodiplax berenice*), Comanche Skimmer (*Libellula comanche*), Bleached Skimmer (*L. composita*), Eight-spotted Skimmer (*L. forensis*), Widow Skimmer (*L. luctuosa*), Twelve-spotted Skimmer

Odonata habitat at Bitter Lake NWR.

Erythemis collocata (Western Pondhawk).

Erythrodiplax berenice (Seaside Dragonlet).

(*L. pulchella*), Flame Skimmer (*L. saturata*), Marl Pennant (*Macrodiplax balteata*), Blue Dasher (*Pachydiplax longipennis*), Wandering Glider (*Pantala flavescens*), Spot-winged Glider (*P. hymenaea*), Common Whitetail (*Plathemis lydia*), Desert Whitetail (*P. subornata*), Variegated Meadowhawk (*Sympetrum corruptum*), Band-winged Meadowhawk (*S. semicinctum*), (two-forms: *fasciatum* in the salt marsh and *occidentale* at the fresh water springs), Black Saddlebags (*Tramea lacerata*), and Red Saddlebags (*T. onusta*).

Dr. Relf Price brought along his interesting Odonata collection from the Valles Caldera National Preserve in northern New Mexico. He has been working the higher elevations between 8,000 and 11,000 feet in the preserve over the past three years. The most interesting were his Taiga Bluets (*Coenagrion resolutum*) taken on 27 June 2008 along with Black Meadowhawks (*Sympetrum danae*), Northern Bluets (*Enallagma annexum*), Boreal Bluets (*E. boreale*), and Northern Spreadwings (*Lestes disjunctus*). His Plains Forktail was about a third larger than those found at lower elevations. He also had an unusual intermediate female form of the Eastern Red Damsel (*Amphiagrion saucium*), showing jet black tibia and tarsus and a very large flange on segment 9 giving it the appearance of a gomphid.

This year's event is scheduled for 12–13 September.

"Dragonfly Days," 21–24 May 2009, Chasing Bugs for Ten Years!

The birding industry has established universal appeal, but birds and butterflies are not the only winged migrants to attract a crowd. Dragonflies and damselflies are gaining popularity among wildlife enthusiasts. Southern Texas is home to over 100 species, making it one of the most biologically diverse regions in the United States.

Last year's Dragonfly Days had some great findings of a Black Pondhawk (*Erythemis attala*) and a Three-striped Dasher (*Micrathyria didyma*). Within the weeks following the festival the first US record of Mexican Scarlet-tail (*Planiplax sanguiniventris*), first US record of Arch-tipped Glider (*Tauriphila argo*), and a Blue-spotted Comet Darner (*Anax concolor*) were all found in the area of the festival.

The tenth annual Dragonfly Days weekend is a chance to see why dragonflying is becoming as popular as birding in some places. The event takes place in Weslaco 21–24 May and is sponsored by the Estero Llano Grande State Park World Birding Center site and the Valley Nature Center in Weslaco, Texas.

For those who want to learn how to tell a skimmer from a glider, and understand how these colorful insects play a vital role in maintaining a healthy environment, Dragonfly Days will offer seminars, field trips, social events and a banquet with a silent auction. The event's host hotel is the Holiday Inn Express in Weslaco, so reserve you room soon (ask for the festival rate using code: DFD). The seminars will be at the hotel and the field trips will also leave from that location. Shuttles will be provided for guests to get to the social events and banquet that are not located at the hotel.

The leaders and speakers are experts with many years of experience with odonates. They will be guiding field trips to area wetlands with the greatest dragonfly diversity. Organizers say visitors should make sure to bring binoculars, sturdy shoes and protection from the sun. For local families and children, the Valley Nature Center is also hosting the Dragonfly Family Nature Day Sat., 16 May, from 10 AM to 2 PM, filled with fun and educational activities for all ages.

For more details about Dragonfly Days and the Dragonfly Family Nature Day, call (956) 969-2475 or e-mail <info@valleynaturecenter.org>. Pre-registration is required for all seminars, field trips and the banquet. Register by 30 April to avoid a price increase. More information can also be found on the Valley Nature Center's web page, <www.valleynaturecenter.org>.

The Everglades Plus

Walter Chadwick, Bronxville, New York, <mrcnaturally@optonline.net>

November 5–9, 2008 was spent in south Florida exploring Everglades National Park and surrounding areas. I was interested in seeing what odonates were in this part of Florida. Previous trips to Florida had been to the Space Coast for bird watching and visiting family. A Comfort Inn in Florida City, eight miles from the Everglades was used as a base.

Other reasons for the visit were bird watching and to see the threatened American Crocodile. There are only about 500 to 1200 remaining in Florida where its range is limited to the southern tip of the Everglades, Florida Bay and the Upper Keys (National Audubon Society, 1998; Wikipedia). The crocodiles were seen on a tour boat from Flamingo in the Buttonwood Canal. A good number of bird species were seen but the number of birds was low with the exception of Turkey Vultures.

November 5, 6, 8, and 9 were spent exploring Everglades National Park. November 7 was spent at Dagny Johnson Key Largo Hammock Botanical State Park and at Canal 111E on SR 9336. The Key Largo site is a rockland hammock containing many tropical tree species. A 0.75 mile paved walking path provides access. Further exploration requires a back country permit. Odes seen here were *Erythemis vesiculosa* (Great Pondhawk), *Erythrodiplax umbrata* (Band-winged Dragonlet), and *Pachydiplax longipennis* (Blue Dasher). This site was visited in the mid morning.

Canal 111E on SR 9336 was visited thanks to an article in Argia by J.J. Daigle (Daigle, 2008). It was here that I got my first sighting of *Crocothemis servilia* (Scarlet Skimmer). This species was accidentally introduced from Asia where it ranges from the Middle East to Japan and Australia, and is now found in south Florida, the Florida Keys, Cuba, and Hawaii (Dunkle, 2000). Also seen at the canal were *Pachydiplax longipennis* (Blue Dasher) and *Perithemis tenera* (Eastern Amberwing). This site was visited in the afternoon and the day had turned cloudy and windy.

Sites visited in the Everglades were: the borrow pit at the Coe Visitor Center, Anhinga Trail and the Gumbo Limbo Trail at Royal Palm, Eco Pond and by tour boat the Buttonwood Canal, Coot Bay and Whitewater Bay at Flamingo, Paurotis Pond, Mrazek Pond, Lone Pine Key and various sites along the park's roads. Everglades National Park was the first national park created to protect a threatened ecological system. This "River of Grass" is unique as there is no other place like this in the world.

