

ISSN 1061-8503

ARGIA

The News Journal of the Dragonfly Society of the Americas

Volume 21

15 September 2009

Number 3



Published by the Dragonfly Society of the Americas

<http://www.DragonflySocietyAmericas.org/>

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Front cover: *Libellula jesseana* (Purple Skimmer) at pond off Hwy 20 west of Ecofina River on NWFMD gated private property (north of Panama City) on 12 July 2009. Photo by Marion Dobbs.

In This Issue

It has been another fun and interesting summer for odonates in the US, especially in the south. Records from Florida and Texas dominate this issue. We have reports of three new species for Texas, including a very rare one that is also new to the US reported by Martin Reid. I will prime the readers of ARGIA with the news that a fourth species was also just found in the state and details about it will appear in the next issue.

Many of us were able to attend the DSA annual meeting in Sullivan, Missouri this year. It was a great meeting and I think everyone particularly enjoyed the opportunity to see and photograph *Somatochlora hineana* (Hine's Emerald). Paul McKenzie recounts the meeting, which included a paparazzi session with Hine's Emerald!

Bryan Pfeiffer reports on the very large Northeast Regional DSA meeting held in southern New Hampshire. I've heard from a number of attendees that this was a very successful meeting and we should all be making plans to attend the annual meeting in Maine next year, also hosted by Bryan.

Jerry Hatfield reports on what is known about the behavior and life history of *Epitheca petechialis* (Dot-winged Baskettail); a species he has been studying in the Texas Panhandle.

Walter Chadwick took a trip to central Florida and reports on the species he encountered there while Jerrell


Daigle informs us of what was found during his Florida Panhandle Soirée.

Quite different from sunny Florida, Burton Cebulski takes us to an all together different environment and shows us how to collect odonate larvae under the ice!

Jerrell has two more articles in this issue. The first is an update on Duncan Cuyler, who by the looks of things is doing quite well. The second is on the Southeast Regional meeting that was held in Galax, Virginia.


Ed Keppner provides an update on *Libellula pulchella* (Twelve-spot Skimmer) in Florida. This species has been historically regarded as a rare vagrant to the state. François Meurgey has been continuing his work in the Antilles and reports on the little explored island of Grenada in this issue.

Dennis Paulson discovered *Lestes forficula* (Rainpool Spreadwing) in Florida and postulates this species may be expanding its range. Certainly within Texas, the species seems to be expanding north and east. Wade Worthen reports on his second survey of Congaree National Park in South Carolina.

Not to be out done, Jim Johnson is trying to keep Oregon in standings for new state records and discovered two species new to the state in the course of as many days. This may well be a record! 

Calendar of Events

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

Event	Date	Location	Contact
Bitter Lake Dragonfly Festival	12-13 Sep	Roswell, New Mexico	< http://www.friendsofbitterlake.com/ >
2010 DSA Annual Meeting	24-27 Jun 2010	Orono, Maine	Bryan Pfeiffer, < Bryan@WingsEnvironmental.com >
1st European Cong. on Odonat.	2-5 Jul 2010	Portugal	< http://www.europeandragonflies.com/ > 

2010 DSA Annual Meeting in Maine: A Preview

Bryan Pfeiffer <Bryan@WingsEnvironmental.com>

Boreal peatlands and crystalline rivers will be our playgrounds when the annual meeting of the Dragonfly Society of the Americas convenes in Orono, Maine, 24-27 June 2010.

This region of Maine, well charted during the Maine Dragonfly and Damselfly Survey, offers an abundance of bogs and fens, rivers and streams in some of Northeast's wildest country.

Next year's event will feature some of these northern or regional specialties during the main meeting or during pre- and post-meeting excursions:

- Six species of *Ophiogomphus* (Snaketails), including *O. anomalus* (Extra-striped Snaketail) and *O. howei* (Pygmy Snaketail);
- *Neurocordulia michaeli* (Broad-tailed Shadowdragon);
- Eight or more species of *Somatochlora* (Striped Emeralds), including *S. franklini* (Delicate Emerald), *S. kennedyi* (Kennedy's Emerald), *S. minor* (Ocellated Emerald) and *S. brevicincta* (Quebec Emerald);
- *Coenagrion interrogatum* (Subarctic Bluet), *Enallagma pictum* (Scarlet Bluet), *Nehalennia gracilis* (Sphagnum Sprite), among many others.

Our meeting dates coincide with a period of peak Odonata abundance in Maine. So you'll be busy.

Meeting headquarters will be the Best Western Black Bear Inn & Conference Center in Orono, Maine (207-866-7120) or <<http://tinyurl.com/mr45sl>>. We have a block of rooms reserved at \$69.95 per night plus tax for single or double occupancy. When you reserve your rooms, ask for the Dragonfly Society of the Americas rate. We are also investigating alternative lodging and camping nearby.

Options for pre- and post-meeting trips include northward for boreal species, such as *S. brevicincta* (Quebec Emerald) and *Leucorrhinia patricia* (Canada Whiteface) and south for coastal plain species such as *Enallagma laterale* (New England Bluet) and *E. pictum* (Scarlet Bluet). Details will follow on these outings.

Orono is 11 miles from Bangor International Airport in Bangor, Maine, and 130 miles from the Portland International Jetport in Portland, Maine. A web site with meeting information is at <www.wingsenvironmental.com/dsa>. It will be continually updated leading up to the meeting.



2009 Annual DSA Meeting in Sullivan, Missouri: An Overwhelming Success

Paul M. McKenzie, US Fish and Wildlife Service, 101 Park DeVille Dr., Suite A, Columbia, MO 65203 <paul_mckenzie@fws.gov>

The annual DSA meeting was held in Sullivan, Missouri 19–21 June 2009. If I must say so myself, this meeting was an overwhelming success! We are all indebted to Jane

Walker and Joe Smentowski for all their hard work in organizing much of the meeting. Pre-meeting trips were provided 16–18 June and post-meeting trips 21–22 June.



2009 Annual Meeting attendees. Photo by Greg Lasley.

Counting a few pre-meeting trip participants who were unable to travel to Sullivan, there were 51 attendees at the event. Despite serious flash flooding associated with several inches of rain that fell throughout the state 16 June and record heat 20–22 June, participants were able to observe or collect a respectable 79 species of odonates (24 species of damselflies and 55 species of dragonflies). This included eight species of *Argia*, ten species of *Enallagma*, four species of *Ischnura*, 16 species of clubtails, three species of *Macromia*, four species of *Celithemis*, and seven species of *Libellula*.

Despite the weather related issues (some participants wanted to blame Nick Donnelly but that would be an unfair burden to place on anyone!), all field trips were a success. A pre-meeting field trip to Finger Lakes State Park, Rocky Forks Conservation Area, and US Forest land near Columbia co-led by myself and Linden Trial produced the following highlighted species: *Lestes eurinus* (Amber-winged Spreadwing), *Ischnura kellicotti* (Lilypad Forktail), *Rhionaeschna mutata* (Spatterdock Darner), *Anax longipes* (Comet Darner) and *Arigomphus lentulus* (Stillwater Clubtail). Tim Vogt led a field trip to southwestern Missouri prairies where participants were successful in locating several specimens of *Cordulegaster obliqua* (Arrowhead Spiketail) with more yellow on the dorsal portion of the abdomen than is typically observed for this species. A trip to Indian Creek on 19 June led by Tim Cashatt yielded *Macromia alleghaniensis* (Alleghany River Cruiser) and a much sought after *Ophiogomphus westfalli* (Westfall's Snaketail).

On his way to the DSA meeting, Dennis Paulson found a new site in Missouri for *Celithemis verna* (Double-ringed Pennant) at St. Joe State Park. We only need to record the severe storm north of Columbia on 16 June to understand how unpredictable the Missouri weather can be. After being at Finger Lakes State Park and adjacent Rocky Forks Conservation Area earlier in the day (our groups left between noon and 2 PM), the area was hit by golf ball sized hail around 5:00 PM and a young woman was struck by lightning and killed as she walked across a field from fishing at Rocky Forks. In addition to this tragic event, much of the Ozarks, including Sullivan received over 3–4 inches of rain either immediately prior to or during the meeting. Despite the resulting flash floods, high water, and subsequent near 100° temperatures on 19–21 June, somehow everyone was able to have a good time.

Presentations on Saturday, 20 June, were excellent and included: “Live culturing of dragonflies from larva to adults” by Richard Groover, “National review on state wildlife action plans for Odonata” by Jason Bried and Celeste Mazzacano, “Chalcidoid parasites of *Aeshna tuberculifera*” by Burton Cebulski, “Odonates of Ecuador” by Ken Tennessen, “Lessons learned from the first eight years of conducting Hine’s Emerald Dragonfly surveys in Missouri” by Paul McKenzie et al., “Population genetics of Hine’s Emerald Dragonfly” by Meredith Mahoney and Tim Cashatt, “A proposal: incorporating odonates into stream bioassessments using DNA” by Erik Pilgrim, “Status and distribution of *Orthemis schmidtii*” by Jerrell Daigle and Erik Pilgrim, “The Odonata of Grenada” by Jerrell



Daigle and François Meurgey, and “West Indian Odonates” by Dennis Paulson.


