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The Dragonfly Society Of The Americas

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Journals Published By The Society

ARGIA, the quarterly news journal of the DSA, is devoted to non-technical papers and news items relating to nearly every aspect of the study of Odonata and the people who are interested in them. The editor especially welcomes reports of studies in progress, news of forthcoming meetings, commentaries on species, habitat conservation, noteworthy occurrences, personal news items, accounts of meetings and collecting trips, and reviews of technical and non-technical publications. Articles for publication in ARGIA are best transmitted as attachments to e-mails, but can be submitted on floppy disks. The editor prefers MS DOS based files, preferably written in Word, Word for Windows, WordPerfect, or WordStar. **All files should be submitted unformatted and without paragraph indents.** Line drawings are acceptable as illustrations.

T. Donnelly (address above) and Jim Johnson are the editors of ARGIA.

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

Membership In The Dragonfly Society Of The Americas

Membership in the DSA is open to any person in any country. Dues for individuals in the US, Canada, or Latin America are \$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 should be mailed to Jerrell Daigle, 2067 Little River Lane, Tallahassee, FL 32311

The **Bulletin Of American Odonatology** is available by a separate subscription at \$20 US for North Americans and \$25 US for non-North Americans and institutions.

Front cover: Everyone loves a clubtail! *Ceratogomphus pictus* (Common Thorntail) in South Africa. Photo by Greg Lasley.

In This Issue

The death of a good friend is always painful. George Bick's passing also takes from us an astute entomologist who enriched our subject in manifold ways. We present several tributes here.

The Calendar of upcoming events reminds us that Spring will come, which seems unlikely as I watch the snow blowing across my back yard. Get out your nets!

Georgia continues to lead the rest of our area with the recent vigor of its odonate surveys. On the heels of a BAO issue listing its impressive odonate fauna, Giff Beaton and Marion Dobbs add even more species to its list.

Last year produced many interesting range extensions for North American odonates. Rich Bailowitz extends the range of *Tramea insularis* to Arizona. Marion Dobbs took *Lestes forcipatus* in Georgia for the first time. Probably the most startling record in this group is Paul McKenzie et al.'s report of *Arigomphus maxwelli* from northwest Mis-

souri, as well as from the southeastern Boothill region, where it is not a surprise.

One of the best records for 2005 is *Somatochlora brevicincta* from northern Minnesota. June Tveekrem provided photos on her web site. Many people are reluctant to accept photo records (including the editor!) but after extensive comparison I am convinced! This elusive dragonfly comes very close to having one of the largest ranges along with lowest occurrence densities of any North American species, occurring from Nova Scotia and Maine to British Columbia, but with very few localities.

John and Sue Gregoire (or is it Sue and John?) submit another article on their very productive faunal reserve in upstate New York.

Kathy Biggs tells us of a three day "blitz" in California. Seven hardy participants recorded 22 species on a September weekend, and apparently had a great time doing it.

Noble Proctor tells of more bird-dragonfly interactions. A green heron grabbing skimmers perching on its own head seems like a very odd way to feed, and sandpipers pigging out on dragonfly larvae remind us of the tough road these insects have to follow.

Bob Behrstock adds several new records to Tamaulipas—the northeastern state of Mexico. The intensity of odonate surveying in the northern Mexican states is less than one percent of what has been accomplished in the southernmost United States. With an equal attention to these Mexican localities, we might anticipate a similarly spectacular increase to the Mexican list.

Correction

Giff Beaton submitted a beautiful photo of a gomphid as cover art for ARGIA 17(4), but the Editors really blew it with the caption. The common name was wrong; the scientific name was wrong; and the location was wrong. The wrong common name didn't even go with the wrong scientific name. The correct information is Shining Clubtail (*Stylurus ivae*) in Florida. At least we got the photographer right! Giff, please accept our apologies.

Calendar of Events for 2006

Event	Date	Location	Contact
SE Regional	19–21 May	Glenwood, Arkansas	George Harp <glharp@astate.com>
Dragonfly Days	19–21 May	Weslaco, Texas	Valley Nature Cen. < http://www.valleynaturecenter.org/ >
DSA Annual	10–12 June	Cave City, Kentucky	Carl Cook <bugman@srtc.com>
NE Regional	22–25 June	Twin Mtn., New Hamp.	Pam Hunt <biodiva@fcgnetworks.net>
GLOM	22–25 June	Grantsburg, Wisconsin	< http://web.gk12.net/homes/mberg/GLOM2006.htm >
Minn. Dragonfly Gathering	7–9 July	Twin Cities, Minnesota	Kurt Mead <kurtm@dragonfliesofthenorthwoods.com>
<i>Aeshna</i> Blitz	28–30 July	Anthony Lake, Oregon	Jim Johnson <jt_johnson@comcast.net> 

A winter-time trip to Guadeloupe by François Meurgey, Jerrell Daigle, and Fred Sibley has produced several significant records. Although not the first New World record of *Anax ephippiger*, the find of this Old World darner in the Lesser Antilles is a red-letter record. Jerrell apparently found an undescribed *Macrothemis*, and the group found several *Scapania archboldi*, which Rosser Garrison believes should be transferred to *Brechmorhoga*. This enigmatic bug was known as a single female from Dominica (the next island south) collected in 1964. It is relief to have more material, and especially the male.

George Bick, 1914–2005

Nick Donnelly

Sadly, we have lost not only one of our good friends, but also one of the most distinguished odonatists in this hemisphere. George's passing, of course, can't be discussed without recalling his wife of more than half a century—Juanda. Most people encountered George only at odonate meetings—he was the gravel voiced, rather tall man, with his much shorter, effervescent wife. Juanda died in 1999 and now George has left us, having lived his final years with his daughters Patty (Vermont) and then Suzann (Washington).

There are three “must read” articles about the Bicks in ARGIA, and I urge you to pull out your old copies. “Looking Back”, by George (ARGIA, 1996, 8[2]: 22–26). “Juanda Bick: 1919–1999” (ARGIA, 1999, 11[4]: 2–4), (This has some wonderful early photos of the family.) “George H. Bick, Honorary Member, The Dragonfly Society of the Americas”, by Roy Beckemeyer. (ARGIA, 2002, 14[3]: 4–5).

Most of us first met George and Juanda at the famous 1963 meeting at Purdue, organized by B.E. (Monty) Montgomery. They gave a very interesting paper on their behavioral studies of damselflies, and both participated extensively on the discussions on damselfly life history and behavior. I think it was my first exposure to this area of research. We all left Lafayette having been highly impressed by the Bicks.

George was always the person that I wish I had enough sense to have collaborated with. He had an amazingly encyclopedic mind, and instantly picked up on problems others never noticed. He was the earliest and most enthusiastic reader (if I can use that term) of the dot maps, and shortly after they were published he mailed me a large envelope filled with notes for what was intended to be a paper on notable disjunctions in the ranges of North American odonates. Some of these (if only he had been at my side when I made those maps!) quickly turned out to reveal that

The editor of ARGIA finally returned to Africa after four years and recounts a wonderful trip to South Africa. It is not bad when you can find half the known ode fauna of any country in three weeks.

Finally, Dennis Paulson reviews a new guide—to Alaska. This is by far the most poorly known region of North America and we strongly hope that this guide will stimulate some serious ode searching. 

I had been too trusting of some of the data that was sent me, but many more showed the quickness and depth of his mind. George had a knack for taking an observation that seemed mundane to everyone else and putting an intriguing spin on it. George made you stop and think.

George told us his life story in his 1996 article called “Looking Back”. These four pages contain few Odonata insights but are full of wonderful observations about the development of his interests and vignettes of some of his early friends and collaborators. We can't reprint this article here, but I strongly recommend that you read it. He starts with the story of having an *Erythemis simplicicollis* simply fly into his net while it was laying eggs. He was a student at Tulane at the time (eventually getting his masters degree there in 1938). His professor goaded him into rearing its eggs to adult insects (“You will never rear them to adults.”), which he accomplished. This chance netting led to a marvelous paper on the life history of this insect. (C.H. Kennedy, never one to lavish praise, simply told him his figures were too large!) This was the first dragonfly paper that I list for him in the accompanying bibliography, but he also wrote on other natural history subjects, including the ivory-billed woodpecker (George actually saw one of these magnificent birds while working briefly in the southern swamp forests before his dragonfly days.).

George was swept into World War II, quickly becoming a mosquito-control officer in the Navy, and serving in New Guinea and the Philippines. (The roster of military entomologists serving in the southwest Pacific theater during the war reads like a who's-who in American entomology, and also includes my own mentor Donald Borror.) At the end of the war he went back to school, using his studies of larval habitats in the southwest Pacific for a PhD degree at Cornell. (Curiously I can find no record of his meeting Minter Westfall at that time.) At this point he married

Juanda, starting the second phase of his odonate career, which was a husband–wife collaboration on a marvelous series of studies on behavior of damselflies. He taught at Tulane, Southwest Louisiana State, and then St. Mary's College in Illinois.

He and Juanda spent their summers at a series of biological stations in Michigan, Ohio, Oklahoma, Montana, and perhaps some other places of which I am not aware. The 13 summers at the University of Oklahoma station provided them for the research opportunity for their long and highly regarded papers on behavioral studies. Travels to the Montana station with his friend and associate Lothar Hornuff (another very interesting person, whose only appearance at a dragonfly meeting was at my informal gathering in Binghamton, in 1982, to which George and Juanda brought him) gave them an opportunity to survey the odonates of the northern Great Plains, which they did with considerable enthusiasm. To this date, our knowledge of this seriously under surveyed area comes largely from the merry trio of George, Juanda, and Lothar.