A word about threats to Everglades National Park, the natural flow of water to the park has been disrupted for years with serious consequences. Water control structures outside the park disrupt the natural flow of water which alters the natural cycle of the Everglades. Pollutants from human activity are also a problem. A restoration project with Federal and State funds seeks to restore a more natural cycle to the Everglades.

The following odonates were seen in the Park.

Enallagma signatum, Orange Bluet
Ischnura ramburii, Rambur's Forktail
Brachymesia gravida, Four-spotted Pennant
Celithemis eponina, Halloween Pennant
Crocothemis servilia, Scarlet Skimmer
Erythemis simplicicollis, Eastern Pondhawk
E. vesiculosa, Great Pondhawk
Erythrodiplax umbrata, Band-winged Dragonlet
Orthemis ferruginea, Roseate Skimmer
Pachydiplax longipennis, Blue Dasher
Pantala flavescens, Wandering Glider
Perithemis tenera, Eastern Amberwing
Tramea onusta, Red Saddlebags

GLOM—Great Lakes Odonata Meeting

When: 10–12 July 2009
Where: Indiana Dunes Area—Portage, Indiana

Further updates will be posted next month to: GLOM Yahoo Group site, <http://groups.yahoo.com/GLOM>.

Call for Technical/Non-Technical Presentations and Displays

Duration 30–40 minutes

Please e-mail Deb Mikasser <dmikasser@hotmail.com> ASAP with the following:

Title
Author/Affiliation
Brief Abstract
Audio-visual format and requirements
Date Preference (10 or 11 July)

Some species such as *Crocothemis servilia* (Scarlet Skimmer), *Erythemis vesiculosa* (Great Pondhawk), *Erythrodiplax umbrata* (Band-winged Dragonlet), *Orthemis ferruginea* (Roseate Skimmer), and *Tramea onusta* (Red Saddlebags) are southern/tropical species and are not seen where I live. It was especially satisfying to see these species as they were all first sightings for me.

Thanks to John Abbott for his help with identifications.

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Congregating Odes

Chip Krilowicz, Haddonfield, NJ <chippop@verizon.net>

Near the end of the ode season last year my attention was also stretched between butterflies, birds, and plants. While looking for some rare butterflies in Cape May (*Urbanus proteus*—Long-tailed Skipper and *Danaus gilippus*—Queen), I happened to come across a wheeled pair of *Sympetrum ambiguum* (Blue-faced Meadowhawk). Pavilion Circle is a ¾ acre township park, which is surrounded by homes. It is a manicured lawn boarded by plants targeting butterflies. As I continued my observations I came upon another wheeled pair. I then stopped and decided to look more closely for *S. ambiguum*. To my surprise I was surrounded by them. Earlier, I had unsuccessfully been searching in all the local ponds and surrounding fields for this species. My count for this area was 60 males and 8 females with four of those in a wheel. I am not 100% sure why all these bugs were here. The dominant activity was basking and mating. I did not make any observation of feeding behavior. I could only conclude that there was something unique about this site that attracted so many individuals. The date was 14 October 2008 and it happened to be a new late date for New Jersey.

On 22 October 2008 I decided to look for *Aeshna umbrosa* (Shadow Darner) in Atlantic County where it had not been recorded. I picked Makepeace Wildlife Management Area in Mayes Landing. While slowly driving down a deserted blacktop drive surrounded by overgrown pines a small bug hit my windshield. I stopped the car and jumped out. It was a *Lestes congener* (Spotted Spreadwing) and I was able to photograph and collect it. I decided to walk this section of road. By the time I finished my tally, I counted 50 male and 10 female *L. congener* and one *S. ambiguum* (late dates are fleeting). I never expected to see this spreadwing here, for it is an Atlantic County record and I had no idea where there was any standing water nearby. Only 100 yards away is a very large vernal pool which was completely dry. Again I did not observe any feeding behavior and none were in a wheel. I wonder why they all decided to congregate here? May be just another location to pick a mate. I did not locate *A. umbrosa* but I was happy with the day's results.

Two Remarkable Observations from Puerto Rico

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During a short stopover at Lucia Beach east of Yabucoa on the eastern coast of Puerto Rico (4 December 2008), some dragonflies were to be seen near a small brackish pond some ten yards from the shore. One of them was a male *Crocothemis servilia* (Scarlet Skimmer) that just for a moment perched on a twig above the surface of the water. As the species is very similar to the European *C. erythraea*, I am confident of the identification. *C. servilia* has not been reported from Puerto Rico previously. It is found throughout southeastern Asia, west to Turkey (Dijkstra & Lewington, 2006), and it was introduced to Florida in the 1970s (Paulson, 1978a, 1978b). More recently it was observed in Cuba (Needham et al., 2000). It probably reached Puerto Rico via the Caribbean islands, as its ability to cover great distances over sea can not be doubted; in its native range it is even found on the Andaman Islands (Starmühlner, 1986), which are farther from the Asian continent than the Antilles from Florida, Venezuela or each other.

Also some individuals of *Erythrodiplax umbrata* (Band-winged Dragonlet) were near this same pond, one of which I was able to photograph. This male is noteworthy because of the irregularity of its wing pattern. On the left forewing the dark band is missing totally, on the right one there is only an irregular dark mark near the anterior

margin, and the dark bands on the hindwings are much lighter at the rear. This asymmetrical lack of pigment may be due to an anomaly in development. There were other males of this species with normal bands as well.

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Scarlet Skimmer (*Crocothemis servilia*) in Jamaica

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Eladio Fernandez of the Dominican Republic sent me some odonate photos from Jamaica. Among them is a photo of a male *Crocothemis servilia* at an artificial pond on the grounds of the Iverclaud Hotel in Black River, St. Elizabeth Parish. The photograph was taken in July 2008. First recorded in Florida in 1977 (Paulson, 1978), this Asian species has become common and widespread on the Florida peninsula since that time. It was thought to have been introduced there accidentally, and it has subsequently been found to be widespread in Cuba (Trapero & Naranjo, 2003). But now it is also known from Jamaica, and one wonders if the introduction might have been originally into the West Indies, with the species spreading naturally from there, along with other tropical species moving northward into the USA. Probably we will never know, but it is obvious that this Oriental species is quite well established in the New World, and it will be interesting to follow its continued spread.

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Corkscrew *Chrysobasis* Soirée

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Dateline 26–28 January 2009: Just got back from Corkscrew Audubon Sanctuary with good news about the *Chrysobasis lucifer* (Lucifer Damsel)! This seasonal winter species is now flying at the north end, west end, and the south end of the wooden boardwalk, and especially at that off-site location north of the parking lot where Cary Kerst and I saw a pair in February 2008.