On Sunday, 21 June, field trip leaders and participants had to readjust planned routes due to high water on most streams. A trip to Kaintuck Hollow fen, DeWitt Pond and a wildlife Pond in Phelps County yielded *Argia bipunctulata* (Seepage Dancer), *Anax longipes* (Comet Darner), *Lestes eurinus* (Amber-winged Spreadwing), *Rhionaeschna mutata* (Spatterdock Darner), *Libellula flavida* (Yellow-sided Skimmer), *L. semifasciata* (Painted Skimmer), and *L. vibrans* (Great Blue Skimmer). Surely one of the highlights of the meeting was the trip to Kay Branch fen co-led by Jane Walker and Joe Smentowski to see *Somatochlora hineana* (Hine’s Emerald). All participants were graciously hosted by James, Barbara, and Dana Crisco and everyone got excellent views of



Odonata paparazzi photographing Hine’s Emerald at Kay Branch Fen. Photo by Cindy Allen.

multiple male and female *S. hineana*. At one point, there were so many individuals anxiously taking photographs of Hine’s Emerald that the scene was reminiscent of an odonate paparazzi! Unfortunately, not everyone got to see target clubtails, but at least some participants were able to observe, photograph or collect the following:

Gomphus exilis (Lancet Clubtail), *G. graslinellus* (Pronghorn Clubtail), *G. lineatifrons* (Splendid Clubtail), *G. lividus* (Ashy Clubtail), *G. militaris* (Sulphur-tipped Clubtail), *G. ozarkensis* (Ozark Clubtail), *G. quadricolor* (Rapids Clubtail), *Ophiogomphus westfalli* (Westfall’s Snaketail), and *Stylogomphus sigmastylus* (Interior Least Clubtail).

Despite participants not being able to see as many target clubtails as everyone would have liked, the excellent fellowship among so many friends who all share a passion for odonates, the excellent presentations, and the opportunity to see a wide array of damselflies and dragonflies made this one of best DSA meetings to date. 



Somatochlora hineana (Hine’s Emerald) in flight at Kay Branch Fen. Photo by John C. Abbott.

2009 Northeast DSA Regional Meeting Report

Bryan Pfeiffer <Bryan@WingsEnvironmental.com>

On the eve of the 2009 Northeast meeting of the Dragonfly Society of the Americas, the sweltering summer sunshine had early attendees eager for *Somatochlora* species. So when a handful of us converged on the ball field in Kingston, New Hampshire, Hal White scored first—a female *Somatochlora georgiana* (Coppery Emerald). With Hal’s big swing, the Northeast meeting was unofficially underway.

More than 50 people, from as far as Arkansas and Texas, converged on urban and suburban areas of southern

New Hampshire for a rare summertime gathering in the Northeast. In a way, this year’s meeting featured exploration. We visited unexplored (at least for Odonata) sites to fill data gaps for the New Hampshire Dragonfly Survey. It worked.

Besides the *S. georgiana*, meeting highlights included *Calopteryx dimidiata* (Sparkling Jewelwing) *Enallagma pictum* (Scarlet Bluet), *Enallagma minusculum* (Little Bluet) and a rare and late *Cordulegaster obliqua* (Arrow Spiketail). The meeting generated a total of 78 species,



Group shot of meeting participants. Photo by Bryan Pfeiffer.




Nick Donnelly atop a large steamy pile of wood chips that attracted an impressive feeding fest of *Somatochlora* and *Aeshna*. Photo by Bryan Pfeiffer.

which isn't bad for three days at the end of July and start of August, one of which featured rain most of the day. Normally, we hold the Northeast gathering in June, but an abundance of other June dragonfly meetings that month prompted this summer gathering.

Our sites were varied: rivers, streams, vegetated ponds, peatlands, hardwood swamps, cedar swamps and that delightful ball field. The field's proximity to a cedar swamp, a pond and peatlands made it a reliable evening gathering spot for *Somatochlora* and *Aeshna* (darner) swarms. The *S. georgiana* were somewhat scarce and high, but most certainly present on two consecutive evenings. Other *Somatochlora* encountered during the meeting were *S. linearis* (Mocha Emerald), *S. tenebrosa* (Clamp-tipped Emerald), *S. walsbii* (Brush-tipped Emerald) and *S. williamsoni* (Williamson's Emerald).

Near the ball field, a large steamy pile of wood chips attracted an impressive feeding fest of *Somatochlora*, *Aeshna* and eager odonatologists. *Aeshna clepsydra* (Mottled Darner) was occasional during the weekend.

Meanwhile, indoors, our morning presentation featured meeting co-organizer Pam Hunt's review of the progress on the New Hampshire survey project (and how our participants could contribute). Hal White offered a fascinating account of Miss Maddie Wadsworth, an independent odonatologist from Maine and a contemporary of Calvert. And our final evening together featured a barbecue feast at Kingston State Park, where the ever-industrious Kevin Hemeon managed to find *E. minusculum* during supper.

Many thanks to my meeting co-organizers Pam Hunt and Michael Blust. Next stop for the Northeast: the DSA's 2010 annual meeting in Orono, Maine. 

The Dot-winged Baskettail (*Epitheca petechialis*) of the Texas Llano Estacado

Jerry K. Hatfield <dragonflywatcher1029@yahoo.com>

One of the first dragonflies I encountered in the spring of 2005 was along the creek of the Llano Estacado Audubon Trail. At that time I was able to get a few good looks at it, and with the help of several field guides including the recently published excellent work of John C. Abbott, *Dragonflies and Damselflies of Texas and the South-Central United States*, I was able to surmise that what I had seen was a member of the genus *Epitheca* and, most likely, *Epitheca petechialis* (Dot-winged Baskettail). I returned the following week and observed this species in flight again making its circuitous route over the creek, but was unable to view it perched or capture it for in-hand identification. Each season thereafter, I observed its presence in spring with its disappearance from the scene by the end of May.

Last year, after the purchase of my first net, I attempted to capture one but was unsuccessful. So, this year I set out with greater determination to capture one. After one unsuccessful outing with my standard net, I was able to borrow a long handled one from Texas Tech's Natural Science Research Laboratory (NSRL) and my next trip was finally a success. Photographs and collected specimens confirm its identity as *E. petechialis*. In perusing information contained on this elusive species both from Abbott's fine field guide and Dennis Paulson's recently published work: *Dragonflies and Damselflies of the West*, it has become more obvious to me that not much is known of this dragonfly. So, at Robert Larsen's encouragement and with notes he has collected and shared with me, I decided to write this report on what we do know about this species of Baskettail: something of its life history, habitat, and behavior.



I have encountered *E. petechialis* only on the creek at the Llano Estacado Audubon Trail of Buffalo Springs Lake in southeast Lubbock County, but its presence in similar habitats in surrounding counties is likely. Larsen reports that he has seen *E. petechialis* near Canyon, Texas. Of course, most of his work has been focused off the western edge of the Caprock in eastern New Mexico. Nevertheless, his observations may be helpful in surveying the Texas Southern High Plains region as well. Like Larsen's data, I have observed the presence of *E. petechialis* on the wing as early as late March, but, unlike his late date of 29 July, I have not seen them after May on the Llano Estacado. And this year in particular, due to the extreme up and down changes in temperature this spring, I have only observed this species from late April throughout most of the month of May. Their appearance seems to coincide with the decay of the previous season's cattails and the emergence of the damselflies *Enallagma basidens* (Double-striped Bluet) and *Ischnura hastata* (Citrine Forktail) on which they quite often prey. In turn, *E. petechialis* is likely preyed upon by Red-winged Blackbirds that proliferate in the same habitat during this time of the year. The *E. petechialis* habitat of choice seems to be among cattails and sedges.

Their flight seems to be between roughly 11 AM and 4 PM; thereafter they seem to disappear from the creek bed and sight until another day. Adults are highly territorial and patrol in elongated "D" shaped beats with the flat side of the "D" along the edge of cut banks and over the previous years floating cattail growth. The beat is 15–20 feet, but is reduced down to 9–10 feet during peak population and breeding. The patrols of the beat are about 8–12 inches above the water's surface. Females, however, patrol


lower beats about 6–8 inches above the surface and close to the edge of the bank and short new growth of cattail beds. I personally have witnessed their "D" shaped patrol and have noticed their fierce territorial nature in that males often spar with other males for territorial rights and will chase other odonates and even the hawking *Anax junius* (Common Green Darner) that strays into their perceived "airspace."

Coloration and wing marking of both males and females are similar to the color of the previous year's decaying cattail growth (dull yellowish-orange and brown edged) which makes for great camouflage. When seen flying just above decaying cat-

tail growth, they seem to disappear altogether and even among floating stalks of cattail and other natural debris; they blend in quite well. Larsen also relates (I, too, have observed this phenomenon) that when the cottonwoods release their white cottony blooms and it floats along the edges of the *E. petechialis* habitat, one can hardly see the females in the vegetation due the white hairs that cover the thorax. Egg baskets are also the same color as the old cattail beds. Both contact and non-contact guarding of males over females as they lay their egg baskets has been observed.

The distinctive wing marking along the leading edge of both fore and hind wings are seemingly more pronounced in species of the Central Pecos Valley, whereas, on the whole specimen and part of another specimen collected by me at LEAT, the wing dots are evident on the hind wings but especially pronounced on the nodus of all four wings. Both specimens collected are males but one is lacking head and most of abdomen (damaged in collision with hoop of my net). The intact specimen I also photographed when

first caught and I posted two images on OdonataCentral along with the intact and later preserved specimen. As can be observed in the live specimen, the eyes were light blue-green (obvious sign of maturity). Upon first inspection of this male in-hand, I couldn't help but compare it as a tiny version to *Epitbeca princeps*. Later observation of the preserved specimen revealed some wing damage to the trailing edge of left hind-wing that was possibly sustained in capture.