George's studies on odonates fell into four research areas. The earliest consisted of life history studies (largely descriptions of larvae, but also including behavior and habitat). The second area largely overlapped the first in time and consisted of faunal surveys, including Louisiana, Oklahoma, Mississippi, and later the Great Plains. The third—and the most influential, was his collaboration with Juanda on behavioral studies, all done with damselflies and most based on Oklahoma studies. In their later years, decreased mobility drove them into the lab, where they worked together on taxonomic studies, including impressive reviews of the several Neotropical, damselfly genera: *Cora*, *Euthore*, *Polythore*, *Philogenia*, and *Telebasis*, including the description of numerous new species. He also wrote on dragonfly conservation.

George and Juanda taught us to slow down and take a long look at what it was that we were netting. They were among the first with this message, and, judging from the large volume of behavioral studies, they were very effective indeed. We miss not only the scientists, but even more the very joyful man and wife who brought so much happiness into our lives. We also extend our deep condolences to their daughters Patty and Suzann and their grandchildren.

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Memories of my Daddy, George Bick

Suzann Bick, Port Angeles, Washington

My father began living with me in April 2000 after the moving van filled with his possessions barely escaped from a very snowy Vermont “spring.” Daddy had been staying on the ground level of my sister’s house until his heart attack that spring. When I flew from Port Angeles to visit and assess his condition, I decided that he would benefit from a less taxing climate and constant care. Daddy had grown up in that now beleaguered city, New Orleans, and soon after receiving his PhD from Cornell University, began teaching at Tulane University. While he found Vermont lovely, it was simply too inhospitable for someone his age.

Over the course of the five years we lived together in Port Angeles, we became great friends, as well as father and daughter. Our last big celebration was the party in October to celebrate his ninety-first birthday. The aging process is, of course, problematical, but Daddy faced it with a good deal of grace. Marvelously for both of us, he remained mentally alert and indeed when he died on 28 November 2005, he had only recently completed his final Odonate paper, provisionally titled, “An Armchair Search for Disjunct Odonate Species: Their Distribution, Habitat, and Conservation.” Indeed, in certain respects, the paper led to his death. On the afternoon of 15 November, he had walked into his study,

presumably to check the thesis yet again (all papers tended to be called “the thesis”) when he missed his desk chair and landed on the hardwood floor. I decided that he almost certainly had broken something so called the paramedics. Even in the emergency room as we awaited decisions about possible surgery, he was lucid, though irked with nurses who repeated their questions. When asked who was our current president, he verbally sneered, “George Bush—though I certainly didn’t vote for him.”

We talked mostly about the past, dragonflies, politics, books, nature, and our garden. One of his interests in the fall (in addition to the ever present dragonflies) was helping me plan the large garden bed planned for the front lawn. He helped me decide on a magnolia and weeping cherry, as well as grasses, an *Escallonia*, and *Ceanothus*.

We also discussed books as he read voraciously. At first he accompanied me to the local library, but after his bout with pneumonia two years ago, I took on the responsibility of selecting books—though with a PhD in English our house was filled with novels. One of the last works which engaged his attention was *The Race to Save the Lord God Bird* by Philip Hoose, an account given to him by my sister for Father’s Day. Subsequently, I learned that the second

paper he ever wrote (“Ivory-billed Woodpecker and Wild Turkeys in Louisiana”, 1942) focused on the Ivory Billed Woodpecker whose very existence is currently in debate.

I have always been a committed cat person, and gradually Daddy became quite fond of our two: Tabitha (despite his name, an enormous male tabby) and Engel (a much smaller Siamese). Often right before dinner was ready to be served, I would hear his plaintive cry, “I can’t sit down.” Eventually, I realized that Daddy was too kind-hearted to shoo Tabitha off his chair. Although the cats weren’t allowed in his room at night because we feared that he might trip over them, they regularly made themselves at home in his ancient, cane-bottom rocker, once occupied by his very Irish grandmother, Mary Margaret O’Connor O’Brien.

Daddy always missed the very warm weather of New Orleans and Gainesville, Florida, where he and my mother had lived following his retirement from St. Mary’s College until my mother became ill with cancer. Fortunately, we had a walled patio, so when it became hot enough, he sat outside reveling in the sun, cat-like.

That we didn’t spend all our time discussing odonates, those creatures he so loved, was probably due to my lack of knowledge. Still, I had typed and proofread his penultimate paper. Sometimes I was urged to grab a magnifying glass so between the two of us we might decide in what state Nick’s dot was. On the issue of which species was a true disjunct, I proved myself a skeptic, always wondering if the collector were reliable. I began to feel like I knew some of the dragonfly people as certain names reoccurred in our discussions: Minter, Nick, Daigle, Corbet. While he wrote, Daddy always kept a copy of Needham and Westfall’s “Dragonflies of North America” and Philip Corbet’s “Dragonflies: Behavior and Ecology” on the top of his small bookshelf.

I had grown up collecting dragonflies on field trips around the University of Oklahoma Biological Station, where my parents had spent their summers from the time I was seven until I was seventeen. Though my parents sent my sister and me to Catholic schools and we, in many respects, led a very sheltered life, I knew a good deal about dragonfly reproduction. I have been told that my mother was flabbergasted at a cocktail party when I casually shared some of these facts with my parents’ guests. Although I

fashioned myself into an English literature person early on, certain entomological terms rubbed off. I still wince when anyone casually says “bugs,” asking if he/she means a Coleoptera or a Hemiptera. I also catch myself correcting anyone who obviously has not the least idea that a dragonfly and a damselfly are very different creatures.

Of course, the cynosure of discussion last fall was Hurricane Katrina. Briefly, like so many others watching the progress of the storm, we allowed ourselves to hope that New Orleans might be spared. The reality left us devastated. We learned of relatives rescued from their houses, of others along the Gulf Coast whose homes were literally swept away, and of a wheelchair bound cousin who, for an agonizing two days, we feared was stranded in the infamous Superdome. Gradually we also learned that Lafayette, Louisiana, where my father had taught at University of Southwestern Louisiana (from 1956–1960) had also been hit hard, as well as towns below New Orleans, such as Boothville where my father’s family had once owned an orange grove. When I think of my Daddy, I am reminded of Shakespeare’s drama, *The Tempest*. Watery disasters framed his life as his actual birthplace, the ironically named Neptune, Louisiana, disappeared in a hurricane not long after he was born.

Despite the optimism of his surgeon, I feared that he would not survive surgery. While he did, he never fully regained consciousness and died with me at his side on 28 November. The only words he spoke during that period were “Hi, Suzann.”

At the funeral Mass, the priest told me that I could place photos on a small table near the altar. I also added a small wire sculpture of a person chasing a dragonfly. And I read the same poem I had recited at my mother’s funeral in Vermont, years ago: Gerard Manley Hopkins’ “God’s Grandeur” because it speaks eloquently of the beauties of the natural world. I could never, of course, replace the companionship provided by my mother, but I did my best. I miss him terribly. My only comfort is the fact that I kept my promise to spare my much-loved father the indignity and loneliness of any kind of care facility.

While many in the outside world regard collecting odonates as a rather bizarre pursuit, my parents shared the conviction that studying these hypnotic creatures definitely contributed to the betterment of humanity. 

Some Tributes to George

Following are messages sent to the Editor after the announcement of George’s death.

I first corresponded with George via a paper letter (remember those?) about *Neurocordulia xanthosoma* larvae. Later, when the Bicks had moved to Gainesville, Florida,

the Bicks did a tremendous amount of curatorial work on the FSCA and IORI collections there. They also did a lot of the research for their various papers there, such as searching out new US state records and working on the taxonomy of *Polythore* and other groups. We critiqued each other's papers, and I appreciated their help on mine. The Bicks often invited me to their home for dinner, with or without visiting "dignitaries," as George called them, especially because George was something of an epicure. At that time, "the good old days," Minter Westfall was still in Gainesville, so that it was the center of (North and South) American odonatology, and many such dignitaries did visit for at least a few days. I shall miss gentleman George, and Juanda too, who was a full partner in all their enterprises. (Sid Dunkle)

My first awareness of George and Juanda Bick occurred at the end of the decade of the '70s while I was studying the reproductive behavior of *Orthemis ferruginea* for my Bachelor's Thesis. The reading of their papers was strongly suggested by Enrique González (at that time my advisor). Later, I had the opportunity to attend an International Symposium of Entomology in Kyoto, Japan, in 1980. While there, somebody told me "There is a room full of odonatists". In a matter of seconds I was there, very excited by the chance to know the giants in odonatology. As I recall, Professor Corbet asked Dr. Bick his opinion about the "abdominal bobbing behavior" in zygopterans. After Dr. Bick's explanation, and with the impulse of my youth, I put "my spoon in the soup" commenting about this behavior in *Palaemnema desiderata*. Then Dr. Bick, with all his characteristic kindness told me: "No, that's only an abdominal movement to clean the wings". The second time I met the Bicks was at the International Symposium of Odonatology held in Johnson City, Tennessee, in 1989. Our paths crossed at the entrance to a building on the East Tennessee State University campus. Dr. George Bick looked at the name on my identification card, and with a gentle and repeated touch on my shoulder told me: "very nice paper, and fine drawings, of the *Agriogomphus tumens* larva. Congratulations!" At his side was Juanda with a wide smile. That was the last time I saw them. Afterwards, I knew of them by their excellent contributions published in *Odonatologica*. (Rodolfo Novelo)

I didn't know George and Juanda well — only met them a few times and corresponded with George a few additional times. What I would say about him would be to praise his publications on damselfly behavior, really the first of their kind for this continent and still much cited in the literature. We need a lot more similar studies! I would also praise his recent writing about dragonfly conservation and species of concern, when we need that kind of literature so much nowadays. His taxonomic work on polythorids

and his faunal studies are also commendable. Quite a well-rounded odonatologist with a complete life and long research history and a wife who was also an academic companion, and more power to him! (Dennis Paulson)