Many of them were young, but not soft, with a few hard specimens mixed in with them. It looks like the few

mature males may have two color phases, one blue with an orange tail and the other, emerald-green with a reddish tail. No indication of a yellow tail as seen in the Central America specimens. Females are either light blue or a dark dusky gray. They flew from 9:30 AM until around 4:00 PM, especially in swamp fern patches among the cypress trees. There was some standing water, about ankle deep. The females flew about two feet above the ground around the ferns. The males flew higher, about eye level to eight feet up, perching on vines and leaf tips. The only other odonates seen with them were a few *Ischnura posita* (Fragile Forktail), *I. prognata* (Furtive Forktail), and a couple of *Gynacantha nervosa* (Twilight Darner).

I saw some clashes between mature males and young males. I saw one mated pair and I observed one female laying eggs in the stem of *Lycopus rubellus*. I have the plant with me now and I might try to rear out the eggs which were punctured into the soft stem. It was a fun, but an exhausting swamp stomp with 80 degree weather, sunny, clear, and no wind! I am confident folks can see lots of them in January and early February in nearby cypress domes and in the Big Cypress Swamp in Collier and

Hendry counties. I think they will be gone by March. I would like to thank Annie and Steve Collins for alerting me that they photographed a couple of females a month earlier at Corkscrew in mid-December. Also, my thanks to JVO and Sharon Weaver, and the Corkscrew staff of Mike Knight and interns Kyle Pritchard, Kate Halstead, and Beth Beimel for their help in the field.

Collecting Adventures in Central Alaska, Summer 2008: In Memory of Jake (1989–2009)

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Fairbanks, Alaska hosted the state's first celebration of odonates, "Dragonfly Day", on the first day of summer 2008 thanks to a grant from the U.S. Fish and Wildlife Service (USFWS). In addition to the Dragonfly Day activities, the grant supported workshops on odonate collecting and identification as well as several other public outreach events (see article in this issue), including slide shows and odonate walks in Fairbanks and other communities in central Alaska. This article covers some of the highlights of opportunistic odonate sampling undertaken while traveling to these far flung communities.

Members of the Dalton Highway Odonate Expedition of 2008 with the Trans-Alaska Pipeline in the background (l-r): John Hudson, Lisa Saperstein, Joanna Fox, Pauline Strong, and Bob Armstrong. (Photo by John Hudson)

The Road to Tok

On the morning of 22 June Bob Armstrong and I, along with

A mosquito samples Jake outside the Delta Junction Visitor and Information Center. Photo by Bob Armstrong.

One of thousands of lakes in the 3.5 million acre Koyukuk National Wildlife Refuge, Alaska. Photo by John Hudson.

Bob's wife Pauline and her dog Jake, drove south from Fairbanks on the Richardson Highway. Later in the day we were expected at Moon Lake State Park—an oxbow lake next to the Alaska Highway outside of Tok, where we would conduct a dragonfly walk for the public. With little time to spare for collecting, we kept our eyes peeled for bogs. Bogs are the favored haunt of emerald dragonflies (*Somatochlora*), and the few odonate taxa still awaiting discovery in Alaska are likely to be emeralds.

Forty-five bog-less minutes later we decided to pull over at the next sign of water, a gravel pit near the town of Moose Lake. Despite poor ode habitat and hungry trout patrolling the shallows, a few specimens were out enjoying the sunny day: darners, skimmers, and bluets, all well documented in this part of the state. The real excitement came when Jake, an old blind, puppy-sized, and diapered dog was mistaken for an abandoned pet and nearly hauled off to the pound for euthanasia.

With Jake safely back in our possession, we headed south again passing Eilson Air Force Base and its seemingly endless three-mile long runway. Thick forest that surely hid countless ponds and wetlands from our view soon began to thin. Finally, we spotted a small pond in a rutted power line right-of-way and pulled over for a quick investigation.

The site was indeed boggy and the air thick with odes, but I couldn't help but notice a narrow gap in the forest that appeared to open into a vast clearing. Leaving the others behind, I made my way to the gap which revealed an expansive bog—a bog unlike any I had seen before. Although quite wet, there was virtually no open water, no small pools that typically dot the bogs in this area, yet each boot-sucking step into the thick sphagnum brought water dangerously close to soaking my socks. This bog looked to be quality *Somatochlora* habitat and several male emeralds were soon observed hovering over the vegetation. These turned out to be *Somatochlora franklini* (Delicate Emerald), a northward range extension. *Aeshna sitchensis* (Zigzag Darner) and the wonderfully blue *A. septentrionalis* (Azure Darner) were netted as well. After 20 minutes of fast and furious collecting, it became apparent that a second emerald species had been collected but had gone unnoticed. This one was *Somatochlora kennedyi* (Kennedy's Emerald), a new state record first documented (photographically) in Alaska by Martin Reid in 2007. After taking our own photos, we kept a few males as vouchers before racing off to Moon Lake. On our return to Fairbanks the following day, we visited the site again and collected a female *S. kennedyi* as she laid eggs in habitat that, at the time, could barely be considered aquatic.

The Haul Road

We can thank oil for the Haul Road, otherwise officially known as the James Dalton Highway. Barely two lanes of mostly dirt and gravel, the famous highway runs north from outside Fairbanks on its 414 mile journey to the oil fields of Prudhoe Bay on the Arctic Ocean. Next to the road the 800 mile long trans-Alaska pipeline faithfully follows along, sometimes under and sometimes over the ground depending on whether permafrost is present. Our destination was Coldfoot at milepost 175, an old mining town turned construction camp and now barebones truck stop on the south edge of the Brooks Range. The town of 13 hearty souls is also the home of the Arctic Interagency Visitor Center, a state-of-the-art facility staffed by Bureau of Land Management, USFWS, and National Park Service personnel. Bob and I would give a couple of slide shows there for the tourists that spill out of buses a few times each week looking for entertainment at the visitor center.

The three of us and Jake left Fairbanks for Coldfoot on the morning of 24 June, along with Lisa Saperstein and Joanna Fox of the USFWS. Rain dampened our collecting plans for the first couple of hours, but as we left the Ray Mountains and Yukon River behind the sky began to clear over a rolling landscape of tundra and boreal forest in various stages of post-fire succession. We investigated beaver ponds, small lakes, and gravel pits where pull-outs offered a refuge from the 18-wheelers that occasionally barreled down the road. By day's end our species list included *Leucorrhinia borealis* (Boreal Whiteface), *L. hudsonica* (Hudsonian Whiteface), *Aeshna sitchensis*, and *Coenagrion resolutum* (Taiga Bluet), all collected near a beaver pond, and *Enallagma annexum* (Northern Bluet) and *E. boreale* (Boreal Bluet) found at a roadside lake where nesting loons voiced their displeasure at the mob of net-swinging humans. Our first day ended at Marion Creek in a charming solar-powered cabin built by the USFWS. After a wonderful meal prepared by Chef Lisa, we settled into our sleeping bags and dreamed of emeralds.