In his notes Larsen comments that *E. petechialis* is, in all likelihood, the most common *Epitbeca* species on the Llano Estacado. This may be true for spring but the presence of *E. princeps* is much more common throughout the late spring and even into late August. This mysterious dragonfly on the Llano Estacado begs further study in coming years and will hopefully be an interesting test case for increasing our knowledge of these interesting and exquisite little creatures. 

A Visit to Central Florida

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

While visiting family in Titusville, Florida from 14–19 May 2009, I managed to do some odonate watching. Sites were visited in Brevard and Orange Counties. There are a variety of habitats in this area from scrub, marsh, swamp and meadow to seashore. All sites were visited in the morning except for Gatorland which I visited in the afternoon.

The sites are listed by county and number:

Brevard County: Blue Heron Water Treatment Facility, Titusville (#1); Comfort Inn, Titusville (#2); Merritt Island National Wildlife Refuge (#3).

Orange County: Orlando Wetlands Park, Christmas (#4); Gatorland, Orlando (#5); Highway Fifty Boat Ramp (#6).


The following odonates were seen. Site numbers correspond to the above localities.

Ischnura ramburii (Rambur's Forktail)–4
Telebasis byersi (Duckweed Firetail)–5
Arigomphus pallidus (Gray-green Clubtail)–2
Brachymesia gravida (Four-spotted Pennant)–1, 3, 4
Celithemis eponina (Halloween Pennant)–1, 3, 4
Erythemis simplicicollis (Eastern Pondhawk)–1, 2, 4, 5

Libellula incesta (Slaty Skimmer)–5
Libellula needhami (Needham's Skimmer)–3, 4
Pachydiplax longipennis (Blue Dasher)–4, 5
Perithemis tenera (Eastern Amberwing)–5, 6
Tramea carolina (Carolina Saddlebags)–4

As for the number of each species, *Erythemis simplicicollis* was observed most frequently with more than 30 at both site #3 and #4. More than 30 *Brachymesia gravida* were observed at site #1, but less than 10 were seen at sites #3 and #4. *Celithemis eponina* was observed at three sites, but number at each site was never more than eight. Numbers for the other species were six or less. *Telebasis byersi* was the only species observed in copula.

Florida has two seasons, wet and dry. This was the end of the dry season and there had been no rain in the area for about twenty days. The ground and vegetation were very dry and there had been some wildfires in the area. The last day and a half of my visit saw much needed heavy rains that did result in some local flooding.

Thanks to Dr. John Abbott for his help with identification. 

Collecting Odonates Under the Ice

Burton C. Cebulski <bcebul@tc3net.com>

Winter in the northern states usually means an end to collecting, watching the snow fall and waiting for the next collecting season. Many years ago, after an ice fishing trip, I decided to try to do some odonate collecting under the ice. I first tried cutting holes and dropping a dredge to collect a 6" x 6" sample. It was a great deal of work for very few specimens. Others have shared this same disappointing story. After some thought, I decided to construct a dredge that could be pulled over the bottom. I have used this dredge for many years with good success to collect odonates and other aquatic insects. I would like to share its construction with others who would brave the cold for some winter collecting excitement. I know of no other technique that works as well. I have included a materials list, and photos. Once you get the general idea, modifications can be made to suit your own needs.

Materials

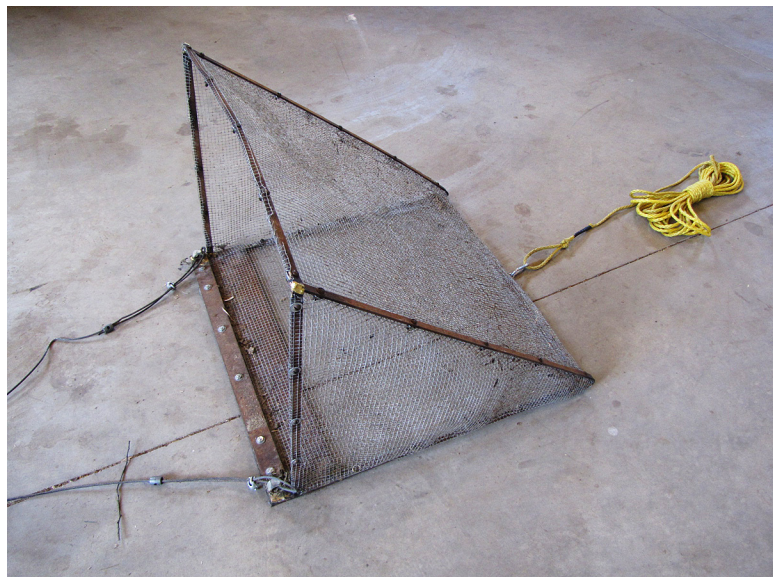
- 1 roll, 10' x 2' of ¼" hardware cloth
- 2, 53" x ½" x ⅛" steel flat stock bent to the desired angle
- 2, 24" x ½" x ⅛" cross pieces
- 2, 18" x ½" x ⅛" side angle braces
- 1, 24" x 1" x ⅜" front bottom plate top piece
- 1, 24" x 4" x ⅛" front bottom plate bottom piece
- 2, ¾" nuts to be attached to the front corners of the bottom plate
- 28, #8 ½" machine screws/nuts + 1, 1" eye/nut for retrieval line
- 1, 10' x ⅛" steel cable + 5 clamps
- 2, snap hooks + 80' of ¼" poly rope
- 3, 10' x ½" PVC pipe + 2 joints + 2 end caps + 1 eye screw/nut to hold the lead line

Description

As can be seen in the photo, the dredge is wedge shaped with a front weighted lip. The frame is made by bending the long flat pieces until the desired angle is achieved. The cross pieces and front supports are best attached by welding or brazing. If this not possible, they may be attached by drilling and using screws and nuts. Once the frame is complete, start attaching the hardware cloth at the front bottom plates. The ¼" hardware cloth is clamped in between the

two bottom steel plates. My first dredge was made with a plate of lead clamped in between the two plates. My latest dredge uses thicker steel plates as lead has gotten hard to find. The hardware cloth is next wrapped around. Side pieces are cut and secured with small screws and nuts. Now that the frame is covered the cables can be connected. Front cables are secured at the corners by welding or brazing ¾" nuts to the leading edge. Again, if this not possible, holes may be drilled at each corner for the lead line cables. Pass the cable through the corner holes and secure each with two clamps. It is important to put a loop at the end of the cable harness. This helps keep the dredge going straight as it is pulled over the bottom. Last attach the retriever eye to the rear of the frame. This is important to dislodge the dredge if it hits a log or other sunken debris. At this point the construction of the dredge is complete.


To operate the dredge, holes are cut in the ice and long sections of PVC pipe are passed under the ice from one hole to another. The lead line is attached to the PVC. Sections of pipe can be joined on the ice using connectors. PVC connectors can become brittle at low temperatures and slight bending to get the pole under the ice can cause them to crack. Duct taping the joints is a good way to help prevent losing a section under the ice. This long pole with the line attached is much like a needle and thread. Next attach the retriever line to the rear and lower the dredge through the ice. With two holes, you may pass the dredge back and forth in two directions. Often the return pass is most productive because the vegetation is now pointing





toward the mouth of the dredge. Obviously, three holes in a triangle or four holes in a square will greatly multiply the area that may be sampled.

With a back and forth pass on Wamplers lake in Lenawee county Michigan in approximately eight feet of water, I was able to collect two *Erythemis simplicicollis* (Eastern Pondhawk), one *Lestes inaequalis* (Elegant Spreadwing),

not often seen in the warmer months. Occasionally an odonate will be collected with unusual coloring. I have collected *E. simplicicollis* nymphs that are jet black with cherry red eyes for example. For those who live in the frozen north and greatly miss the fun of collecting during winter months, I hope that this will give you as much pleasure as it has given me. 

one *Epitheca cynosura* (Common Baskettail), one *Arigomphus furcifer* (Lilypond Clubtail) and three *Gomphus spicatus* (Dusky Clubtail). Many early instars along with several other orders were also collected. Previous knowledge of the bottom characteristics and depth are very helpful so a little summer scouting can improve your catch.

Although this dredge works well in mid- to late winter after the plants have died back due to low light levels, its use in the summer is very limited, as it becomes choked with aquatic vegetation.

I have spent many enjoyable days finding things that are rarely observed in summer, aquatic lepidoptera and other larval stages

2009 Florida Panhandle Soirée

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A small, but enthusiastic group attended the 2009 Panhandle Florida soirée from 8–12 July to scout out areas and logistics for the 2010 Southeast Regional meeting. The attendees included Marion Dobbs, Dennis Paulson, Steve Krotzer (designated hitter), Ed Lam, Sharon Weaver, Kelly Jones, Mary Ann Friedman, Karen MacClendon, Jo Ellen Cashion, Ed Keppner, and myself.

Some of us started at Whittle Road near Torreya State Park hoping to see swarms of *Somatochlora*. Actually, we saw trickles, not swarms, in the cooler mornings, but we got several *Somatochlora calverti* (Calvert's Emerald) and a couple of *S. filosa* (Fine-lined Emerald) females which were target species. We did not find any *Stylurus laurae* (Laura's Clubtail) in the nearby streams, but, perhaps, we were too late for them and it may have been too hot. We had much better luck with *Stylurus potulentus* (Yellow-sided Clubtail) at Juniper Creek and Hwy. 20 near the property of Ron and Gail Wood. We were able to photograph several docile males and females along the road perching on shrubbery.