I met George and Juanda at my first SIO meetings in the 1970s and spent time with them during meetings in the 1980s. I visited them in Gainesville during a stay there in 1989. They were quite a team — dynamic, smart, funny and full of life. George was a true gentleman. Aside from his obvious odonatological accomplishments, what struck me most about George was his humanity. I recall how deeply affected he was when our mutual friend and colleague, George Doerksen, was killed by a Grizzly Bear while photographing dragonflies in northern BC. And I remember his impassioned refusal to support a proposed odonatological symposium in South Africa when that country was still in the throes of apartheid. I'll miss him. (Rob Cannings)

I first heard about George while at LSU in the mid '60s. His paper on the Odonata of Louisiana, inspired me to continue his work resulting in my eventual publication in 1997. I did not meet George, and his wife Juanda, until I moved to Gainesville in early 1992. At that time he and Juanda were busy going through the FSCA and IORI collection scouring for records, many of which he published while he resided in Gainesville. George and Juanda assisted in the identification and typed 3 × 5 cards on many thousand specimens while they resided in Gainesville. George and Juanda shared their experiences in Louisiana with me at the many dinners that we took turn hosting in the '90s until Juanda's health began to fail and they moved to New Hampshire. Since I was a Realtor at that time I assisted the Bicks in the sale of their home here in Gainesville and helped them move the massive donation of specimens and literature that they provided to the FSCA. Just before moving from Gainesville, George encouraged me to do a comprehensive study of the Georgia Odonata records, since it was one of the only states that did not have a comprehensive list, the ten year study resulted in the 2005 paper by myself and Giff Beaton. I owe this to George who inspired this study. He provided all of the then-known records from the FSCA and other collections, which became the basis for the data. George (and Juanda) will be missed by the Odonata community and his family. (Bill Mauffray)

In addition to these tributes, Jerrell Daigle has named two new species in their honor: *Telebasis bickorum* and *Heteragrion bickorum*. 

2005 Summary of Odonate Research in Georgia

Giff Beaton and Marion Dobbs

In BAO 9(2) a complete article on the status and distribution of Georgia Odonata through 2004 was published (Mauffray & Beaton 2005). This article will summarize the additional work done in Georgia during 2005. The BAO article details 3731 county records, including a select few from early 2005, and 230 records have been added since then.

The bulk of the records added during the year were collected by Giff Beaton or Marion Dobbs, who made numerous trips across the state, both independently and occasionally together. Beaton and R. Steve Krotzer also conducted four days of collecting in the coastal plain during May which resulted in a number of new records. A few others also contributed new records, including Tim Keyes, Greg Lasley, Steve Parrish, Lois Stacey, Henning von Schmeling, Dirk Stevenson, and Pat Whitehead. The weather was generally cooperative this year, with spring being somewhat wetter than normal but summer and fall being very dry.

The best find was a small pond in Walker County Dobbs discovered with a population of *Lestes forcipatus* (Sweetflag Spreadwing). This raises the state list to 174 taxa comprising 171 species. Of these, 52 species (54 taxa) are Zygoptera and 119 (120 taxa) are Anisoptera.

Several species with less than five known records were specifically targeted, and the following section will update new records for these species:

Lestes vidua (Carolina Spreadwing): Found in three new counties (Decatur, Glascock, and Glynn), for a total of eight known records.

Enallagma davisii (Sandhill Bluet): One new county, Telfair, for a total of three known sites in two counties. Significantly new early and late dates in Georgia.

Telebasis byersi (Duckweed Firetail): Two new county records (Glynn and Richmond) for a total of five. Richmond County is the farthest north this species has been found in Georgia by far.

Gynacantha nervosa (Twilight Darner): One new county record (Decatur) for a total of four. This is the farthest west it has been found in Georgia, and represents the western edge of the species' known range.

Triacanthagyna trifida (Phantom Darner): Four new county records (Bacon, Brantley, Pierce, and Wayne)

for a total of nine. This completes the vouchering of counties in the southeastern part of the state, and next year we will check the northern coastal counties as well as few more inland in the south.

Dromogomphus armatus (Southeastern Spinyleg): Tim Keyes added one new county, Stewart, for a total of four. This species is very local and difficult to survey for.

Gomphus (Gomphus) diminutus (Diminutive Clubtail): A new location was found within the only known county for Georgia (Richmond), with a potentially new known early date for the species on 13 Apr 2005.

Ophiogomphus incurvatus (Appalachian Snaketail): Currently two known records. On 6 Apr 2005 Beaton and Dobbs collected an adult male thought to be this species in Early County, but it can't be assigned to any known subspecies based on current knowledge. See a web page at <http://giffbeaton.com/Ophio.htm> for more details and close-up photos of the specimen and appendages. Larval sampling will be conducted here in 2006. Additionally, photos were taken by Henning von Schmeling of an adult female *Ophiogomphus* in Union County but it's not certain what species this is either, although it's likely *O. incurvatus*. Lastly, Dobbs observed an adult *Ophiogomphus* in Floyd County, also thought to be this species, but was unable to photograph or collect it.

Stylurus laurae (Laura's Clubtail): One new record from Cherokee County, for a total of four.

Cordulegaster obliqua (Arrowhead Spiketail): The northern subspecies *C. o. obliqua* was found in Catoosa and Stewart Counties for the third and fourth records.

Neurocordulia molesta (Smoky Shadowdragon): Four known records prior to this year. During early May Steve Krotzer found some exuviae of this species in Long County, and subsequently Beaton collected more exuviae from Jeff Davis and Telfair Counties as well as adults from the Long County site.

Somatoclora filosa (Fine-lined Emerald): This species was found numerous times this year, adding new locations in counties with prior records, and adding one new county (Long) for a total of four.

Libellula needhami (Needham's Skimmer): This coastal species was found inland in Long County for the fifth

county record.

Sympetrum rubicundulum (Ruby Meadowhawk): In 2004 von Schmeling took inconclusive photos of a *Sympetrum* species in Walker County. Their presence was confirmed in 2005 with photographs and specimens from the same site for the fifth county record.

Other species with a few county records were also vouchered in 2005, with the most interesting being these:

Enallagma doubledayi (Atlantic Bluet): 17th–20th county records.

Enallagma exsulans (Stream Bluet): 11th and 12th county records.

Enallagma pallidum (Pale Bluet): 7th county record.

Enallagma vesperum (Vesper Bluet): 13th–18th county records.

Ischnura prognata (Furtive Forktail): 9th county record.

Tramea insularis in Arizona

Rich Bailowitz

Two species of saddlebags (*Tramea onusta* and *Tramea lacerata*) occur commonly in Arizona, flying statewide and nearly throughout the year. In the fall, however, a third species, *Tramea calverti*, is occasionally reported from the warmest sections of the state, i.e., along the Lower Colorado River Valley and eastward along the lower Gila River to near Phoenix. While more often than not, *calverti* is absent, as many as four individuals have been seen in a single day (Phon Sutton Recreation Area, along the Salt River northeast of Mesa).

In 2005, there was a late onset but generous monsoon season in Arizona, as well as in the majority of Sonora, Mexico to Arizona's south. Portions of the Huachuca Mtns. received 25 inches of rain in two months during this summer. Rains were very extensive west of the Sierra Madre in Sonora, extending northward into southwestern Arizona. It was not unexpected, therefore, when several small-saddled *Tramea* were seen over a two week period in early November. What was unexpected was their locations—in southeastern Arizona, away from their usual haunts in the lower deserts. Upon closer examination, and with corroboration from Sandy Upson, Doug Danforth, and Dennis Paulson, the three specimens taken were found to be *Tramea insularis* and not *calverti*.

Gomphus (Gomphurus) lineatifrons (Splendid Clubtail): 8th county record.

Gomphus (Gomphurus) rogersi (Sable Clubtail): 8th county record.

Additional notes: Many new early and late dates were made for the state, including some potentially the earliest or latest known for the species. Among the most interesting of these was *Enallagma geminatum* (Skimming Bluet) found by Dobbs on 25 Nov 2005, or about five weeks later than the latest published date.

Unfortunately, while searching for *Sympetrum semicinctum* (Band-winged Meadowhawk) at the only known site in the state for this species, the site was found to have been drained. This species is only known from two counties in Georgia.

Finally, Dobbs created from scratch a searchable database of all known odonate records for Georgia to facilitate research and adding of future records. A huge endeavor!



Although originally known from the rim of the Caribbean, this species has more recently been documented from Big Bend and the southwest edge of the Edwards Plateau in west central Texas (Abbott, John C., 2005). In Arizona, it was documented from two sites and perhaps seen in yet another. The two verified sites were Cebadilla Pond in extreme eastern Tucson, Pima County, and Kearny Pond just outside the town of Kearny, Pinal County. Two individuals were present at the Kearny site. The third sighting was of a possible specimen seen from a fair distance at Arivaca Lake, southeast of Arivaca, Pima County. *T. calverti* cannot be ruled out for this specimen.

All verified individuals were patrolling the ponds' edges and perching on cattails. One specimen perched on mesquite, ca. 20 meters from the pond edge. While *calverti* has been reported from Sonora, *insularis* has not. In this vein, the cluster of records this year in Arizona for *insularis* may be more related to hurricanes in the Gulf of Mexico during the 2005 hurricane season than to any monsoon-related regime on Mexico's west coast. One thing for certain is that we southwestern odonatists will be closely monitoring *Trameas* for the foreseeable future.