A few days later we filled our tank with gas at $5 per gallon (next to an oil pipeline no less) and turned back south towards Fairbanks. Cloud-filled skies gradually gave way to sunshine as we descended from foothills into the upper Koyukuk River Valley. Gradually, we added more species to our trip list: *Coenagrion interrogatum* (Subarctic Bluet), an emerging *Aeshna juncea* (Sedge Darner), and finally an emerald, not a *Somatochlora*, the ubiquitous *Cordulia shurtleffii* (American Emerald).

One of the more unique habitats we visited, a thermokarst lake, is formed when subterranean ice thaws following a wildfire, earthquake, or climate change. This one supported a duck and sandpiper, both clearly upset mothers, as well as *Coenagrion resolutum*, *Enallagma boreale*, *L. hudsonica*, and one elusive emerald. Our next stop, a wonderful floating bog with the firmness of a half-empty waterbed, produced some awkward attempts to collect a pair of tandem emeralds, but it was not to be. The bog did yield *Aeshna septentrionalis*, *Leucorrhinia proxima* (Belted Whiteface) and the smallest of whiteface dragonflies, *L. patricia* (Canada Whiteface), the latter a range extension in Alaska.

Our last stop on the Haul Road was an irresistible little pond only a few feet from the road. The air was thick with odonates. Emeralds were spotted immediately sending the most competitive of our team members into a crazed frenzy of flailing nets as we abandoned our patient sit-and-wait approach for the invariably futile chase-down-the-really-fast-insect strategy. As a passing tractor-trailer sent a dust cloud across the pond, calmness prevailed and we pulled the trip's first *Somatochlora* from the net—*S. hudsonica* (Hudsonian Emerald), a new range extension for this relatively common northern species. Also netted here were *Aeshna interrupta* (Variable Darner) and *Libellula quadrimaculata* (Four-spotted Skimmer). Back on the road—five dusty dragon-slayers crammed into a stuffy truck, we bumped along the Haul Road in the dirt cloud of another big rig and discovered the importance of access to fresh air when traveling with a dog in diapers.

On to the Yukon

Later that summer I returned to central Alaska at the end of July (24–28) for another outreach and collecting trip. This one would be in Galena, a small village 270 miles west of Fairbanks on the Yukon River and accessible only by air or water. On 24 July I found myself on a small twin-engine plane for the 75 minute flight from Fairbanks to Galena's airport, an air base recently abandoned by the Air force that dwarfed the tiny town of 600 or so. I was met there by USFWS biologist Karin Lehmkuhl Bodony of the Koyukuk/Nowitna National Wildlife Refuge (NWR) Complex. Shortly thereafter we were driving the eight-mile road system to check out local odonate habitats which consisted of abandoned river channels, marshes, bogs, and small ponds. At Duck Lake we picked up *A. sitchensis*, *A. interrupta*, and a teneral *Sympetrum internum* (Cherry-faced Meadowhawk). At Elmer's Pond we added *Lestes disjunctus* (Northern Spreadwing), *A. septentrionalis*, and *A. juncea*. Later in the evening I investigated a small sphagnum and buckbean (*Menyanthes trifoliata*) floating bog near town and found *A. subarctica* (Subarctic Darner), *L. dryas* (Emerald Spreadwing), and one emerald that got away.

Although the first few hours of collecting had produced a decent list for this far north, insect abundance, excluding the ever present clouds of annoying gnats, was curiously low considering the arctic summer usually swarms with odonates. One possible explanation for the low turnout was revealed later that evening while collecting around Karin's garden: dead zucchini plants killed by a frost earlier in the week. Regardless of the reason for low odonate numbers, it was a shocking reminder of how far north I was.

The next day was a sunny one, but with clouds in the forecast a flight into the refuge planned for later in the trip was moved up to take advantage of the weather. About 40 miles north of town, USFWS pilot Jerry Floyd brought the Supercub down on one of thousands of lakes in the 3.5 million-acre Koyukuk NWR. We quickly went about collecting and about an hour later had nine species including several new records for the trip: *A. eremita* (Lake Darner), *C. shurtleffii*, *E. boreale*, *E. annexum*, *L. proxima*, and *Sympetrum danae* (Black Meadowhawk). Additional collecting in Galena during the next three days added *C.*

resolutum and *L. quadrimaculata*. One more species would be added to the list before leaving Galena, but not until the trip's final minute.

Four days of intensive collecting, usually well into the arctic night, had produced a single emerald where surely there were more to be had. On our way to the airport, Karin and I made tentative plans for my return next year; this time earlier in the season in hopes of adding a few early-summer species to the Galena list. As we pulled up to the runway, it occurred to me that there was one last collecting opportunity to be had. I stepped out of the SUV and immediately found what I was looking for on the grill: the dried, crumpled, and headless remains of a dragonfly. After carefully removing the carcass, I moved out of the shade to examine the female emerald with my loup. A Ford had collected an *S. kennedyi* somewhere that summer on Galena's meager road system! It would be an automatic range extension for this new-found species in Alaska. The short trip had produced a respectable 17 species—16 more than were previously known from this part of the state, placing Galena among the top five most ode-diverse areas in Alaska.

Odonate Outreach in Central Alaska, Summer 2008: The "Dragonfly Roadshow"

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People in several interior Alaska communities had the opportunity to learn about dragonflies in June and July 2008, thanks to a grant from the U.S. Fish and Wildlife Service (USFWS) and the efforts of numerous partners and volunteers. The grant also funded opportunistic collecting efforts in the region (see article in this issue) as participants travelled between outreach events. This article covers the educational highlights of the trip.

John Hudson and Bob Armstrong of Juneau, Alaska, co-authors of the field guide "Dragonflies of Alaska" and the children's book "Dragons in the Pond," were the main attractions of the "dragonfly roadshow." They were accompanied by Bob's wife, Pauline Strong and, depending on the location, various USFWS staff.

The events began on 19 June in Fairbanks where John and Bob spent two days training biologists to collect and identify dragonflies with the help of Kanuti National Wildlife Refuge (NWR) Wildlife Biologist Lisa Saperstein. An important goal of the training sessions was to encourage attendees to use their new found skills to opportunistically collect odonates in far-flung field camps throughout the state. Lisa had done some advanced scouting in the weeks before, locating ponds to visit that supported a variety of odonate species. The training was primarily targeted at biologists, managers, and students associated with various organizations in the Fairbanks area. Seven to eight people participated each day, hailing from a number of different organizations including Kanuti, Arctic, and Yukon Flats NWRs, the University of Alaska Fairbanks, the Alaska Bird Observatory, Fountainhead Development, Friends of Creamer's Field, Friends of Alaska Refuges, and an independent naturalist.