The next part of the trip was over at the Fish Hatchery near Holt in the Blackwater State Forest and along the Blackwater River. Some of the fish ponds did not have any fish, but boy they had tons of dragonflies flying about. We were able to get *Progomphus belli* (Belle's Sanddragon) and *Dromogomphus armatus* (Southeastern Spinyleg) at the outlet streams and surrounding fields. On the ponds, we got lots of *Orthemis ferruginea* (Roseate Skimmer), *Tramea carolina* (Carolina Saddlebags), *T. lacerata* (Black Saddlebags) and other common libellulids. We even saw a *Brachymesia furcata* (Red-tailed Pennant) patrolling over one deep pond which was a new record for the Florida Panhandle. Normally, one sees this small red species down on the Florida Keys, so this was a surprise! Global warming, anyone?

We tried the Blackwater River for *Stylurus townesi* (Towne's Clubtail), but the recent high flooding cut down the numbers drastically. I think we saw only 4–5 males and females, but we did get good photos of them. Also, I must add that a new rule change requires one to get a permit/

permission to collect in the Blackwater State Forest now.

The following day, we went to Eglin Air Force Base, got our permits, and proceeded to travel deep in to the pine forests. Kelly Jones took us to a vernal, seasonal pond which was loaded with *Anax longipes* (Comet Darner), *Libellula auripennis* (Golden-winged Skimmer), *Enallagma doubledayi* (Atlantic Bluet), and surprise, a few *Lestes forficula* (Rainpool Spreadwing)! This represented a new state record for Florida (see article by Dennis Paulson in this issue)! It has been taken in south Texas historically, and recently in Mississippi, I believe. Global warming, anyone?




Progomphus bellei (Belle's Sanddragon) taken on 8 July 2009 at Yon Creek at Juniper Road in Gadsden County, Florida. Photo by Marion Dobbs.

The next day, we went to visit Ed Keppner over at Panama City to look for *Libellula jesseana* and *Nehalennia pallidula* on NFWFMD property. Ed got the keys and got us into some small ponds off Hwy. 20. We were successful in finding several photogenic purple males of *Libellula jesseana* (Purple Skimmer), but we didn't see any of the rare purple females. As far as I know, there is only one photograph of a purple female. Other notable species here were *E. doubledayi*, *A. longipes*, *Celithemis ornata* (Ornate Pennant), and *Lestes vidua* (Carolina Spreadwing). I did see a strange dragonfly that I recognized as *Micrathyria aequalis* (Spot-winged Dasher), which would be a new record for north Florida; this species is usually seen around Miami. Dennis got a glimpse of it and so did Marion, but we were not able to catch it. We did not see it again that day. Ed went back the following week and he did not see it either. Afterwards, Ed took us to a site on Deer Lake reservoir and we saw lots of *Nehalennia pallidula* (Everglades Sprite)

which is more common in the Everglades. Global warming, anyone?

Well, all good things must come to pass and the soirée was now over. Ed and I made a couple of dusk trips to Sweetwater Creek and the Apalachicola River to catch *Neurocordulia* (Shadowdragons), but we did not see any. Well, maybe we can get some next year at the 2010 Southeast Regional Meeting in Panama City.

I would like to thank Sharon Weaver, Ed Keppner, and Gail Wood to getting us access to prime collecting areas plus staff at the Fish Hatchery, Blackwater State Forest, and Eglin AFB. See you next year! 

Galax Gallopers!

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An enthusiastic bunch of dragonfly folks gathered at the New River near Galax, Virginia to conduct an intensive survey of the Odonata found in the area. As part of this 28–31 May 2009 southeast regional meeting, 33 attendees from all over the United States showed up for the adventure. They were Jeff Biller, Steve Krotzer, Jim Johnson, Steve Valley, Sue Olcott, Marla Garrison, Lois Stacey, Paul Bedell, Anne B. Wright, Steve Roble, Giff Beaton, Mike Thomas, Marion Dobbs, Chris Hill, Bruce Grimes, Annie Collins, Steve Collins, Richard Groover, Phoebe Harp, George Harp, Andy Rabin, Niko Rabin, Carl

Rothfels, Will Cook, Randy Emmitt, Betsy Foster, Chris Foster, Ed Lam, Marilyn Washburn, Dennis Washburn, Dave Fitch, Dave Small, and myself. Note the plethora of Steves!

Despite the rainy weather and flooding of the New River, we still managed to find several species of *Gomphus*, *Enallagma*, and some corduliids. The highlight species, *Ophiogomphus howei* (Pygmy Snaketail), was very rare as we only got one male and saw several others along the New River. However, we did find numbers of the excit-



Group Photo by Giff Beaton.

ing *Ophiogomphus aspersus* (Brook Snaketail) at the Blue Ridge Country Club golf course, of all places! Dodging errant golf balls, we managed to take photos and catch a few of this very attractive clubtail.

From Paul Bedell: While exploring the large meadow at Crooked Creek WMA with Giff Beaton, Steve Krotzer, and Mike Thomas, we caught some specimens of the little-known robber fly *Ceraturgus mitchelli*. I had just taken the first record for the state in Alleghany County on the way to the meeting, so to find yet more was exciting. We also had *Lanthus vernalis* (Southern Pygmy Clubtail), *O. aspersus*,

and *Gomphus rogersi* (Sable Clubtail) there while being serendipitated by Louisiana Waterthrush and Hooded Warblers!

We got about 15 new records for Carroll County and about 10 new records for Grayson County. Some notable species were *Enallagma aspersum* (Azure Bluet), *E. basidens* (Double-striped Bluet), and *E. traviatum* (Slender Bluet) for Carroll County, and Niko Rabin got *Anax junius* (Common Green Darner) in Grayson County. We are still in the process of getting species lists from all the participants and a final list will be forthcoming later this year.



Ophiogomphus aspersus (Brook Snaketail) taken at Blue Ridge Country Club golf course on 30 May 2009. Photo by Marla Garrison.


All in all, it was a fun trip and everyone enjoyed seeing each other again! Some folks had good luck collecting after the meeting. Marla Garrison photographed rare *Enallagma* species further south, including *E. divagans* (Turquoise Bluet). *Macromia margarita* (Mountain River Cruiser) was seen in western North Carolina by others. See Ed Lam's "Flash of Wings" web site for more on this story. A nice ending, I would say.

I would like to thank Bruce Grimes and Richard Groover for getting the permits to do our thing and Steve Roble for compiling the Carroll/Grayson County, and Virginia species list for us. We voted on the Florida Panhandle for next year's meeting in July to look for summertime *Somatochlora* and *Stylurus*. More details on the meeting site will be revealed in a later issue of ARGIA. Hope to see you there!



Duncan Cuyler 2009 Update

Jerrell J. Daigle, Little River Lane, Tallahassee, FL 32311 USA, <jdaigle@nettally.com>

After the May 2009 southeast regional meeting in Galax, Virginia, I visited Duncan Cuyler for two days. He is at the Hillcrest Convalescent Center in Durham, North Carolina. He is doing quite well and he even gained a couple of pounds. The staff is really taking good care of him, and you should have seen the way they fuss over him! As you know, he is recovering from surgery to fix a broken right thigh bone suffered from a fall at his house. Duncan said to tell everyone "Hi" in Missouri. If you would like to drop him a line or card, his good friend, John S. Thomas (919-403-9498), picks up his mail from time to time. Duncan's home address is 3706 North Garrett Road, Durham, NC 27707. If you would like to visit Duncan, and maybe have lunch with him in the dining room, the address is Hill Crest Convalescent Center, 1417 W. Pettigrew Street, Durham, NC, 27705. Also, check out the latest photo of Duncan; the party animal and his friends! Ole! 



Occurrence of *Libellula pulchella* (Twelve-spotted Skimmer) in Bay County, Florida

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On 30 November 2007, I visited a storm water detention pond to collect larval odonates. The pond is located on the west side of State Route 77 just north of Lynn Haven, Bay County, Florida. At least four dragonflies that appeared to be *Libellula pulchella* (Twelve-spotted Skimmer) were cruising the pond edge. I returned the next day and collected one of the four specimens that were again patrolling the pond edge. The specimen was identified as a male *L. pulchella*, and the identification was confirmed by Jerrell J. Daigle and Dennis Paulson in July 2009. Larvae were collected from the pond in November and December 2007, and in January and February 2008. The larvae collected were identified and sent to Mr. Jerrell J. Daigle for examination and confirmation of the identifications. Larval *L. pulchella* were not present in the collections from this pond or other nearby storm water ponds during the period November 2007 to February 2008.

Dunkle (1992) stated that *L. pulchella* appeared to be a rare migrant in Florida and cited historical records for this species in Alachua, Leon, and Wakulla Counties. Dunkle also stated that Wright noted that this species was rare during the autumn of 1943 somewhere along the beach from Santa Rosa to Bay Counties. Donnelly (2004) also reported the same three records for Florida. Abbott (2007) also shows *L. pulchella* in Leon, Wakulla, and Alachua Counties, Florida with two records of occurrence in

Geneva and Covington Counties, Alabama just north of the Alabama-Florida border. While recently working in the FSCA/IORI collection in Gainesville, Florida, Jerrell was able to confirm the presence of a female *L. pulchella* collected in Alachua County in 1940.

This report of the presence of *L. pulchella* in Bay County is a new record for the county and an additional county record for Florida. It establishes the present day occurrence of this species in Florida.