A New Spreadwing for Georgia

Marion M. Dobbs, Georgia Dragonfly Survey, <pond_damsel@comcast.net>

On 2 Aug 2005, while visiting a private farm in Walker Co. in the Ridge and Valley province of northwestern Georgia, I investigated a pasture with a central grassy drainage. There was a small amount of still water, and I observed a male *Lestes* sp. among the grasses there. Later inspection of my photos suggested *Lestes forcipatus*, a species with which I had no experience. There were no previous records of this species for Georgia, though Westfall and May (1996) list it as questionable and Mauffray and Beaton (2005) as “expected” for the state.

Examination of the images by several experts did not resolve the question, and so I returned to the site on 12 Aug 2005 and captured two male specimens. Close inspection of the paraprocts, hamules, and apical notch width revealed that it was indeed *Lestes forcipatus*. Nick Donnelly and Dennis Paulson confirmed the identification, and one specimen remains in my personal collection, the other in that of Dennis Paulson.

On 19 Aug 2005, Giff Beaton and I made another visit to the site and found several individuals of the same species. However, no females were observed on this or either of the previous dates.

Lestes forcipatus Rambur is known from sites in north-eastern Alabama and south central Tennessee, both areas adjacent to northwest Georgia. Thus, this record does not represent a true expansion of the known range of this species, it is nonetheless a small addition to our knowledge of odonata distribution patterns.

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Arigomphus maxwelli Ferguson, 1950 (Bayou Clubtail), a New Gomphid for Missouri

Paul M. McKenzie, Robert Gillespie, and Scott Kelley, (PM) U.S. Fish and Wildlife Service, 101 Park DeVille Dr., Suite A, Columbia, MO 65203-0057, <paul_mckenzie@fws.gov>; (RG) Missouri Department of Conservation, Southeast Regional Office, 2302 County Park Dr., Cape Girardeau 63701, <robert.gillespie@mdc.mo.gov>; (SK) Missouri Department of Conservation, Southeast Regional Office, 2302 County Park Dr., Cape Girardeau 63701

Arigomphus maxwelli (Ferguson) (Bayou Clubtail) is a medium-sized clubtail known from the southeastern United States (AL, AR, IL, LA, MS, TN, and TX) (Needham et al. 2000; Donnelly 2004; Abbott 2005). Bayou Clubtail was not listed by Trial and Belshe (2002) or Trial (2005) for Missouri.

Habitat listed for the species includes “ponds, and slow streams, including swampy bayous” (Dunkle 2000), often with flowing water; and “ditches, bayous, and semipermanent lakes and ponds with muddy bottoms” (Abbott 2005).

During a plant survey along the St. Francis River in Dunk-

lin County, Missouri on 15 June 2005, McKenzie, Gillespie, and Kelley flushed several *Arigomphus* spp. from the understory of a shaded bottomland forest directly adjacent to the river. The site was on private property in extreme southeast Missouri approximately 6 miles north of the Arkansas line. The medium size, olive-green abdomen, reddish brown 8th and 9th segments and yellow caudal appendages suggested either *Arigomphus submedianus* (Jade Clubtail) or *A. maxwelli*, species that none of the observers had any previous experience with. We collected one male and two female specimens for later identification. The *Arigomphus* sp. was associated with *Progomphus obscurus*, *Nasiaeschna pentacantha*, *Macromia taeniolata*, and *Libellula vibrans* and was perched on vegetation

within small, sunlit openings of the forest understory adjacent to the river. The St. Francis River adjacent to the collection site has slow to moderate current and has multiple side channels and backwater bays.

Subsequent to these observations, the senior author collected an unidentified male *Arigomphus* along Clear Creek in Rock Bridge State Park, south of Columbia, Boone County on 18 June 2005; this appeared identical to the specimens collected in Dunklin County. The site along Clear Creek was just upstream of the confluence with Bonne Femme Creek which is a larger and more sluggish stream.

Specimens from Dunklin and Boone counties were examined by Tim Vogt who initially identified them as *A. maxwelli*. Vogt later questioned his own determination, however, due to: 1) ecoregional differences (i.e., Mississippi Embayment swamp and bottomlands vs. forested stream of Ozark Hills near Prairie Till Plains) that would make the occurrence of the species in central Missouri highly unusual, and 2) the inability to conduct a microscopic examination of the hamules, terminalia, and vulvar lamina. Approximately one month later, Vogt and the senior author critically examined the specimens under consideration microscopically at the Enns Entomological Museum in Columbia. Upon further examination, Vogt concluded that both collections represented the first records of the species for Missouri but recommended that all records of *Arigomphus* in the Enns Museum be further studied to determine if there were other potential records of *A. maxwelli* from Missouri that had been overlooked. Examination of *Arigomphus* spp. specimens at the Enns Museum led to the discovery of another record of *A. maxwelli*, a male taken by Linden Trial on 21 May 2003 at Big Oak Tree State Park in Mississippi County. The Big Oak Tree State Park collection was made on a small levee between a slow-moving slough and a shallow lake (Linden Trial, in litt. 12 December 2005). We then forwarded all Missouri specimens of *A. maxwelli* to Nick Donnelly for further confirmation.

Donnelly subsequently examined the specimens and confirmed that they represented the first collection of this species in Missouri. Given that the Bayou Clubtail has been documented in a county in Arkansas adjacent to the Dunklin County, Missouri site, and is known from southern Illinois (Cashatt et al. 1987), and extreme western Tennessee, (Donnelly 2004; Nick Donnelly, in litt. 28 November 2005) the discovery of the species in southern Missouri was predictable. The Boone County record constitutes the northern most location ever recorded for this species but its occurrence in central Missouri should be considered accidental. One possible explanation is that

eggs were deposited in mud at a site elsewhere in its range and subsequently transported by migrating Wood Ducks (*Aix sponsa*) that breed along Clear Creek but winter in the south central United States.

It is likely that further survey efforts in southeastern Missouri will yield additional records of *A. maxwelli* for the state. Subsequent searches at Rock Bridge State Park will be conducted during the 2006 field season to determine if the species still persists at this locality.

Acknowledgements

We are indebted to Tim Vogt, Nick Donnelly, Linden Trial, and John Abbott for their extensive help with this report.

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Breeding Population of *Anax longipes* discovered in the Finger Lakes Highlands of New York.

John and Sue Gregoire, Kestrel Haven Avian Migration Observatory, 5373 Fitzgerald Road, Burdett, NY 14818-9626, <khmo@att.net>

Capture/release and sightings of male *Anax longipes* adults at a private pond in the Finger Lakes region of New York in 2004 and 2005 were bolstered by the discovery and identification of ten *A. longipes* exuviae in July and August of 2005.

After Mike May and Phil Corbet's appeal for field assistance in a study of the seasonal ecology of *Anax junius* in 2003 (ARGIA 15[2]: 15–16), we volunteered our time and one of our ponds which was a particular favorite of that species. In 2003 we collected and measured exuviae to form a baseline. In 2004, we collected and measured larvae biweekly from April through November while also collecting exuviae daily. In 2005, we truncated the effort to daily exuviae collection/identification. The study will continue indefinitely.

In the summer of 2004, we were surprised and elated over a sighting of *Anax longipes* over our study pond in Schuyler County, Town of Hector, New York. Little did we know that one encounter would go on to become daily sightings of one and sometimes two individuals over a several week span. These odonates appeared to prefer early morning and late afternoon hunting/patrolling periods.

We set off to capture this dragonfly and eventually paired up to confuse the dragon into Sue's net. They are adept at patrolling just out of reach and avoiding repeated net swings! After measuring and photographing this male *A. longipes*, we released him and enjoyed his presence for a few more weeks. We also captured and released the second *A. longipes* after determining it to also be a male.

Unlike the nine wildlife ponds we designed for this sanctuary, this pond was designed with people pleasure in mind. After digging the graded and shallow wildlife ponds we came to the realization that we were both running out of room and had no place to swim. We set out to dig this pond for human needs!

It was completed in September 1999. In its sixth season in 2005, it has become the pond where we get all the goodies less *Somatochloras* which show up in our avian mist nets closer to the house and along a seasonal stream. This pond is also very near to another stream where we have identified four *Cordulegaster* species. To date we have identi-

fied 71 species of odonates on the sanctuary, most at this pond.

Here's the hooker. We dug this pond 18 feet deep with hardly any slope to the sides! We seeded it, and all the others, with Fathead minnows for mosquito control and the dike/margins are not mowed except once during the late fall. The periphery is mainly sedges and cattail. The pond is "D" shaped and about 35 to 40 meters on a side. It is fed by an "elephant trunk" field drain tile that we ran from a very wet portion of the adjacent field that turned out to be the surfacing point of an artesian spring.

The east side is mixed woods and the *Cordulegaster* stream. The west is field–hedgerow–field with the wildlife ponds further west. The north is also field–hedgerow–field and the south is field–hedgerow–backyard. The fields are unmowed and have been slowly regenerating for twenty years. Dissolved oxygen averages 12 ppm and pH averages 7.5 to 8. The pond bottom is well-covered (infested?) with *Chara* spp. One other SAV (submerged aquatic vegetation), *Potamogeton foliosus* is also present but in lesser amounts. The *Chara* is an ideal larval nursery/hunting ground! Bottom substrate is still developing but is thin mud/*chara*. In twelve feet of water the *Chara* is 6 inches tall and that increases to several feet tall as the pond shallows very near the banks.

Much to our surprise, we collected four very large *Anax* exuviae on 13 July 2005! These were identified as male *A. longipes* by overall length, shape of labial palps and length of prementum and metafemora. What a find and only the second in upstate New York! Although we only saw males in 2004, there must have been a female that we missed. In retrospect, this may also explain some of the larger intermediate *Anax* instars that we measured in late 2004.