Everybody kept busy chasing odonates and trying their hand at identifying a number of different species: *Enallagma boreale* (Boreal Bluet), *E. annexum* (Northern Bluet), *Coenagrion angulatum* (Prairie Bluet), *C. resolutum* (Taiga Bluet), *C. interrogatum* (Subarctic Bluet), *Nehalennia irene*

John Hudson shows Nicia and Lesae Pfeffer a *Coenagrion resolutum* (Taiga Bluet) during a dragonfly walk at Moon Lake near Tok, Alaska in June 2008. Photo by Bob Armstrong.

(Sedge Sprite), *Aeshna eremita* (Lake Darner), *Cordulia shurtleffii* (American Emerald), *Somatochlora hudsonica* (Hudsonian Emerald), *Leucorrhinia proxima* (Belted Whiteface), *L. hudsonica* (Hudsonian Whiteface), *L. borealis* (Boreal Whiteface), and *Libellula quadrimaculata* (Four-spotted Skimmer).

An evening talk at the University of Alaska Museum was attended by around 30 people, including local residents and tourists. John's presentation focused on the biology and ecology of dragonflies but it also included enough odonate trivia, interesting factoids, and superb photos to keep the youngest member of the audience, a 5-year-old, entranced. Bob, who was responsible for many of the photos in John's talk, focused on the methods, trials, and tribulations of photographing odonates.

The crowning event of the Fairbanks visit was "Dragonfly Day" on 21 June, a public event held at Creamer's Field, a popular bird watching area in town. About 300 people attended the affair, which was co-hosted by the non-profit group Friends of Creamer's Field, directed by Melissa Sikes, and the USFWS. Attendance was far greater than expected given that it was a new event and there was significant competition from Summer Solstice activities around town, including a street fair. Dragonfly Day featured three dragonfly walks, displays about dragonflies and wetlands including a fish tank with odonate larvae and other aquatic invertebrates, children's crafts, and vendors selling dragonfly-related crafts and artwork.

Children and adults try their hand at collecting odonates at Dragonfly Day in Fairbanks, Alaska, 21 June 2008. Photo by Bob Armstrong.

The dragonfly-collecting walks, scheduled to run about two hours each, were the primary attraction, with each walk attracting 40–50 people. Nets were provided, and people were able to catch, or at least view, six species of odonates: *Lestes dryas* (Emerald Spreadwing), *Coenagrion resolutum*, *Somatochlora hudsonica*, *Leucorrhinia borealis*, *Libellula quadrimaculata*, and *Sympetrum internum* (Cherry-faced Meadowhawk). *L. dryas* and *S. internum* were a bit of a surprise as they typically emerge later in the season. Most of the *S. internum* were slow moving tenerals, making them tempting targets for the younger kids but providing an opportunity to educate people about the fragility of dragonflies shortly after they emerge. The sight of up to 50 people, young and old alike and most with nets, excitedly descending upon a small pond all at once was an amazing thing to behold.

After Dragonfly Day and the other Fairbanks events, John, Bob, and Pauline drove three hours south to Tok, Alaska where they participated in two days of activities organized by Tetlin NWR Supervisory Park Ranger Heather Johnson. Twenty-one people attended a dragonfly walk at Moon Lake, and three people came to the evening public slide show. Ten members of the Tetlin NWR staff participated in odonate identification training, which was held inside using preserved specimens due to rain. En route to Tok, the trio collected at several ponds and bogs, with some interesting results, as documented in another article in this issue.

The crew drove back to Fairbanks, picked up Lisa and Kanuti NWR Deputy Manager Joanna Fox, and headed north to Coldfoot on 24 June for a three day trip. Their destination was the Arctic Interagency Visitor Center, a state-of-the-art facility staffed by Bureau of Land Management, USFWS, and National Park Service personnel. At times, poor weather put a damper on collecting actives en route, but it didn't prevent people from attending John and Bob's evening talks at the center. Fifteen people showed up for the first talk and 62 attended the second, most of whom were out-of-state tourists. Kanuti NWR Park Ranger Kristin Reakoff had set up tables featuring odonate information and craft activities for daytime visitors.

The final event on the dragonfly roadshow was a trip that John

made to Galena 24–28 July. Galena is a village of about 600 people located on the Yukon River, about 275 miles west of Fairbanks, that is only accessible by air or boat. It is the home of the Koyukuk/Nowitna National Wildlife Refuge Complex, and John's visit coincided with the 9th annual Galena Science Camp, hosted by the Complex. Supervisory Park Ranger Karin Lehmkuhl Bodony organized a number of educational activities in addition to collecting opportunities. On 25 July, the community turned out for a cookout and potluck (including dragonfly-shaped cookies!) outside the community center, followed by a slide show attended by approximately 35 people. Afterwards, science camp participants gathered at the local floatplane pond and spent an hour of fun chasing, catching, and identifying odonates.

The success of the 2008 events, and the high level of interest generated in each community visited, exceeded expectations of the organizers and left them eager to continue their efforts in the future. They succeeded in obtaining another USFWS grant for 2009, and planning is already underway for the second annual Dragonfly Day in Fairbanks and an expansion of odonate outreach into new interior Alaska communities.

Acknowledgements

This project would not have been possible without the help of numerous partners and volunteers in addition to those already mentioned: Alaska Bird Observatory, Alaska Department of Fish and Game, Alaska Geographic, Maria Berger, Cathy Curby, Nancy and Jim DeWitt, Sheila Dufford, Fairbanks Soil and Water Conservation District, Friends of Alaska National Wildlife Refuges, Friends of Creamer's Field volunteers, Fountainhead Development, and University of Alaska Museum of the North.

New Records of Odonata from South Carolina

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2008 was a good year for odonates in South Carolina! Due largely to the efforts of the attendees at the Southeastern DSA meeting in Cheraw in early May, both during the meeting and after, four new species were documented for the state as a whole, and many additional county records were added as well.

Because the last complete treatment of South Carolina odonates was more than 25 years ago (White et al., 1980, 1983) we consider the list on OdonataCentral (2007) to be the current state list, since it incorporates the records compiled by T. Donnelly (Donnelly, 2004a, b, c) for the dot-map project. With the additions below, the South Carolina State list now stands at 156 species.