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Collecting Trip to Grenada (Lesser Antilles): an Updated Checklist of Species

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To further increase our knowledge on the biogeography of the Lesser Antillean dragonflies, an intensive survey of Grenada was carried out from 1–14 May 2009. This trip was organized both by the Nantes Museum of Natural History and the Société d'Histoire Naturelle L'Herminier (SHNLH). This year, we were joined by two French scientists from the SHNLH; Franck Maddi (Botanist) who works on aquatic invasive plants and Laurent Charles (malacologist) who works on land snails.

Our primary goal was to update the checklist of species because we are aware of only two papers concerning the dragonfly fauna of the island (Clark, 1910; Woodruff et al., 1998). Dr. Bob Woodruff spent a few years in Grenada where he collected some odonates. These dragonflies are actually housed at the FSCA and were checked by Jerrell J. Daigle before leaving for Grenada. We started with a list of eight valid species.

Grenada is a three island state: Grenada, Carriacou, and Petit Martinique. Grenada is the largest of the three with a width of twelve miles (18 km) and a length of 21 miles (34 km). The total area is 133 square miles. The highest point is Mount Saint Catherine at 2,757 feet. Carriacou is much less mountainous than Grenada with an area of 13 square miles and wonderful sandy beaches. The three islands of Grenada are located in the eastern Caribbean at the southern extremity of the Windward Islands, only 100 miles north of Venezuela. To the north lie St. Vincent and the Grenadines; to the South Trinidad and Tobago. Most of the Windward Islands in the Caribbean share the same volcanic origin, and while several are long extinct, several of them still have active volcanoes within their territories. Grenada is no exception and actually has one active under sea volcano off the northern shore of the island between the town of Sauteurs and the sister island of Carriacou. However, over the centuries Grenada's volcanoes have been reduced to eroded remnants which have been taken over by the rain forest. A most notable example of this is the Grand Etang Lake and Forest Reserve which is situated in the crater of the extinct volcano.

Franck, Laurent, and François arrived on Grenada from France in the morning, and Jerrell came later in the evening. We met Paul Graham, Head of the Plant Protection Department at the Grenada Ministry of Agriculture, who drove us to our apartments run by a great guy, Augustine Francis, in the upper St. Georges. We started prospecting on 2 May at the Grand Etang which is one of the most popular sites on the island. Sadly, this first day we were plagued by heavy rainfalls and we were surprised to see very few species on this beautiful lake; *Ischnura ramburii* (Rambur's Forktail), *Brachymesia furcata* (Red-tailed Pennant), *Dythemis sterilis*, and *Micrathyria aequalis* (Spot-tailed Dasher). One male *Argia concinna* was collected on



François Meurgey at the foot of a waterfall.

the trail, near the lake. This confirms the presence of this Lesser Antillean endemic, which is present only in Guadeloupe, Dominica, and Grenada at that time.

On 3 May, we decided to prospect Annandale Falls where we thought we had a chance to collect some *Brechmorhoga grenadensis*. No luck with this species, except for a single exuvia, the first for this species! But we found a small population of *Erythrodiplax fusca* (Red-faced Dragonlet) here on a little puddle along the trail invaded with water hyacinths. Later this day, Jerrell spent several hours on a small tributary of the main river where he saw one female *Brechmorhoga* egg-laying in a calm part of the stream. Later on the trip, *E. fusca* was observed in 11 of the surveyed stations and proved to be common and abundant almost everywhere.

Another lake was visited on 4 May. Lake Antoine lies in an old volcanic crater. This highly vegetated water body provided interesting observations on about eight species and among them the first capture of *Orthemis sulphurata* males and females. Jerrell collected several specimens for his DNA studies. This constitutes the first record for the West Indies and confirms, in part, the South American origin of the dragonfly fauna of Grenada. We also collected here two male *Tramea insularis* (Antillean Saddlebags) with a strange bright metallic blue frons. It is metallic purple on other islands and in Florida. Later that day, we reached the Sulphur Springs in the north part of the island. These springs prove the volcanic activity of Grenada and consist of small holes on the ground with sulphurous bubbling water. We collected more *O. sulphurata* here and *E. fusca*. Farther from the springs, we discovered a big meadow in a valley where we saw hundreds of dragonflies flying above the grass everywhere. Among the common species, we collected one male *Tramea calverti* (Striped Saddlebags) and observed *Pantala flavescens* (Wandering Glider). We failed to reach the Levera Lake at the northernmost part of the island, but we did some collecting in a pond along the main road, which provided *Pantala hymenaea* (Spot-winged Glider), *Orthemis sulphurata*, and other common species.

The Palmiste Lake, on the west coast of the island, was visited in the morning of 5 May. This lake is heavily forested as a result of a dam built to irrigate cocoa trees. We found *Micrathyria didyma* (Three-striped Dasher) here, plus other common species. We returned back to running water in the afternoon at Concord Falls which are actually two beautiful waterfalls situated near the middle of the island. Jerrell spent some time searching for *Brechmorhoga* at the first waterfall. Franck, Laurent, and François followed the trail to the second fall after a 35 minute hike. We didn't see any adult *Brechmorhoga*, but Jerrell found a single larva on the bottom of the river. *A. concinna* was everywhere, and we also observed *Dytthemis sterilis* and

E. fusca. We did some bird watching here and saw the endemic Grenada Flycatcher (*Myiarchus nugator*), which is common on every tree top. One of our big surprises during this stay was the incredible number of crayfish in this river, and most generally everywhere on Grenada. In Guadeloupe and Martinique, crayfish are now extremely rare and protected by law. Seeing a guy with a big plastic bag full of Basket Shrimps (*Atya innocous*), caught in 20 minutes is really impressive! Filling a bag with crayfish in Guadeloupe requires about . . . 20 years!

We didn't have any more luck with *Brechmorhoga* at Mt. Carmel Falls the next day. We collected only *A. concinna* and *D. sterilis*.

Searching for the ghost . . .

On 7 May, John Telesford, who drove us the previous days, led us to Tufton Hall on the Saumache River. Along the trail, we collected one immature male, two immature females, and one mature female of *Brechmorhoga grenadensis* and spent several hours searching for more specimens, but without any success. We were very happy to have in hand, the first living specimens since 1894! Although not fully mature, these specimens were compared with *B. praecox* from Trinidad, Mexico, and Martinique, and also with *B. archboldi* from Guadeloupe and Dominica. The male matches with the type specimen housed at the London Museum and with *B. praecox*. We concluded that this species belongs to *B. praecox* and could be, at most, a very weak subspecies. Other species observed here were *A. concinna*, *D. sterilis*, *E. fusca*, and *E. umbrata* (Band-winged Dragonlet). We had many difficulties in finding *Brechmorhoga* during this trip because this species is quite rare everywhere on the island. It appears that the period while we were visiting was not the best one for this dragonfly and June could be more interesting.

Later that day, we went to a bog lost in the middle of the island, in a fairly pristine rain forest. The trail was quite



Argia concinna

difficult to drive, but John did very well! This old lake is now completely vegetated with *Micania* sp. and *Scleria* sp., but we collected *A. concinna*, *D. sterilis* and *E. fusca*. We searched for *Protoneura* sp., but had no luck. We did some birding and saw a couple of Orange-winged Parrots (*Amazona amazonica*) and several Rufous-breasted Hermits (*Glaucis hirsuta*).

After a day off (8 May), Paul Graham drove us to St. Margaret's Falls, which lies near the Grand Etang Lake. These falls are on private property and one has to pay an entrance fee of 5 EC. We spent the whole day there, hiking the trail to reach the falls. We found a lot of sunbathing people but very few dragonflies. *A. concinna* was the only species observed on the river, but *E. fusca* and *D. sterilis* were collected on a little stream near the farms. We had the chance to observe under good conditions the endemic Lesser Antillean Tanager (*Tangara cucullata*), which is quite common and really curious. We saw six males and females who fought against their own image reflecting in rear view mirrors of a parked car.

Our desire to prospect the maximum of different habitats on Grenada led us on 9 May to an area near Tricolor on the north-central uplands of the island. We found an interesting old lake, now invaded with *Micania* sp. and *Scleria* sp. in the middle of a pristine mountain foggy forest, isolated from other water bodies. This place looked good for *Protoneura* sp. and some aeshnids but we found only common species here at the highest altitude on the island: *A. concinna*, *I. ramburii*, *E. fusca*, and *D. sterilis*.

After a long and hard evening (and part of the night) spent at the bar near our apartments where even Jerrell drunk rum (really!), we woke up at eight in the morning, very



Orthemis sulphurata

surprised to meet a guy recommended by Paul Graham, who announced that the price all day by car was 300 EC for four hours field work. In spite of serious headaches, we realized that the price was rather high. Needless to say, we nicely declined his proposal and we found ourselves without any type of transportation. Franck and Laurent walked to Fort Jeudy, in the southern part of the island where they prospected for plants, seashells, and dragonflies. They brought back some odonate photos. We identified five species in this newly surveyed station. Also, on this trip, Franck collected some interesting plants in the high rainforest for his herbarium work and Laurent found some exciting rainforest land snails like the gorgeous green or blue *Drymaeus binominis*. Interesting insects found included the giant longhorn beetle, *Taeniotes scalaris*, the Angerona hairstreak butterfly, *Electrostrymon angerona*, and the rare tiger beetle, *Cylindera sutaralis grenadensis*.