As we collected *A. junius* over the next weeks, we collected *A. longipes* as follows: 16 and 17 July—one male each; 19 July—the first female; 26 July—one female; 30 July—one female and finally on 12 August, the last female. In 2004 we collected 1,004 *A. junius* exuviae and no *A. longipes*. In 2005, we had a much-reduced *A. junius* emergence at 159 but the 10 *A. longipes* certainly upped the excitement level of a pretty tedious project.

Anax longipes have been identified as breeding in one

pond in central Pennsylvania and another just Southwest of Albany, New York. Our location is roughly mid-way and north of a line drawn between them. Ours is only the second upstate New York pond with a documented history of repeated presence of the species although sight records have been reported from other upstate locations (Donnelly pers comm.)

According to Paul Novak (pers comm.), the Albany pond is also characterized by having *Chara* as the predominant SAV. That pond is in Albany County, Town of Altamont and is similar to ours. Built in 1988, it covers about one-third acre, is ringed by cattail but has few other emergents. It is 15 feet deep with gradually sloping sides and the chemistry has not been documented. This pond is fishless and has a good ranid population. Paul first observed *A. longipes* there in 1993. Visits in June through August of 1995 resulted in 30 exuviae collected and three to six adults observed. In 1996, Paul collected 10 exuviae and observed two adults. In 1997, he collected 26 exuviae and saw only one adult. Paul's last collection was in 1998 when he had 18 exuviae and observed one adult and one female in the process of emerging. The earliest exuvia date was 20 June and the latest was 23 August. Collections were not done daily so the possibility of more washed away by rains exists. Paul hasn't visited this pond in recent years but is pretty sure that *A. longipes* still exists at the site.

The Pennsylvania pond is the well-studied "Ten-acre pond" which is described as a semi-permanent pond in central Pennsylvania, west of State College. It is a man-made pond dependent on rainfall and snow melt for water. It may have been an enlargement of a preexisting pond. Depth is normally less than five feet. The substrate is clay and many areas lack organic sediment and vegetation according to Shiffer and White (1995). They also note numerous microhabitats at the pond. One end is largely clay with little rooted vegetation while the other has heavier organic substrate and a variety of vegetation. Submerged aquatic vegetation types and water chemistry were not reported in that study but may exist in other Penn State publications. *Anax longipes* has been documented at this pond in 19 years from 1955 through 1995 (Shiffer & White 1996) and was seen there as recently as the DSA meeting in 2005. Hal White reports that the species has been present in 24 years through 2005 (pers comm.) It is interesting to note that the species record has several gaps indicating a less than continuous presence.

Did the new individuals breed here in 2005? Were the adults we observed in 2005, other than the emergers? We looked at the two main probabilities of foraging transients and a colonization attempt. The length of stay in both years would militate for the latter as would the emergence.

The territorial behavior exhibited by the two males that we observed on several occasions would also buttress the latter supposition when one considers cost theory. We'll have to wait to see what next summer brings.

Three things appear certain. *A. longipes* prefers to patrol in the early morning and late afternoon whereas *A. junius* goes all day long. *Chara* appears to form an ideal and perhaps preferred substrate. This species prefers to emerge in the pre-dawn hours.

Data on this *Anax* collection effort have been shared with Mike May of Rutgers for his seasonal ecology study as well as with John Mathews (University of Texas) for his doctoral research project (Mathews 2005a, 2005b). A male and a female exuvia specimen of *A. longipes* have been transferred to Paul Novak for the New York State Museum collection and as documentation for the New York State Odonate Survey (ARGIA 16[4]: 16–17).

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Update on Mass Emergence of *Lestes unguiculatus* in Central New York

Sue and John Gregoire, Kestrel Haven Avian Migration Observatory, 5373 Fitzgerald Road, Burdett, NY 14818-9626, <khmo@att.net>

Last year we reported on a large emergence of *Lestes unguiculatus* from a small vernal pond. (ARGIA 16[4]: 9–10). The final total calculated for the 15 × 30 meter pond approached 75,000 individuals.

As the pond dried up most of the adults moved to another pond nearby and commenced ovipositing in any vegetation available, including asters and goldenrods. Oviposition lasted until late August of 2004.

When the ice melted this spring, Sue conducted surveys by dipping for larvae beginning 15 May. No *Lestes* larvae were found then or in subsequent surveys. We kept our fingers crossed for emergence at some of the other ponds, as in past years, but as the season wore on we were woefully disappointed.

In all ten of our ponds, *L. unguiculatus* was absent. From 75 thousand to only one. (A single adult male was seen on

9 Sept. 2005.) Evidently whatever caused the destruction of the population targeted the egg or early instar stage, as no larvae were found all summer. There was no change in predator populations.

Although the species is known to be irruptive, a total crash from one season to the next was unexpected. In addition, individuals of other midseason species of *Lestes* were also reduced in our ten ponds and in the 21 ponds we surveyed in the nearby Finger Lakes National Forest. *L. eurinus* was plentiful in the Forest during the early season, but *L. congener* was present later at only three ponds. *L. disjunctus*, *dryas*, *forcipatus*, *inaequalis*, *rectangularis*, and *vigilax* were only sporadic singles. *Argia*, *Enallagma* and *Ischnura* were present in normal numbers.

We continue to be intrigued by the behavior of this species and welcome any discussion, theories or ideas. 

California Odonata Blitz

Kathy Biggs

Realizing that there is a southeast, northeast, and now even a Missouri dragonfly group (and others) conducting dragonfly field trips, we decided to have, for the first time ever, a California Dragonfly Blitz. Ray Bruun most graciously organized the event, with Tim Manolis suggesting the locale. We used the CalOdes Yahoo! Group to advertise the occasion. The decision to have this event was made late in the year, so the date set was late, 9–11 September. Usually that is a fine time for dragonflies in the high mountains here, and our location, the Warner Mountains in Modoc County in far northeastern California, is in the Great Basin desert region. But, well, read on....

Seven hardy souls made the event, despite alarming weather reports for the area, which called for an unseasonable cold spell with rain and the possibility of snow in the higher levels. Admittedly we lost a few participants at the last moment, and in fact, some participants, who drove two days to get from the San Diego area to the Warner Mts. (places as far apart as you can get within the state) wavered back and forth as they drove north and there were a flurry of phone calls from them and others saying, “Are you still going to hold this event?”

The group convened as planned in the hamlet of McArthur in Shasta County at 10:00 AM, on the 9th, and then drove through that county and also thru Lassen County without stopping until we crossed into Modoc County. Kathy Biggs had printed up a “hit list” of species presumed to be in the county but not yet reported, or only reported as sightings, and we decided to concentrate on those.

We hadn’t traveled too far into the county before huge dark clouds were seen on the horizon. We quickly realized that we’d better make as many stops as possibly before the storm hit. It was a wise decision. The six of us present at the time stopped at 11:30 in the tiny town of Adin at Ash Creek where Highway 299 crosses it. We were happy to find seven species flying there: Western Meadowhawk (*Sympetrum occidentale*), Striped Meadowhawk (*S. pallipes*), one male Black Saddlebags (*Tramea lacerata*), that perched up in a tree high above our heads and thus frustrated us as he was one of our “target” species, two Common Green Darners (*Anax junius*) that evaded the net, also frustrating us for the same reason, a Blue-eyed Darner (*Rhionaeschna multicolor*), some Spotted Spreadwings (*Lestes congener*), and one male Pacific Forktail (*Ischnura cervula*). We also saw a

Purplish Copper and other butterflies, which made for a decent start to the trip.

At noon we stopped at Rush Creek further along Highway 299 at the bridge, near the Gaging Station, 1.5 miles north of Adin (N 41.215° W 120.931°). This turned out to be a lovely little site. We spread out up and down the creek and found Blue-eyed Darner (*R. multicolor*), another undeterminable Darner species (*Aeshna*), and then Joe Smith became legendary when he caught not just one, but two Common Green Darners (*Anax junius*) thereby upgrading Dennis Paulson's previous sighting only record to a specimen record. Joe, a beginning dragonflyer but well versed in other biological sciences, would walk off from the group, and return a little bit later with several species in his net at once. Amazing!

Our attempts to grab a specimen of American Rubyspot (*Hetaerina americana*) at this spot to upgrade its sighting only record were unsuccessful, but it was fun to watch Dave Biggs swinging a net from the bridge above the creek and Ray Bruun, swinging his net from in the creek below the bridge, trying to coordinate the capture. Two rubyspots were seen. Four Spotted Spreadwings (*L. congener*), many Vivid Dancers (*Argia vivida*), one other Dancer—not a Vivid, a Tule Bluet (*Enallagma carunculatum*), and a female Western Forktail (*Ischnura perparva*) were found.

An old and ragged female Hoary Skimmer (*Libellula nodisticta*) was caught upstream by Ray Bruun and photos were taken and the specimen kept for Kathy Biggs to scan for her California and Southwest dragonfly web sites. Also present were one female Flame Skimmer (*Libellula saturata*), a Variegated Meadowhawk (*Sympetrum corruptum*), abundant Striped Meadowhawks (*S. pallipes*) and several Western Meadowhawks (*S. occidentale*). Joe then saw and caught the male Black Saddlebags (*T. lacerata*) that he found, thereby upgrading that species to a specimen record from a photo only record. With the storm clouds moving in quickly, we moved on.