The new species:

Gomphus septima (Septima's Clubtail). Previous reports of this species from South Carolina (e.g., as cited in Needham et al., 2000) have been described as "unconfirmed" (Bick, 2003, who cites T. Donnelly, pers. comm.). On 9 May 2008 at the outfall of Eureka Lake, Cheraw State Park, DSA meeting participants encountered this species (photos on deposit at OdonataCentral, confirmed by Steve Krotzer; specimens in collections of Dennis Paulson, Steve Krotzer, and Jim Johnson). Aside from the rocky outfall below a dam, the habitat where we encountered these individuals (narrow sandy stream, lakeside boardwalk and woods) is not typical habitat for this species mostly of rocky rivers. Steve Krotzer later speculated that these individuals might have dispersed from a larger population at the nearby Great Pee Dee River (which we didn't check during the meeting, unfortunately).

Ophiogomphus edmundo (Edmund's Snaketail). On 14 May, on the way back from the meeting, Marion Dobbs stopped at the Chattooga River where Rte. 76 crosses from South Carolina into Georgia and photographed several interesting *Ophiogomphus*, most of which appeared to be *O. edmundo*. This was later confirmed with additional photographs and specimens (vouchers now at the Florida State Collection of Arthropods and in the collections of Dennis Paulson, Steve Krotzer, Chris Hill, and Marion Dobbs). This discovery adds a new drainage to the known distribution of this scarce species, and later observations by Marion Dobbs and Giff Beaton extended the flight period to at least 15 June.

Gomphus* (*Hylogomphus*) *viridifrons (Green-faced Clubtail). Also on the Chattooga, Giff and Marion followed up on some intriguing *Hylogomphus* sightings and photographs, and on 22 May they confirmed Green-faced Clubtail with in-hand photographs and a specimen.

Miathyria marcella (Hyacinth Glider). From the other end of the state, Sharon Brown had documented this species at Savannah NWR, Jasper County, with photographs on 27 September 2007 (on deposit at OdonataCentral, confirmed by S. Krotzer). Sharon reports that it is a regular at the Savannah NWR and occasional elsewhere, including

Donnelly Wildlife Management Area, Colleton County. Flight dates in 2007 and 2008 ranged from 15 August to 27 September.

In addition to the above new (or newly documented) state records, many new county records were added on post-trips by George and Phoebe Harp, Dennis Paulson and others. Dennis Paulson's trip to Aiken County was particularly notable. Aiken County was already one of the best-collected counties in South Carolina, with 93 species, the highest total of any South Carolina county. Dennis, in spending parts of two days at a sandhill pond, was able to add eight species, bringing the total to 101, the first South Carolina county to break into three digits.

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Book Review: Dragonflies and Damselflies of South Africa.

Samways, M. J. 2008. Pensoft, Sofia, 297 pp. ISBN 978-954-642-330-6, hardback, 145 × 210 mm. Euros 39.00. Available from <http://www.Pensoft.net>.

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In 2007 I attended the World Dragonfly Association Congress of Odonatology in Namibia; many of the delegates were identifying specimens using the colorful Dragonflies and Damselflies of Namibia (Suhling & Martens, 2007), just hot off the press. A few weeks later I was on the southern coast of South Africa using the excellent Tarboton guides (Tarboton & Tarboton, 2002, 2005) but wondering how the soon-to-be-released Samways' fieldguide to the Odonata of South Africa would treat this wonderful fauna. When travelling near Cape Town I visited Michael Samways' lab; everyone was looking forward to the new book, keen to try it in the field and laboratory.

As in many regions around the world, interest in the Odonata of southern Africa has blossomed with the advent of digital photography, the internet and the realization by naturalists and biologists that dragonflies and damselflies are fascinating animals to watch and study. Because, for invertebrates, odonates are relatively well known, identifiable and often specific to particular habitats, they have become important subjects for conservation planning and the recovery of aquatic ecosystems. This is particularly true in South Africa, where the Odonata fauna is rich in endemic and rare species, many of which are threatened by deteriorating habitats.

Michael Samways is professor and Chair of the Department of Conservation Ecology and Entomology, Stellenbosch University, where he heads one of the world's leading invertebrate conservation biology groups. He and his students have studied dragonflies and damselflies in South Africa for years and have particularly concentrated on the conservation of threatened species. With such experience, Michael continues the legacy of Elliot Pinhey, the doyen of southern African odonatologists, and is eminently qualified to produce the modern equivalent of Pinhey's pioneering book on the Odonata of the region (Pinhey, 1951). Samways' new guide is a summary of much of his odonatological experience in South Africa and is a major accomplishment in the study of African dragonflies and damselflies.

The two Tarboton guides, the first publications designed for the field identification of South African Odonata, are

the main competitors for any new field guide on the South African fauna. The first volume treated the Anisoptera, the second dealt with the Zygoptera. Samways' book has the edge in convenience here, as both major groups are treated in the same book. For the beginner, however, perhaps the Tarboton books, with their simplicity, less information and large-format specimen scans, are more useful for quick identification in the field. With a specimen in the hand, one can simply hold it up to the images and compare details. To use the Samways book effectively in the field, one needs a bit more schooling in field identification (a knowledge of wing venation and other dragonfly morphology is a big asset) and must contend with much more information, densely presented. All this useful information, however, is printed on a single page per species, which makes each species account a compact, comprehensive unit. Nevertheless, more than one person has told me that they prefer the Tarboton books in the field and the Samways guide in the laboratory.

The Samways book has two kinds of identification keys focused on males, one based on color patterns that distinguish groups of species (not necessarily related) and another, illustrated mostly with wing scans and genitalia drawings, that keys all species. The latter is a tour de force, bringing clarity to a complex exercise; my South African colleagues are very happy with this unique key and its utility. Most of the hundreds of photographs of live or freshly killed specimens in the Samways' volume are excellent and, with diagnostic characters indicated on them, are fine aids for identification. They are small (⅛ page) and many are printed too darkly, resulting in a loss of detail (much to the chagrin of the author, I'm sure)—this reduces their effectiveness for field use. Most of the photographs are by the author himself and his effort in amassing this collection is a testament to his dedication and persistence.

Dragonflies and Damselflies of South Africa begins with a useful, well-illustrated introductory section that defines the order Odonata, describes the life cycle and the behavior of dragonflies and damselflies in South Africa and outlines the diverse habitats used by them in the region. South Africa is largely arid or semi-arid and aquatic habitats are often not abundant. The diversity of habitats is intriguing, however, ranging from swamp forests in the northeast, where many tropical species reach their southern range limits, to small mountain streams that support many of the endemic species in the country; and from artificial ponds, common in an arid country, to streams lined with alien tree species, a condition that threatens many rare species by creating too much shade. A section on microhabitats deals with how species generally use their habitat—does a dragonfly perch on rocks or twigs? Does a species fly over water or in beds of grass or rushes?