Conference Bay, the dragonflies' paradise

For several days, we noticed on the topographic map of the island a seemingly good habitat site on the east coast with map legends of mangrove swamps and marshes along the shoreline. We decided to investigate this area and see habitats we had not previously surveyed. After a long and hard car drive along a small trail, we finally reached perhaps the most impressive scenery of Grenada. Meadow Beach is a huge, beautiful marsh preserved from urbanization and pollution. Our first observation, while jumping up from the car were two Southern Lapwings (*Vanellus chilensis*). This bird originates from continental South America and reaches very rarely the southernmost Lesser Antillean islands. Many other birds were seen at the same time such as Blue Egret (*Egretta caerulea*), Tricolored Heron (*Egretta tricolor*), Yellow-crowned Night Heron (*Nyctanassa violacea*), Scaly-naped Pigeon (*Columba squamosa*) and several Shining Cowbirds (*Molothrus bonariensis*).

Meadow Beach also provided the first Lesser Antillean record of *Erythrodiplax fervida* (previously known only from the Greater Antilles in the Caribbean) and the first record of *Lestes tenuatus* (Blue-striped Spreadwing) from this island. The population of *E. fervida* was large, worth about 100 individuals observed, and numerous mating and tandem pairs were seen. It's interesting to notice that *E. fusca* was totally absent from this station. *L. tenuatus* was collected on the edge of a well-preserved flooded forest with bloodwood trees. We saw a population that reached 50 individuals here. Mating pairs and females laying eggs were also observed. A total of 13 species were observed at Meadow Beach, which is actually the richest site on Grenada. The most notable among them were: *Brachymesia herbida* (Tawny Pennant), *Orthemis sulphurata*, and *Micrathyria didyma*. This highly interesting

marsh deserves conservation efforts, both for migrant birds and for dragonflies. A follow-up of both *L. tenuatus* and *E. fer-vida* could be of great interest, and a regular yearly survey could point out the presence of some migrant species such as *Hemianax ephippiger* or *Tramea basilaris*. Finally, it is obvious that we didn't find all the species there, especially in the family Aeshnidae, in spite of intensive researches.

Later, in the afternoon, we visited Levera Beach and experienced the thrill of a lifetime in watching a huge leatherback turtle lay her eggs on the beach. Afterwards, we touched her in a goodwill gesture to speed her on way. The leatherery skin felt just like rubber galoshes!

A last visit to Tufton Hall on 12 May to search for more *Brechmorhoga grenadensis* was really unfruitful. We spent the whole day going back and forth from the trail to the river, and the reverse, and found neither adults nor larvae. Totally despaired, we gathered nutmeg and deferred our attention to other insects such as beetles and butterflies . . .

The last day of this trip was devoted to tourism in St. George's town, where we bought souvenirs, listened to the incoming fishermen blowing on their conch shells to alert prospective buyers, visited historic Fort George which was the scene of the bloody 1982 overthrow of the Grenada parliament, and visited the National Museum of Grenada. The Museum holds a small collection of insects (Lepidoptera and Coleoptera) and several birds naturalized in the early 1900s. We had an interesting discussion with the curator and we shared our addresses to start collaboration between the National Museum and the Nantes Museum of Natural History and the L'Herminier Natural History Society. Back to France, we exchanged several e-mails and forged the foundations of a technical and scientific collaboration.

Of the species mentioned by Woodruff et al. (1998) and of his specimens in FSCA, several of which were misidentified, two weren't found during this trip. The presence of *Dythemis multipunctata*, is doubtful on Grenada and could be a result of a misidentified *D. sterilis* or *Micrathyria didyma* which are very similar. It is the same for *Lestes spumarius*, which was almost certainly confused with *L. tenuatus*. Except for the two previous species, five are really new for the island. *Tramea calverti* and *T. insularis* are vagrant species which irregularly appear on the islands and can easily be missed. Surprisingly, we failed to find any aeshnids and obviously this family needs to be more thoroughly researched. It appears that the number



Group shot from left to right: Jerrell Daigle, John Telesford, Laurent Charles, Franck Maddi and François Meurgey.

of Zygopteran species is really feeble compared to other similar islands. We failed to find *Enallagma coecum* and *Telebasis corallina* which are recorded from Ste. Lucia, but we saw a lot of seemingly good habitat.

Undoubtedly, Grenada deserves more attention, especially in the forested areas, mangrove swamps and mountainous water bodies. This collecting trip was fruitful, and we had the occasion to learn more about the biogeography of the species that occur there. The dragonfly fauna of Grenada has clearly a South/Central American origin and it seems that its youth didn't allow this island to support speciation in some groups. Grenada continues to be colonized by South and (or) Central American species which, in a second time, go farther north to the other central Lesser Antillean islands where they finally speciate.

Acknowledgements

We wish to thank Paul Graham, head of the Plant Protection Department, Ministry of Agriculture, for providing us with collecting and export permits, Gemma Bain for permission to use department vehicles and drivers plus Floyd Collins and John Telesford (Pest Management Unit, Ministry of Agriculture) who drove us to all over the island during these two weeks, for their availability and their kindness. Like peas in a pod, we also thank our really magnificent field companions, Franck Maddi and Laurent Charles!

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Updated checklist of species (* = new species)

ZYGOPTERA

Argia concinna
Ischnura ramburii
*Lestes tenuatus**

ANISOPTERA

Brachymesia furcata
*B. herbida**
Brechmorhoga praecox grenadensis
*Dythemis sterilis**
Erythemis vesiculosa

*Erythrodiplax fervida**
E. fusca
E. umbrata
Micrathyria aequalis
M. didyma
*Orthemis sulphurata**
Pantala flavescens
P. hymenaea
Tramea abdominalis
*T. calverti**
*T. insularis**



Two New Damselflies for Texas

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On 22 May 2009, Abbott, Lasley, Kendra Bauer and Dave Welling were at Santa Ana National Wildlife Refuge, Hidalgo Co., Texas where they were photographing Cream-tipped Swampdamsels (*Leptobasis melinogaster*) in the grassy vegetation near the edge of the front pond near the parking lot. This species was in significant numbers on this occasion and our group was busy marveling at the spectacle when Abbott called our attention to an orange colored damselfly that he speculated was a different *Leptobasis* species. We intently followed this teneral male for several minutes and were successful in getting many photo images. Approximately five minutes after this initial discovery, Robert A.

Behrstock and Martin Reid arrived leading a field trip from the Dragonfly Days Festival in nearby Weslaco, Texas. We described our damselfly to them and in a short while we were successful in locating several more. Our conclusion at this time was that our bug was Red-tipped Swampdamself (*Leptobasis vacillans*). Over the next several weeks, well into June, Lasley, Reid, and others were able to take many photo images of teneral as well as fully mature individuals at this location. This species is widely distributed, known from several Antillean islands and Mexico southward to Ecuador. This discovery represented a new species for Texas as well as the United States.



Mature male *Leptobasis vacillans* (Red-tipped Swampdamself) taken at Santa Ana National Wildlife Refuge in Hidalgo Co., Texas on 9 June 2009. Photo by Greg W. Lasley.



Male *Nebalennia gracilis* (Sphagnum Sprite) photographed at Beaver Ponds in Angelina National Forest, Jasper Co., Texas on 15 June 2009. Photo by John C. Abbott.

On 13–14 May 2009, Terry Hibbitts photographed a number of interesting odonate species at a set of beaver ponds in the Angelina National Forest, Jasper Co., Texas. Since several of the species Hibbitts photographed were uncommonly observed in Texas, Lasley and Reid made a trip to these same ponds on 5–6 June 2009. One of the species which was quite common at this location was Southern Sprite (*Nehalennia integricollis*). In addition to photographs, Lasley collected a number of specimens for The University of Texas Insect Collection. After returning home, Lasley puzzled over one of the *Nehalennia* specimens which was larger than the rest of the *N. integricollis* and had a different color pattern and structure of the appendages. Abbott was out of the country at the time so Lasley contacted Dr. Dennis Paulson who examined macro photo images of the specimen in question and confirmed Lasley's suspicion that the unusual individual was Sphagnum Sprite (*Nehalennia gracilis*). This species had previously been known from much of the eastern United States and parts of southeastern Canada, with records in the southeastern United States from Florida to Alabama. This species was not known west of the Mississippi River except for an historical record of their occurrence in southeastern Missouri (Williamson, 1932). The Texas population extends the known range of this species ca. 350 km west of the previous records known from southwest Alabama.

***Lestes forficula* (Rainpool Spreadwing) in Florida**

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On 11 July 2009, I found and photographed a male Rainpool Spreadwing (*Lestes forficula*) at a series of flatwoods ponds on Eglin Air Force Base, Okaloosa County, Florida (30° 29.05' N, 086° 43.09' W). With me were Jerrell Daigle, Marion Dobbs, Mary Ann Friedman, Kelly Jones, Ed Lam, and Sharon Weaver. Jerrell found an additional male.