Soon after this point the cloud cover collided with us. A few other stops were unproductive. Then as we reached the small city of Alturas the heavens opened and it poured rain while the temperature hovered in the high 30s. Brrrrr.... Thank heavens for hot drinks at the gas station! We contemplated aborting the mission. But then decided that since we were this far into the venture, a night at our final destination, about an hour further north, but at a much higher elevation should be risked. If the weather didn't improve, we could abort then, and a secondary plan was determined (assembling by the fire at the Biggs' under-construction home on the sides of Mt. Shasta and viewing the New Mexico dragonfly DVD by Dustin Huntington

— a *must* see!). We never did have to implement this plan.

As we drove north out of Alturas we saw some of the most amazing storm cell clouds any of us had ever seen (we were in touch with each other via walkie-talkies and a cell phone with that capability—we highly recommend this for all group outings!). Then, like a miracle, the rain stopped and a thin blue sky was overhead. Pronghorns grazed by the side of the road (an unusual sight elsewhere in California) and we rejoiced in our decision to plow on.

Our camp at Cave Lake was very nice, and we had it to ourselves. Everyone brought a lot of food, and that led to the sharing of some wonderful meals. We had campfires and cook fires to warm us; tents, vans, and pickups to sleep in; a really nice pit latrine (if there is such a thing); a stream running through the camp; and, of course, great company. That night we relaxed, enjoyed ourselves, and awoke to a cold morning with a cloudy sky. Darn! Ray made Swedish crepes for all of us for breakfast—almost adequate compensation!

Amazingly, we decided to chase dragonflies nonetheless! We had to wait until 10:00 AM for it to warm up enough to head to nearby Lily Pad Lake. We found a few dragonflies, but most of them were dead! The frigid front had apparently done them in. We found one dead Western Meadowhawk (*Sympetrum occidentale*); another dead dragonfly was a Striped Meadowhawk (*S. pallipes*). One male Pacific Forktail (*I. cervula*) was found alive and then three male Northern Spreadwings (*Lestes disjunctus*) were found, still slightly alive and our first new Modoc Co. species. We had noted an unnamed pond on the west side of County Road 2, about three miles west of Cave Lake Campground and east of New Pine Creek on our way into the area the day before. It had looked quite promising with lots of emergent vegetation. Our stop there at 11:40 was most notable in that many of the Darners we found were floating dead, or dying on the lake surface. In particular I recall one female Paddle-tailed Darner (*A. palmata*) that was still “in position” on a floating plant stem, as if she had been ovipositing. When we picked her up, she slowly “thawed” and uncurled her abdomen. It was bizarre!

Also found were several Striped Meadowhawks (*S. pallipes*), all alive; and many Variable Darners (*A. interrupta*): both males and females were seen and we kept specimens of dying individuals. The flying (live!) Paddle-tailed Darners came out noticeably later in the morning than the Variables; a Lyre-tipped Spreadwing (*L. unguiculatus*) male had his photo taken as he represented a new late flight date by quite a bit (the previous late date was 16 August 1999!). Also found there was one dead Tule Bluet (*E. carunculatum*); a Bluet female was also seen.

We decided right then and there to head to a lower elevation! So, we headed down to the “flats” of Goose Lake. Goose Lake’s elevation is still 4701 feet (“normal water level”). This lake is *huge* (about 25 miles long and 9 miles wide), but only a few feet deep. At 1:30 it was a whole 55 degrees there! That turned out to be the very warmest temperature we had in our whole Blitz! We stopped at the eastern shoreline on Stateline Rd. near New Pine Creek (N 41.994° W 120.328°). Amazingly, seven species were out and busy claiming territories and mating etc. in the marshy meadow near the lakeshore. We found the following there: Lyre-tipped Spreadwings (*Lestes unguiculatus*); Western Red Damsels (*Amphiagrion abbreviatum*); many Alkali Bluets (*E. clausum*) (in fact, Pat, our “novice” was even catching them with her bare fingers); several Western Forktails (*I. perparva*); numerous Black Meadowhawks (*Sympetrum danae*), a pair of which were caught in cop by Kathy Biggs and are now the voucher for Modoc County (many photographs were taken of this species and Kathy scanned the voucher pair when she and Dave returned home); one Variegated Meadowhawk (*S. corruptum*) was seen; and there were many Striped Meadowhawks (*S. pallipes*). It seemed unusual in California to be seeing more Striped than Variegated Meadowhawks. Buoyed by our experience there, we decided to take the “loop” that went from Goose Lake back up into the Warner Mts. and then to the back side of the Warners before turning west and leading us back to Cave Lake (by the way, there were no dragonflies at pristine Cave Lake, but it was an interesting lake with an attached cave!).

At 4:30 we noted a luscious looking pond east of Fandango Pass, surrounded by pines, and with a lot of emergent vegetation. In our vehicles we slowly picked our way down the four-wheel drive road. We were disappointed after all this effort to then only find several Striped Meadowhawks (*S. pallipes*), one male Variable Darner (*A. interrupta*), and two Western Forktails (*I. perparva*).

At 5:30, at an unnamed pond (N 42° 00.27' W 120° 13.89') on the west side of County Road 2, about one mile west of Cave Lake Campground and east of New Pine Creek, we found a few Variable Darners (*A. interrupta*). We decided it was time to call it a day!

The next morning started bleak and overcast and *cold*. The five of us who had stayed on through the night ate a hearty breakfast, and without much hope, packed up and started back down and out of the mountains.

A short stop again at nearby Lily Pad Lake gave us the most bizarre sighting—an *Aeshna* Darner taking flight from the lake and into a large pine tree while it was snowing! A dragonfly in the snow!!

On the way out, the remaining five of us stopped again on our way out at noon at Goose Lake State Park east of New Pine Creek. We again found the same species as the day before, but this time the sun was out and great photos were taken (photos and scans from the Blitz can be seen at <http://bruunphotography.com/blitz/OdeBlitz2005.html>).

Everyone but Ray and the Biggs had to high tail it home. A stop at 1:00 at a spot where we saw some interesting habitat along the North Fork of the Pit River, alongside Hwy 395, about eight miles north of Alturas gave Ray the opportunity to net one of the five American Rubyspots (*Hetaerina americana*) we saw, a male, for an upgrade from a previous sighting only record, finally! Also seen were more Spotted Spreadwings (*L. congener*), a male Bluet species (*Enallagma*), one female Western Forktail (*I. perparva*), an *Aeshna* species, many Common Green Darners (*Anax junius*) and again many Striped Meadowhawks (*S. pallipes*).

Ray then headed home while the Biggs made one last stop at 2:00, still alongside the North Fork Pit River, several miles north of Alturas but south of the previous spot. They found a few more species to bring the total for the blitz to 22. The two new species found there were one male Familiar Bluet (*E. civile*), examined in hand and several Sooty Dancers (*Argia lugens*).

Upon returning home, Tim Manolis carefully examined the male Variable Darners (*Aeshna interrupta*) he had fished out of one of the ponds and decided that they represented the subspecies *A. i. interna*. The status of this and other described forms of *A. interrupta* in the Pacific Northwest, including Northern California, is poorly understood and somewhat controversial, but we now at least know that *A. i. interna* occurs in the northeastern corner of the state (not too surprising as it is the common form immediately to the north in eastern Oregon [fide Jim Johnson]).

Believe it or not, this trip was so much fun, that we are talking about doing it next year—maybe even twice. Surely we’ll have better weather! ...maybe we should invite Nick Donnelly, as the formerly infamous “Donnelly Effect” seems to have been quite favorable lately!

Modoc County Dragonfly Blitz participants: Doug Aguilard and Pat Sherman, Kathy and Dave Biggs, Ray Bruun, Tim Manolis, and Joseph H. Smith.

The 2006 California DSA/CalOdes Dragonfly Blitz TBA at a later date. We’re hoping for more of a Blitz and less of a Blizzard next year!



Some Connecticut Observations

Noble S. Proctor, 43 Church St. Branford, CT 06405

Prior to 2004 there were only three records for the Great Blue Skimmer (*Libellula vibrans*) in Connecticut. However, 2004 changed everything. In April of 2004 we had reports of sightings on Long Island and southeastern New York, just over the state line.

At last, one was found in Wilton, Connecticut and then the door opened. By year end we had 20 or so sites with two or more individuals. At these sites females were often seen ovipositing.

We were hopeful in 2005 that we would again see this impressive dragonfly. Little did we know how common it was going to become. On most of my 2005 field days, be it an odonate or birding trip from May through September, 2005, I found *L. vibrans*. By summer's end I had over 35 sites with more than five individuals at each site and numerous single sightings in various areas. On 22 Sept. while visiting a small wetland area that had eight male and three female *vibrans* in residence, I was watching a Green Heron (*Butorides virescens*) working the muddy fringe of an inlet to the shallow pool. Male *L. vibrans* were battling each other over the females when they appeared and in effect showed no fear of me during their chases and often landed on me before heading off for more aerial combat. To my surprise one landed on top of the Green Heron's head. It took off

and circled to re-perch and the heron snapped it from the air! The heron proceeded to pick off five more males one by one as they flew over the stream that the heron was tucked into. It used its bill with deft precision like a pair of chopsticks picking items out of the air. The heron snapped them up, one after another, for 15 minutes of hunting. Each time it swallowed the entire dragonfly. The arrival of a Great Blue Heron ended this fascinating hunt. Needless to say I was more than impressed. I wonder how he would do with a *Stylurus*? As a side note, the next day the heron was gone and four "new" male *vibrans* had filled the vacancy!!

Earlier in the spring I witnessed another "plundering" of the odonate population.

At the same site as described above with *L. vibrans*, the shallow muddy edges of the pool attract migrant Solitary Sandpipers (*Tringa solitaria*). As I watched one feeding along the pond edge I noticed that it was repeatedly plucking out odonate larvae and "tossing them down like cracker jacks". During a ten minute feeding period it consumed 15 larvae.