A variety of other useful introductory sections deal with topics such as scientific and common names, interesting dragonfly areas and conservation issues. In the section on names, Samways describes the construction and utility of scientific names. As might be expected, the taxonomy of African Odonata is unstable and there are a number of differences in the species lists of Samways and Tarboton. For example, two new and very rare species of the endemic Presbas (*Syncordulia*) have been recently described from the Western Cape (Dijkstra et al., 2007). In the libellulid genus *Diplacodes*, Samways uses the name *D. pumila* for the species that the Tarbotons call *D. deminuta*; he places the Barbet Percher in *Diplacodes* (*D. luminans*) but the Tarbotons place it in *Philonomon*. These changes result from post-Tarboton systematic studies (Dijkstra, 2006). There are other examples of such taxonomic differences.

With English, Afrikaans and various native languages used in South Africa, the use of common names there can be confusing. The Tarboton books include Afrikaans names, but Samways restricts himself to English ones. Several English names have been used for many South African species, but the author chooses only one and mentions others (but not all) in the checklist at the back of the book. Many of the rejected names are those preferred by the Tarbotons; this might result in some confusion, especially for beginners or naturalists who prefer common names over scientific ones. In North America we are fortunate that this problem has been overcome by our Dragonfly Society of the Americas, which has a committee that oversees an accepted, universally used species list having a single English name per species. By the way, the South African *Lestes tridens* is called the "Spotted Spreadwing", as is *L. congener* in North America—not that this is a problem given the great separation of the faunas!

"Interesting Dragonfly Areas" summarizes, all too briefly, the concentrations of endemism in South Africa and the southern penetration of tropical species into the country. I would have liked a more detailed biogeography of South African Odonata, even in such a guide as this, because endemism is a most fascinating characteristic of South African biology. South Africa has a rich mixture of tropical and temperate odonates and many of the latter are endemic and localized, such as Malachites (*Chlorolestes*) and Presbas (*Syncordulia*) in the Western Cape, *Chlorolestes apricans* and *Metacnemis valida* in the Eastern Cape, *Ecchlorolestes nylephtha* in the Cape Coastal Forest, *Chlorolestes draconius* in the Drakensberg Mountains, *Pseudagrion vaalense* in the high veld of central South Africa, and so on. Although about 20% of the South African fauna is endemic, nowhere in the book is there a complete listing of these species. Even the maps and distribution statements in the species account are equivocal; for example,

Ecchlorolestes peringueyi is "very localized in Western Cape Province", but this does not necessarily define it as a South African endemic. It certainly is one, however, and I suppose that because there is no other range information in the distribution statement, one can assume that the author intends it to be considered so. Still, it would be good if both the distribution statement and the checklist indicated that a species is endemic.

The section on conservation treats positive and negative human impacts on populations and effects caused by natural phenomena. The damming of a small stream, for example, is obviously detrimental to species requiring flowing water, which are often rare, but benefits those characteristic of ponds, which are frequently widespread and common. Pollution is relative—*Ischnura senegalensis* is naturally adapted to water holes and wallows rich in extracts from mammal dung; it also is among the first colonizers of sewage ponds. Additional topics include the construction of ponds and the maintenance of streams to encourage dragonflies.

Several pages of field techniques give practical advice on recognizing odonates in the field through size, silhouette, color pattern, behavior and habitat. The often-difficult females get an additional, short section of their own. The efficient use of binoculars and hand lenses is discussed and hints for successful photography are given. Beware of crocodiles and bilharzia when wading after your prize! The importance of retaining specimens for confirmation of identification and future scientific study is stressed and techniques for collecting and specimen preservation and storage are discussed.

A section on the morphology of the Odonata precedes the keys and species accounts. The text is clear and straightforward and is accompanied by excellent line drawings. This is followed by a simple field key to the main color groups of male odonates, designed to reduce the number of species one must consider when identifying specimens flying or perched in front of you in the field. For example, there are four species (not necessarily related) that key to the statement: "very small to small, grayish or blackish dragonflies with no black markings on wings". These four species can then be compared in detail in the species accounts to arrive at the species identification.

The single-paged species accounts, which occupy the majority of the book, are arranged by family and contain a wealth of detail, all of which is organized into standardized sections, color coded for consistency. Eleven families, 61 genera and 158 species are recognized. One column of the page is wider than the other, and contains a summary of diagnostic features, a more detailed description for identification and two photographs, usually of a male and female, but sometimes both of males showing dorsal and lateral views or different coloration with age, and so on. Diagnostic characters are indicated on the pictures. An additional, 10-page section of photographs placed after the species accounts shows many species in a variety of different poses and forms. For formatting reasons, all the pictures are printed horizontally, even if many should be oriented vertically to show the true perching pose of the insect. This is irritating to the purist, but it has the considerable benefit of allowing the standardized page format to be maintained throughout.

A Dragonfly Biotic Index, a number from 0 to 9 based on geographical distribution, conservation status and sensitivity to habitat change, is given. A widespread and abundant species tolerant of human disturbance scores 0; an endemic, sensitive species restricted to threatened habitats and having a small range scores 9. This index is proving to be a useful tool in conservation work. The other column on the account page has a simple but effective dot-map showing the species' distribution in South Africa based on museum specimens. There is a written summary of South African distribution and of total range, a written and visual representation of adult flight period, concise descriptions of habitat and behavior, a comparison with similar species, and one or two clear line drawings of male genitalia, wings, or other body parts required for identification. The account is completed by bars indicating body length and hindwing length accompanied by the numerical range of measurements.

A novel contribution of Samways' book is the 68-page pictoral species key. Meant for specimens in the hand and the use of a hand lens (although probably a microscope would often be helpful), this key clearly and elegantly takes the reader through all the steps necessary to identify South African species. Statements in the key are copiously referenced to excellent line drawings, mostly of wings and male sexual structures. The endpoint of the keying process is a single species or several species, each of which has its diagnostic features listed and illustrated; the species' South African distribution is given, as is the page number of its species account. Although designed mainly for male identification, many females also can be named, especially with reference to the species accounts.

The final parts of the book include the species checklist mentioned earlier, a useful glossary of terms, a bibliography (only a few of the listed publications are cited in the text) and an index of scientific and English names.

Michael Samways has put his heart and soul into this book, and it shows. Dragonflies and Damselflies of South

Africa is a superb contribution to the biology of South Africa and the continent as a whole. It's an indispensable text for those beginning to watch dragonflies in southern Africa and to those students and professional biologists studying aquatic insects, their systematics, ecology and conservation.

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Two Upcoming Books

Kathy Biggs <bigsnest@sonic.net>

My revised "Common Dragonflies of California, A Beginner's Pocket Guide" will be available around May 1st. This book will include the 100 most common California species and still be only $9.95. It truly will fit in your pocket. The all-new photographs are mostly the superb work of photographer Ray Bruun.