These were large, shallow ponds in pine flatwoods with abundant dense sedges and small areas of open water. Other spreadwings seen and photographed included a male Southern Spreadwing (*Lestes australis*) and a pair of Carolina Spreadwings (*L. vidua*). Atlantic Bluets (*Enallagma doubledayi*), Eastern Pondhawks (*Erythemis simplicicollis*), Little Blue Dragonlets (*Erythrodiplax minuscula*), and Blue Dashers (*Pachydiplax longipennis*) were fairly common, and the group also saw one or a few of the following species: Citrine Forktail (*Ischnura hastata*), Rambur's Forktail (*I. ramburii*), Southern Sprite (*Nehalennia integricollis*), Comet Darner (*Anax longipes*), Golden-winged Skimmer (*Libellula auripennis*), and Carolina Saddlebags (*Tramea carolina*). This is a typical

On 8 June 2009, Reid returned to the Jasper County location of the *N. gracilis* records and estimated ca. 50 individuals in one area. He obtained more photos and several additional specimens. Hibbitts later reviewed images he had taken on 13–14 May 2009 and discovered he had indeed photographed *N. gracilis* on those dates, but had not realized it at the time. On 15 June 2009, Lasley, Abbott, and Mike Dillon again visited these beaver ponds in Jasper Co., and observed *N. gracilis* in moderate numbers.

Paulson commented that this species appears to be closely tied to *Sphagnum* moss, and in fact the edges of these beaver ponds are liberally covered with this moss. It will be interesting to see if additional populations of this species turn up in other areas of east Texas as well as Louisiana.

Our thanks to Dennis Paulson for his identification of this new Texas species from Lasley's photos of a specimen.

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assemblage of fishless-pond species on the southeastern Coastal Plain.

Lestes forficula has been long known from southern Texas, north to Leon County and east to Harris County (Abbott, 2006), and it was recently found in southern Mississippi (Oktibbeha and Winston Counties, September 2004; Bried & Krotzer, 2005) and Louisiana (St. Landry Parish, September 2007; Strickland & Strickland, 2007). The current record from the western end of the Florida Panhandle indicates the species may be spreading east along the Gulf Coast, and it should be sought more widely. Although a widespread species in the West Indies (Paulson, 1982), it has not been found on the Florida Peninsula, and it seems more likely that the Okaloosa County population came from the west rather than from the south.


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A Second Odonata Survey at Congaree National Park, Richland Co., South Carolina

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Congaree National Park, approximately 25 km southeast of Columbia, South Carolina, is over 11,700 hectares in size and protects the largest remaining old-growth bottomland forest in the United States. The Congaree River and the associated oxbow lakes, sloughs, channels, creeks, and ponds provide a variety of habitats for odonates. I conducted a biweekly survey from March–September 2002 (13 sampling days), focusing on anisopterans. I collected 41 species, including 16 new county records (Worthen, 2003). I returned in 2008–09 and conducted a more thorough survey of all odonates from March–October 2008 and March–August 2009 (39 sampling days). I found 63 species, including 17 new county records and a new state record. The total count across both surveys stands at 70 species for the park, representing 45% of the 157 species now listed for the state at OdonataCentral.org (Abbott, 2007; for a justification for using this as the state list, see Hill, 2009). Seven other species have been collected in Richland County, but I have not found them at Congaree National Park.

The new species for the state is:

Gomphus (Hylogomphus) apomyius Donnelly (Banner Clubtail). A single teneral female was captured on 30 March 2009 in a successional field adjacent to Wise Lake (33.8150°N, 080.828°W) and Cedar Creek. Given its teneral state, it seems likely that it emerged from nearby Cedar Creek. This part of Cedar Creek has a muddy bottom and runs through a Bald Cypress–Tupelo lowland; this is not the typical “sandy, pineland stream” habitat reported in Needham et al. (2000). The specimen was deposited in the insect collection at Congaree National Park, but pictures are available at <<http://eweb.furman.edu/~wworthen/dflies/cong/conhyap.htm>>. The identification was confirmed by Nick Donnelly and Steve Krotzer and was entered at OdonataCentral.org (OC#312499).

The other new county records are: *Hetaerina titia* (Smoky Rubyspot), *Lestes australis* (Southern Spreadwing), *Lestes inaequalis* (Elegant Spreadwing), *Lestes vigilax*

(Swamp Spreadwing), *Enallagma doubledayi* (Atlantic Bluet), *Enallagma dubium* (Burgundy Bluet), *Enallagma geminatum* (Skimming Bluet), *Enallagma traviatum* (Slender Bluet), *Enallagma vesperum* (Vesper Bluet), *Nehalennia integricolis* (Southern Sprite), *Helocordulia selysii* (Selys’ Sundragon), *Somatochlora filosa* (Fine-lined Emerald), *Macromia alleghaniensis* (Allegheny River Cruiser), *Libellula axilena* (Bar-winged Skimmer), *Libellula luctuosa* (Widow Skimmer), and *Sympetrum ambiguum* (Blue-faced Meadowhawk). Voucher specimens for all species but *L. luctuosa* (photo record) have been deposited in the insect collection at Congaree National Park. All species can be seen at <<http://eweb.furman.edu/~wworthen/dflies/cong/conlist2.htm>>.

Acknowledgements


I thank the staff at Congaree National Park, particularly Dr. Theresa Thom, for accommodating my visits so graciously. This research was conducted under NPS permit #CONG-2008-SCI-0008. I also thank Nick Donnelly and Steve Krotzer for their assistance with identification.

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Libellula gaigei (Red-mantled Skimmer), a New Species for the United States

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On 11 August 2009 I spent most of the day looking for odonates at Santa Ana National Wildlife Refuge, Hidalgo county, southernmost Texas. From 0900 hrs to about 1115 hrs I checked various points around the northernmost (entrance road) pond, and among the regularly occurring dragonflies I saw one male Vermilion Saddlebags (*Tramea abdominalis*) and three male Blue-faced Darners (*Coryphaeschna adnexa*). I then walked down to the Willow Pond complex, starting at #3 where a number of rare/local taxa have been found in the past 12 months, including Cream-tipped Swampdamsel (*Leptobasis melinogaster*), Red-tipped Swampdamsel (*Leptobasis vacillans*), Blue-striped Spreadwing (*Lestes tenuatus*), and Caribbean Darner (*Triacanthagyna caribbea*). At this time, Pond #3 was almost dry, with just a small patch of very shallow water at its easternmost end. While looking through the half-dozen or so *Orthemis* skimmers present at this scrap of water, I saw what looked to me like an extra-vibrant male-type Flame Skimmer (*Libellula saturata*) fly past the tussling *Orthemis* without stopping, in the direction of Pond #2.

I had met Tom Pendleton by this time, so we both walked slowly over to Pond #2. It was full of water, but viewing opportunities from the path were very limited due to the dense overhanging woody vegetation surrounding the pond. At about 1225 hrs we arrived at Pond #1, which is separated from #2 by a raised footpath lined with trees. Pond #1 was partly inundated with water, flooding the tall grasses and scattered cattails therein up to knee height or more. I waded into the middle of this small pond (size of basketball court) surrounded by trees, and quickly noticed what I presumed to be the same *L. saturata*-like skimmer about 10 feet up on the side of one of the overhanging trees. Moments later it flew past me and landed on the tip of a broken cattail, close to the edge of an overhanging tree but in full sunshine. I called it to Tom's attention, saying it "looked like a Flame Skimmer but was not quite right," and mentioning that the location and habitat seemed wrong for that species. I racked my brain but could not come up with anything in my experience (either in the field or from my collection of reference material) that looked remotely like this individual, and almost dismissed it as a strange-looking *L. saturata*. Happily I decided that I needed to document it, and moved closer, taking a few photos with a telephoto lens as I did so. It seemed rather jumpy and soon flew to a more distant perch closer to Tom on the other side of the pond. It remained there for only a few seconds before flying low across the pond toward Pond #2, seeming to fly through the low gap in tree cover and into



Pond #2. We both moved to Pond #2, and I waded out into the pond gaining a fairly clear view of all the open water. I did not see this insect there, nor during another visit later in that afternoon, nor again the next morning (12 August) at the same two ponds, however Jan and David Dauphin reported seeing it briefly on Pond #1 at about 0900 hrs that morning.

When I got back to my car in the refuge parking lot I looked at my reference books and confirmed that it was not right for either Neon Skimmer (*Libellula croceipennis*) or *L. saturata*, and called Dennis Paulson in Washington for help. I described it to him while looking at my photos on the camera, and soon Paulson decided that it sounded like a species of *Libellula* described by Leonora Gloyd in 1938 from specimens collected in the Yucatan, and that he had a male specimen from Guatemala that had been sent to him by Nick Donnelly. Paulson retrieved the specimen from his collection, and we went over the salient features again. Paulson concluded that if my description was accurate then the Santa Ana insect was very likely the same as the specimen he was looking at: *Libellula gaigei*. Early that evening I was able to e-mail Paulson with copies of my photos attached; when I called him back he confirmed that the photos showed it to be a male *L. gaigei*, the first documented record of this taxon for the United States.

Paulson told me that *L. gaigei* is poorly known and seemingly very rare—he had never encountered it during his trips to Mexico, and it has been characterized as “an extremely rare species” (Enrique Gonzales Soriano) and “a very rare species” (Sid Dunkle). Gloyd did not encounter the taxon herself, but examined two males collected in Yucatan state, Mexico in 1932, and she described the species based on these specimens. Interestingly, Gloyd concluded that details of the reproductive morphology placed this taxon not with *croceipennis* and *saturata* in the *Belonia* subgenus but instead within the *Holotania* subgenus—

being closest in that group to Slaty and Great Blue Skimmers (*Libellula incesta* and *vibrans*; Gloyd, 1938). Here is a summary of all specimens known to me (please notify the author of any errors/omissions):

- 1932: two males collected by A.S. Peares and E.P. Creaser; Yucatan State, Mexico.
- 1965: “several” males collected by Nick Donnelly at Tikal, Guatemala.
- 1968: male and female collected by R.W. & J.A. Garrison near Tecolutla, Veracruz, Mexico.
- 1975: 2 males* collected by Sid Dunkle near Mazatlan, Sinaloa, Mexico.
- 1976: 1 male* collected by Sid Dunkle near Mazatlan, Sinaloa, Mexico.
- 1976: 2 males collected by R.W. & J.A. Garrison northeast of Huatusco, Veracruz, Mexico.
- 1980: a male collected by Enrique Gonzáles Soriano near Los Tuxtlas, Veracruz, Mexico.
- 1983–85: male and female collected by Novelo-Gutiérrez et al coastal Quintana Roo, Mexico.
- 1994: 1 female collected by T. Boomsma in Stann Creek District, Belize.