So we can add two more species to the growing list of birds that dine on odes. Flycatchers are not alone in their pursuit!



Five New Records of Odonata for the State of Tamaulipas, Mexico, Including the Correction of a Previously Published *Brechmorhoga*

Robert A. Behrstock, 10359 S. Thicket Pl., Hereford, AZ 85615, <rbehrstock@cox.net>

From 15–19 October 2005, I co-lead a butterfly field trip to Ciudad Mante, Tamaulipas, Mexico. The trip was organized by the Mission, Texas Chamber of Commerce as part of the Texas Butterfly Festival—an event at which dragonfly talks and field trips have been featured during the last six years. This brief tour presented the opportunity to observe Odonata at several sites. At least 42 species were encountered (18 Zygopterans and 24 Anisopterans), four of which appear to represent first state records.

New State Records

Apanisagrion lais (Brauer in Selys, 1876) (Black-and-white Damsel). Ocampo–Ciudad Tula road, c. 65 road km W of Mex Hwy 85. Sunny, montane habitat with lightly wooded limestone slopes. 16 Oct 2005. One mature male

of this distinctive species was perched just above ground level on weedy roadside vegetation. The closest water was a small seep approx. 30 m distant. As this species occurs throughout much of Mexico, a record from Tamaulipas was not unexpected; however, its presence away from a grassy-edged pool or sluggish stream was atypical.

Erpetogomphus designatus Hagen in Selys, 1858 (Eastern Ringtail). Entrance road to Centro Recreativo Los Troncos, NW side of Ciudad Victoria, c. 296 m elev. 19 Oct 2005. Two males were perched at brushy roadside, each c. 10–20 cm above ground. Immediately across the road was a swift flowing stream that emanated from a shaded, riparian corridor lined with bald-cypress. This gomphid is common along the Rio Grande in extreme South Texas, and is known from four states in N Mexico (Paulson

& González Soriano 2005). A record from Tamaulipas seemed overdue. At Los Troncones, *designatus* is sympatric with *E. elaps*. Of the 18 *Erpetogomphus* known from Mexico (Paulson & González Soriano 2005, Upson & Danforth data), five have been recorded in Tamaulipas.

Phyllocycla breviphylla Belle, 1975 (Ringed Forceptail). Parque la Florida just SE of Gomez Farias and just W of Mex Hwy 85, c. 96 m elev. 17 Oct 2005. One male was located 1 m above ground level on a small shrub at woodland edge. A slow flowing, clear stream was c. 50 m distant. Unless anticipated, the boldly marked *breviphylla* might be mistaken for an *Aphylla*, *Phyllogomphoides*, or *Stylurus*. Characteristics such as the form of the cerci, thoracic banding, the color and width of the marginal expansion on abdominal segments 8 and 9, and the margins of abdominal segment 10 should be carefully noted. Doubt persists as to whether *P. breviphylla* and *P. elongata* are distinct taxa. Both Nick Donnelly (Czaplak 2002, 2004) and Jerrell Daigle, who examined a series from southern Mexico (pers comm.), noted the very slight differences between the two and suggested they may represent a single morphologically variable species. For the time being, and until a publication treats them as synonyms, I follow Garrison (2004) and consider them separate species. Where potentially sympatric (i.e., San Luis Potosí), the male of *breviphylla* may be differentiated from the very similar *elongata*, by noting the expanded margin of segment 9: the lateral extension is a smaller, more smoothly rounded lobe on *breviphylla* vs. sharply triangular in *elongata*. If the two species are combined, this characteristic (albeit clinal) may be useful in separating eastern and western representatives. October visits during 2002, 2003, and 2004 did not produce encounters with *breviphylla* at Parque La Florida, or several nearby sites along the Rio Frio and Rio Sabinas. This range of *breviphylla* in Mexico is poorly documented, with records west and south of Tamaulipas from San Luis Potosí and Veracruz respectively (Paulson & González Soriano 2005). In Central America, it is found at least as far south as Nicaragua (Paulson 2005). Its presence in Tamaulipas fills an obvious gap. In May 2002, *breviphylla* was discovered in Hidalgo County along the lower Rio Grande River in South Texas (Czaplak 2002, 2004). Many additional records have come from Hidalgo County but in May 2004, Omar Bocanegra collected it down river in Cameron Co., and during October 2005, it was also taken upriver in adjacent Starr County (Czaplak 2002, 2004, and Jerry McWilliams pers comm.). This spate of South Texas records suggests that rather than having been overlooked, *breviphylla* may, like a number of other tropical odonates, be experiencing a true northward range expansion (Behrstock 2002).

Brechmorhoga tepeaca Calvert, 1908. While attempting to confirm several problematic identifications of

Brechmorhoga specimens, Dennis Paulson reexamined his material of *vivax* and *tepeaca*. In doing so, he realized that the specimen I collected at Rancho El Cielito, Tamaulipas on 25 Oct 2003 and identified by him as *B. vivax* (Behrstock 2005) actually represents *B. tepeaca*. Thus, *B. tepeaca* should be added to the Tamaulipas list and *B. vivax* dropped from it.

Cannaphila insularis Kirby, 1889 (Gray-waisted Skimmer). Entrance road to La Poza Madre, east of Ocampo village and very approximately 12–15 km NW of Ciudad Mante. 16 Oct 2005. One male was perched on tall grasses and marsh vegetation c. 1.5 m above the surface of a small, shaded, muddy-bottomed section of stream. North of the Rio Grande, *insularis* has been recorded in at least seven counties from south Texas and the Texas Hill Country (Abbott 2005). Southward, it occurs along both slopes of Mexico (absent from the highlands and the extreme NW), and through Central America at least to Panama.

Located in the NE corner of Mexico, Tamaulipas presents odonatologists with a rich tapestry of subtropical habitats. These include lakes, coastal marshes, innumerable vegetated farm ponds and roadside ditches, lush riparian woodlands, shaded foothill streams flowing over limestone, and the New World's northernmost cloud forests. A number of species and even a family not recorded in the U.S. (e.g., "helicopter" damselflies of the family Pseudostigmatidae) may be encountered only a few hours drive south of the Texas border. Comfortable lodging, gasoline, and good restaurants are often only a short drive from productive odonate habitats where birds and butterflies also abound. Including the four species listed above, approximately 100 kinds of odonates are known from Tamaulipas. However, there are many areas that have not been explored and the total may be expected to grow.

Acknowledgements

Thanks to the staffs of the Texas Butterfly Festival (Mission, Texas), Turismante (Ciudad Mante, Tamaulipas), and Al Cielo Travels (Tampico, Tamaulipas) for arranging this trip and to Mike Overton (Boone, Iowa) for facilitating my participation. Doug Danforth and Sandy Upson (Bisbee, Arizona) shared reference photos of *P. elongata*. Dennis Paulson (Seattle, Washington) provided the corrected specimen record and confirmed another identification, Jerrell Daigle (Tallahassee, Florida) suggested problems with *Phyllocycla* taxonomy, and Jerry McWilliams (Erie, Pennsylvania) shared his recent county record of *P. breviphylla*.

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Somatochlora brevicincta from Minnesota

from an e-mail from June Tveekrem

The Quebec Emerald has now been taken in Minnesota, according to a series of detailed photos of a hand-held specimen taken by June Tveekrem and Kurt Mead in western most Lake County, on 11 July 2005. See the images at <<http://www.toadmail.com/~minnodon/>>. 

Collecting trip in Guadeloupe, French West Indies

François Meurgey, Natural History Museum of Nantes, France, <francois.meurgey@mairie-nantes.fr>

For the fifth time, a three week mission, organized by the Natural History Museum of Nantes and the “Société Française d’Odonatologie”, was carried out in Guadeloupe from 24 January 2006 to 14 February 2006. The French crew of beekeeper Ronan Bouanchaud, librarian Gaëlle Weber, and myself welcomed an US team consisting of Fred and Peggy Sibley (Alpine, New York), and Jerrell J. Daigle (Tallahassee, Florida) for the first time. The weather during this trip was abnormally rainy and windy with an average temperature that didn’t exceed 22°C! In January, temperatures normally vary between 28 and 32°C. Thirty species were seen of a possible 33. Most of the different aquatic habitats were prospected, especially ponds which were our studies objective. In order to keep this paper short; I would like to comment on some of the most important days of this trip.

On 24 January, we arrived at the “Les Gîtes du Bois-d’Inde” bungalows on the western coast of Basse-Terre. It is a pretty quiet place in a luxuriant tropical garden with three species of hummingbirds and a beautiful view of the Caribbean Sea. Annick and Claude, our old friends, received us with their usual kindness. We did not meet Fred, Peggy, and Jerrell immediately because of different hours of arrival at the airport. They were already sleeping that night. The first spot that we wanted to visit was Des-

haies Laguna. It provided some *Orthemis macrostigma* (Rambur), which I propose elevating to specific status; it has been called *Orthemis ferruginea* (Fabricius), to Jerrell and Fred plus many common species. It was a good start for this trip. To finish this first day, beer and local juices were welcomed at the local Grand Anse beach bar where we were accompanied by some curious yellow and white Bananaquits, the local version of the English sparrow.