In conjunction with the new book, I'm revising my California Dragonflies web site. If anyone was using the site, there is a link to the old site (which I'll no longer be maintaining) at the bottom of the new opening page. The new site is more streamlined and easier to use: after 13 years the old site had gotten cluttered. It is wonderful to note that we no longer need to go outside California to find images of species found here.

Information about my new revised California Beginner's guide and Dennis Paulson's "Dragonflies and Damselflies of the West" is on my web site. I'm selling both on the web site with a DSA "Special" of free shipping for anyone who orders both of them together before May 1st. Just write "DSA" on your order. Also for sale on the web site are my Southwest Beginner's Guide, Tim Manolis and my "Dragonflies of North America Coloring Book" and CD and the 10× Triplet Belomo Loupe and Lanyard which is great for seeing those 'naughty bits'!

Web site link to California Dragonflies: <http://www.sonic.net/dragonfly>.

New E-Mail List Server for Northwest North America

A new Yahoo Group, NW_Odonata, has been formed for those interested in discussion about odonates of northwest United States and western Canada. If you are interested in joining, visit <http://groups.yahoo.com/group/nw_odonata/> to sign up. A Yahoo account is required, but posts can be sent to any e-mail address or you can just read and send messages from the group's page. For a complete list of all Odonata related e-mail list severs currently available, see <http://www.iodonata.net/> and follow the "Discussion groups" link.

Renewal Reminder

If you have not yet renewed your DSA membership for 2009, please do so soon. If you see "A8" in the upper right corner of the address label on the envelope that ARGIA arrived in (if you receive it by mail), it means that your membership has expired. Also remember the PDF-only option available for ARGIA at a reduced rate. Visit <http://tinyurl.com/d726ry> to find a membership renewal form.

ARGIA and BAO Submission Guidelines

Digital submissions of all materials (via e-mail or CD) are vastly preferred to hardcopy. If digital submissions are not possible, contact the Editor before sending anything. Material for ARGIA must be sent directly to John C. Abbott, Section of Integrative Biology, C0930, University of Texas, Austin TX, USA 78712, <jcabbott@mail.utexas.edu>; material for BAO must be sent to Ken Tennessen, P.O. Box 585, Wautoma, WI, USA 54982, <ktennessen@centurytel.net>.

Articles

All articles and notes are preferably submitted in Word or Rich Text Format, without any figures or tables, or their captions, embedded. Only minimal formatting to facilitate review is needed—single column with paragraph returns and bold/italic type where necessary. Include captions for all figures and tables in a separate document.

Begin the article with title, author name(s), and contact information (especially e-mail) with a line between each. The article or note should follow this information. Paragraphs should be separated by a line and the first line should not be indented. Where possible always refer to the scientific name of a species followed by its official common name in parentheses.

Figures

Submit figures individually as separate files, named so that each can be easily identified and matched with its caption. Requirements vary depending on the type of graphic.

Photographs and other complex (continuous tone) raster graphics should be submitted as TIFF (preferred) or JPEG files with a minimum of 300 ppi at the intended print size. If unsure about the final print size, keep in mind that over-sized graphics can be scaled down without loss of quality, but they cannot be scaled up without loss of quality. The printable area of a page of ARGIA or BAO is 6.5 × 9.0 inches, so no graphics will exceed these dimensions. Do not add any graphic features such as text, arrows, circles, etc. to photographs. If these are necessary, include a note to the Editor with the figure's caption, describing what is needed. The editorial staff will crop, scale, sample, and enhance photographs as deemed necessary and will add graphics requested by the author.

Charts, graphs, diagrams, and other vector graphics (e.g. computer-drawn maps) are best submitted in Illustrator format or EPS. If this is not possible, then submit as raster graphics (PNG or TIFF) with a minimum of 600 ppi at the intended print size. You may be asked to provide the raw data for charts and graphs if submitted graphics are deemed to be unsatisfactory. When charts and graphs are generated in Excel, please submit the Excel document with each chart or graph on a separate sheet and each sheet named appropriately (e.g. "Fig. 1", "Fig. 2", etc.)

Tables

Tables may be submitted as Word documents or Excel spreadsheets. If Excel is used, place each table on a separate sheet and name each sheet appropriately (e.g. "Table 1", "Table 2", etc.)

The Dragonfly Society Of The Americas

Business address: c/o John Abbott, Section of Integrative Biology, C0930, University of Texas, Austin TX, USA 78712

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. Membership in DSA includes a subscription to 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.

Membership in the Dragonfly Society of the Americas

Membership in the DSA is open to any person in any country and includes a subscription to Argia. Dues for individuals in the US, Canada, or Latin America are $20 US for regular membership and $25 US for institutions or contributing membership, payable annually on or before 1 March of membership year. Dues for members in the Old World are $30 US. Dues for all who choose to receive Argia in PDF form are $15. The Bulletin Of American Odonatology is available by a separate subscription at $20 US for North Americans and $25 US for non-North Americans and institutions. Membership dues and BAO subscription fees should be mailed to Jerrell Daigle, 2067 Little River Lane, Tallahassee, FL, USA 32311. More information on joining DSA and subscribing to BAO may be found at <http://www.odonatacentral.org/index.php/PageAction.get/name/DSA_Membership>.

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Digital submissions of all materials (via e-mail or CD) are much preferred to hardcopy. All articles and notes should be submitted in Word or Rich Text Format, without any figures or tables embedded. Only minimal formatting to facilitate review is needed. Photographs should be submitted as TIFF (preferred) or JPEG files with a minimum of 300 ppi at the intended print size. Charts, graphs, diagrams, and other vector graphics are best submitted in Illustrator format or EPS. If this is not possible, submit as PNG or TIFF at a minimum of 600 ppi at the intended print size. Charts and graphs may also be submitted in Excel documents. Tables may be submitted as Word or Excel documents. For more information see the entire guidelines at the end of this issue or visit <http://www.odonatacentral.org/index.php/PageAction.get/name/DSASubmissionGuidelines>. Argia submissions should be sent to John Abbott, Section of Integrative Biology, C0930, University of Texas, Austin TX, USA 78712, <jcabbott@mail.utexas.edu>; BAO submissions should be sent to Ken Tennessen, P.O. Box 585, Wautoma, WI, USA 54982, <ktennessen@centurytel.net>.

Back cover: **(upper)** *Plathemis subornata* (Desert Whitetail) photographed at the 7th Annual Dragonfly Festival at Bitter Lake National Wildlife Refuge in Roswell, New Mexico. Photo by Jerry Hatfield. **(lower)** *Ophiogomphus edmundo* (Edmund's Snaketail) photographed along the Chattooga River, South Carolina. Photo by Marion Dobbs.