*The records for Sinaloa (from a coastal lagoon north of Mazatlan) seem to not fit the pattern of this being a taxon restricted to the eastern Coastal Plain of northern Meso-America. During correspondence on this matter it seems that these specimens from Sinaloa differ (in paler overall coloration and more-limited wing maculation) from the Santa Ana individual, Paulson’s Guatemala specimen, and the illustrations in Gloyd 1938 (all of which seem consistent). Rosser Garrison recently compared the vesica spermalis of one of Dunkle’s western specimens to one of his own from Veracruz, and found them the same, confirming the Sinaloa records as *gaigei*.

Male *Libellula gaigei* is superficially most similar to *L. saturata*, but differs in the following features: The tone of red in the body and wings is richer and redder—much closer to *croceipennis* in this regard. The abdomen is slimmer, with segments 4–8 being obviously longer than wide, more akin to *incesta/vibrans*. The extent of red maculation in the wings is distinctive; Gloyd (1938) expressed it succinctly, thus I quote her: “Wings with a large reddish-brown (probably glowing red in life) basal area, extending in front wing to the nodus enclosing the area between C and M₁₊₂, and below this only to a level of the origin of Rs receding slightly toward the posterior margin; in hind wing to the nodus enclosing the area between C and M₁₊₂, and from the level of the second bridge crossvein forming an arc to the posterior wing margin at a point below the tip of the anal loop. Remainder of wings hya-


line. Dorsal surface of costa red, otherwise the venation in the basal area is red-orange appearing lighter than the color of the intervening spaces; in hyaline portion, black; pterostigma, dark reddish-brown”. Gloyd (1938) describes in detail penile distinctions, and I gather that Förster (2001)—I lack this reference, mentions tubercles on the frons as additional separation from *croceipennis* (Robert Larsen, pers comm.) In the field the distinctive features are the bright vermilion-red color of the body and wing bases (almost to nodus) combined with the lack of color in the black-veined postnodal part of each wing.

Female *gaigei* is known from just three specimens, the first collected in northern Veracruz by Rosser Garrison in 1968 and used to formally describe the female (Garrison, 1973): In general it is like a washed-out version of the male, being mid brownish-orange overall, with a plain thorax and abdomen but with the expanded flanges on each side of S8 being a darker brown. The base of each wing has a much weaker (but similar in extent) version of the male pattern, again with the color extending to the nodus costally and less so rearwards to the edge of the hindwing.

Acknowledgments

I must thank Sid Dunkle, Rosser Garrison, Enrique Gonzales Soriano, and Dennis Paulson for corresponding with me and providing much of the historical data quoted here. Rosser Garrison also kindly examined specimens to confirm the identity of the western records. Special thanks are due to Dennis Paulson for critiquing this article and for regularly being my “go-to” guy for in-the-field identification assistance. Finally I’d like to thank the staff at Santa Ana NWR for their increasing awareness and support of odonate environments in their refuge.

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Two New Odonates for Oregon in Two Days

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Two odonates, *Lestes forcipatus* (Sweetflag Spreadwing) and *Aeshna tuberculifera* (Black-tipped Darner), have been presumed to occur somewhere in northern Oregon for several years because of their close proximity at sites in southern Washington (Johnson & Valley, 2005). Oregon odonatists have been confounded by the seeming lack of these species on the south side of the Columbia River—until 2009, although they were not found where they were expected to occur which makes it all that much more fun.

Lestes forcipatus (Sweetflag Spreadwing)

After visiting Bunchgrass Meadows in the far northeastern wilds of Washington, we made our way to the northeastern corner of Oregon—a relatively unsurveyed portion of the state as far as odonates are concerned. While heading south on Hwy 3 about 14 miles north of Enterprise, Wallowa County, on 2 August 2009, we noticed a couple of ponds with extensive emergent sedges and lily pads (45.7361° N, 117.1635° W; 3200 feet elev.). Well-vegetated, publicly accessible wetlands are scarce in this part of the state (even in the extensive National Forest land), so I figured we could at least get a few new county records out of it.

With my first step into the wetland, I noticed a male *Lestes*, heavily pruinescent on the dorsum of the thorax which made it look quite whitish from a distance. After netting it, I could see that the paraprocts were long and narrow—



Male *Lestes forcipatus* (Sweetflag Spreadwing) at a pond about 14 miles north of Enterprise, Wallowa County, Oregon, 3 August 2009. Photo by Jim Johnson.

consistent with *L. disjunctus* and *L. forcipatus*, and that the pattern of pruinescence on the second abdominal segment did not extend to the posterior one-third or so which narrowed it down to *L. forcipatus*. At that moment I yelled over to Cary that we had a new species for the state. I then found a pair in tandem—the female with her very large ovipositor extending past the tip of the abdomen unlike the females of any other *Lestes* in North America.

We spent the next couple hours at this pond scrutinizing the *Lestes* and also seeing what else was around—*Lestes disjunctus* (Northern Spreadwing), *Leucorrhinia intacta* (Dot-tailed Whiteface), and *Sympetrum pallipes* (Striped Meadowhawk) were also new Wallowa County records. Both *L. forcipatus* and *L. disjunctus* were very numerous, and it's difficult to say how many there were or which species was more abundant. Cary and I each collected several *L. forcipatus*.

The following day, 3 August 2009, we returned to this pond to photograph Oregon's newest odonate and take another look. Once again the site was loaded with *Lestes forcipatus*. After an hour or two Cary and I parted ways since he was to check on some Nature Conservancy property near Enterprise. I began to head toward La Grande and on the way I thought it would be interesting to find some wetlands in the mountains of Union County that might have *L. forcipatus*.

Near the dry Fry Meadow, I found a small borrow pit on the east side of Forest Service Road 6231 heavily vegetated with spike-rushes and cattails (45.7659° N, 117.8212° W; 4100 feet elev.). The first odonate I netted was another new species for Oregon (see below), but this site was also abundantly populated with *Lestes forcipatus*. A few voucher specimens and more photos were obtained during my visit over the next couple hours.

Subsequently I learned that Cary Kerst found *Lestes forcipatus* at another site in Wallowa County on 4 August 2009 (45.4385° N, 116.9293° W). The discovery of a new species in a state at three sites, in two counties, over three days seems pretty amazing, but it's also an indication of how little attention the region has received in the past.

Aeshna tuberculifera (Black-tipped Darner)

At the Union County borrow pit near Fry Meadow (see above under *Lestes forcipatus*), the first odonate netted on 3 August was a female *Aeshna tuberculifera* (Black-tipped Darner). I was nearly overwhelmed with shock and disbelief since this was another species that we expected to find in the Cascade Mountains—not the wetland-poor Blue Mountains, and right on the heels of another Oregon addition. Besides the bold, straight, parallel-sided thoracic stripes, very thin black line across the face, and long cerci, this female had the male-like coloration and structure



Female *Aeshna tuberculifera* (Black-tipped Darner) at a borrow pit near Fry Meadow, Union County, Oregon, 3 August 2009; posed. Photo by Jim Johnson.

(narrowed abdomen near base) that are characteristic of female *A. tuberculifera*.

This small site was literally teeming with aeshnids—primarily *A. palmata* (Paddle-tailed Darner) and *A. interrupta* (Variable Darner), so I spent nearly the rest of the afternoon netting aeshnids like mad, trying to find more *A. tuberculifera*. I ended up with another female and a single male which were posed for photographs and taken as vouchers. I can't help thinking that if a few of the first aeshnids caught were not one of these *tuberculifera*, I wouldn't have learned of this species' presence.

On my way through La Grande a few hours later, I left a voice mail for Cary knowing that he would be interested in a visit of the borrow pit on his way through. He later informed me that he stopped there on 5 August and also found *A. tuberculifera*. It sounds like he had better luck, catching several males. He was there earlier in the day and maybe that was a factor.

Additional Discussion

Because of their presence at southwest Washington sites—*Lestes forcipatus* in Wahkiakum, Clark, and Skamania Counties rather close to the Columbia River, and *Aeshna tuberculifera* in Skamania County about 13 miles from the Columbia River (Abbott, 2009), these species were expected to be found in northwestern Oregon (the northern Cascades, specifically, in the case of the *Aeshna*). This presumption may still hold true (*Lestes forcipatus* seems especially likely), but these recent finds have me thinking twice about the potential of the Blue Mountains in Oregon and Washington. I am also rethinking my view of borrow pits—seemingly poor substitutes for natural wetlands, but if they are the only wetland around they may offer some surprises.

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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.

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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) *Celithemis eponina* (Halloween Pennant) photographed in flight near Paris, Lamar Co., Texas. Photo by John C. Abbott. **(lower)** *Nehalennia irene* (Sedge Sprite) at Gold Lake Bog, Lane Co., Oregon. Photo by Jim Johnson, <odonata.bogfoot.net>.