We had to wake up at 4:00 AM the following day to reach a pond near Port-Louis (Grande-Terre). We caught *Triacanthagyna septima*, the first record for Guadeloupe, and *Tholymis citrina*. This day was the “Big Day” of the trip. After prospecting seven different ponds between Le Moule and Port-Louis, we decided to have a break at Anse-Bertrand (North of Grande-Terre) to look for birds. A few minutes after arrival at grassland near the ocean, an aeshnid landed in front of us. It seemed to be different than the other aeshnids in Guadeloupe. Despite “Buck Fever”, I caught it. A mature female *Anax ephippiger*! This tropical species is distributed in arid areas of Africa, the Mediterranean basin, and Southern Asia. It’s the first record for the West Indies and the second for the Americas. Also, about 17 cliff swallows were seen at this place. *Tholymis citrina*, first mentioned for Guadeloupe in 2001, was present during this trip in several ponds in

Grande-Terre. It was more common than we previously thought. At first, we needed to wake up very early to catch this crepuscular species. Later in the trip, we found it flying in deep shade during the day at several ponds.

The next day was the Roche et Madère adventure. Early in the morning, we were ready to go to two mythic lakes lost in the mountain forest of South Basse-Terre. Since the beginning of dragonfly surveys in Guadeloupe, these two lakes remained unexplored. A very, very difficult way led us to the first pond. It was named “Roche” (700 meters high) because of an enormous block of lava, propelled by the Soufrière volcano, during its last eruption in 1976. At this place, we caught *Lestes forficula*, *Anax junius*, *Brachymesia furcata*, *Dythemis sterilis*, *Tramea abdominalis*, and *Pantala flavescens*. Some *Anax amazili* were seen, but not caught.

The second lake, “Madère”, was a real surprise. In a clearing, two springs with clear water provided the most interesting observation of *Enallagma coecum*. With a population of about 200 specimens, it was perhaps the largest one in Guadeloupe. We got several exuviae and many adults. Some of the specimens will be used in an *Enallagma* DNA study. *Rbionaeschna psilus*, *Anax amazili*, and a large population of *Lestes tenuatus* were seen at this place. We were very happy to get the first data for these ponds.

Many other days of this trip were devoted to the study of ponds in Grande-Terre. It was also the only way to get some sun and a tan! These studies consisted of surveys, characterization of habitats, and collecting exuviae. Our aim is to understand the diversity of the 2,722 ponds of Guadeloupe.

By studying the ecology of the odonata species, we hope to find ways to protect them. The following days provided many observations of common species at a great number of new sites. Lots of new data was collected for our studies!

One day, we travelled by boat from Trois-Rivieres to Terre de Bas, one of two small islands located 10 km south of Guadeloupe. It cost about €18/US\$21 for the 30-minute boat ride. Aquatic habitats are scarce on this island, only six were located. The first one was a big pond invaded by water lettuce (*Pistia stratiotes*), but it is a very good spot for the Masked Duck. We saw 10 odonate species here. In 2004, a male *Tramea insularis* was caught at this place, the first record for Guadeloupe. Later, we hiked about one hour to reach three beautiful ponds in dry forest at 239 metres elevation. *Coryphaeschna adnexa* (second record), *Anax amazili*, *Micrathyria didyma*, and *Telebasis corallina* were the most interesting species. Sadly, all these ponds are now completely invaded by the water lettuce and their future may be compromised.

On the brighter side, Fred succeeded in observing *Protoneura ailsa* that he tried to catch at the Grand Etang (Basse-Terre) years ago. [Note: Upon further examination François and Jerrell have determined the *Protoneura* to be a new species related to *Protoneura ailsa*.] The rain didn't allow the collection of this species, but *Tramea binotata* was present. More luck was at Sofaïa, north of Basse-Terre, which was another good spot for this species. Fred and Jerrell enjoyed their first specimens and we saw many other species like *Argia concinna*, *Enallagma coecum*, *Macrothemis* sp., and *Dythemis sterilis*.



From left to right : Fred and Peggy Sibley, Ronan Bouanchaud, Gaëlle Weber, François Meurgey and Jerrell J. Daigle.

January the 31st was the *Triacanthagyna* day! Seven males and three females of *T. septima* were caught at Le Moule on east coast of Grande-Terre near the mangrove swamp. *Triacanthagyna caribbea* were present at this place too, but only one male was caught. *Erythrodiplax berenice* was recorded in 1973 in this mangrove swamp, but many intensive searches didn't allow any observations.

February 6 was the infamous “Leech Lake” experience! We were prospecting ponds in Grande-Terre. One of these, Mare Fidelin, was very interesting. Two *Anax concolor* flying over the water were impossible to catch! We got

many sunburns, but no *Anax*! For many hours, we stayed here, trying to catch something. Suddenly, Jerrell jumped out of the water where he was standing! Our friend Jerrell looked at his legs and saw about 20 leeches sucking blood! Disgusted, he went back to the car and stayed high and dry, talking to a local mongoose hunter. He didn't catch anything else that day, except one escaped leech found on one of his legs in the evening. It became supper for an inquisitive bullfinch! Another good surprise was the blue *Ischnura capreolus* caught at this place. It's a rediscovery of this tiny species, not seen since 1981.

Sometimes, it's not necessary to go far away to find some interesting species! Jerrell found a very good spot for *Scapania archboldi* and an apparently new species of *Macrothemis* related to *M. imitans* on a mountain road above our bungalows in Pigeon. He says previous Guadeloupe records of *Brechmorhoga* sp. and *Macrothemis celeno* are probably these two species instead. Fred got a female *Scapania archboldi* at another site near here. We also caught at this place *Micrathyria didyma*, *Orthemis macrostigma*, *Ischnura bastata*, and other common species. Here, Ronan spotted and alerted us to the endemic Guadeloupe Woodpecker, which is a fairly common bird in Guadeloupe. It is found in many different habitats like mountain forests, lowlands, and gardens, from 0 to over 500 meters elevation. Another good species, the Mangrove Cuckoo, was seen here and charmed us with his brilliant colours.

February 9 was one of the sunniest days of this trip... and I spent it at the Pointe-à-Pitre University of Sciences to teach some students about dragonflies! It was a very interesting day and I met a lot of people interested in dragonflies.

Also many projects were born during different discussions. Some days, we went swimming, fishing, collected plants, and or went diving to look at sea turtles. We visited the local open markets to buy spices, exotic fruit, rum, fish, conch, or just to soak in the Creole culture. Jerrell says bring plenty of euros! Lots of French tourists come here to visit the beaches topless and spend their vacations. Everybody speaks French or Creole; no English spoken here! Tiny Citroen, Peugeot, and Renault cars are everywhere with no automatics seen, just manual transmissions.

February 11th was a particularly rainy day. On Basse-Terre, Jerrell enjoyed his first observation of a Brown Trembler at the Rivière Bras David. This uncommon endemic bird lives only in mountain forest of Guadeloupe, Dominique, and Martinique. Because of the rain, no dragonflies were caught this day. The following day was sunny. A field course organized by the University of Pointe à Pitre, led us to a beautiful pond near Petit Canal (Grande Terre). Many students, researchers, and teachers were present and they were very happy to discover the dragonfly diversity of their island. Again, no luck with several wary *Anax concolor* here. Just four exuviae were collected. Several Mangrove Cuckoos were seen and abundantly photographed at this place. This beautiful species is scarce and very difficult to find in Guadeloupe.

Soon, it was time to leave! Jerrell went to the airport with Annick and Claude. Ronan, Gaëlle and I reached our plane later that evening. I'll remember this trip a long time, and not forget my American friends with our excellent discussions around odonata and lot of other things, like the way to cook Igname! 

Anax ephippiger (Burmeister, 1839), a New Species for the West Indies.

François Meurgey, Museum of Natural History, Nantes, France, <francois.meurgey@mairie-nantes.fr>

On 26 January 2006, near Anse-Bertrand (North-West of Grande-Terre, Guadeloupe), we spent a long time walking in grasslands to reach the last coastal pond we wanted to prospect this day. After a few minutes, we spotted a big tawny Aeshnidae flying in the normally flooded meadows, now dry. These coastal grasslands are used by cows, and in winter, many birds from North America stay here for few days (Sora, Cliff Swallow, Piping Plover...) This dragonfly flew slowly, in an hesitant or uncertain flight, and perched suddenly in *Eleocharis*. Excited as this species seemed new for me, and despite "Buck fever", I caught it very easily. I was very surprised when, in hand, this aeshnid was definitely identified as a female *Anax ephippiger*. It's amazing for French people to cross the Atlantic to catch a Palearctic species!

This large, plain coloured *Anax* is unmistakable even in flight, when the bright blue saddle marking on male abdominal segment 2 is seen. A blue saddle is vestigial in female, but always present, giving a violet tinge. The body length is 61–66 mm. This specimen seems to be a young mature female, without any damage (wings or body), and not any sign of age.

Further searches failed to turn up any other specimens, and it seems to be a vagrant carried by easterly winds from Africa. It's doubtless that this species was introduced in Guadeloupe. This first record for Lesser Antilles is not the only one for the New World. *A. ephippiger* was previously first recorded in South America (French Guyana) by Machet and Duquef (2004) with a male caught in

February 2003, on a trail near Trou Poisson (Iracoubo, Sinnamary, French Guyana). This specimen presents the same characteristics as the one of Guadeloupe (seems to be mature but young).

Essentially a species of arid regions of Africa, and Mediterranean basin, ranging as far as Pakistan in Southern Asia (Aguilar & Dommangeat 1998; Askew 2004), *A. ephippiger* breeds sporadically in southern Europe: France, Italy (Leconte 2002). It is also known to migrate in numbers, having turned up in many Palearctic countries, as far as England (Heymer 1967; Parr 1998, 1999) and Iceland (Olafsson 1977) where the species is the only dragonfly recorded.

As Machet and Duquef (2004) indicated, the male caught in 2003 in Guyana was certainly transported by the North-East Alizé (trade winds). Winter displacement of *A. ephippiger* along the coasts of Africa being rather frequent at that time (Dumont 1977), it is probable that some individuals are carried towards the west to South America and the West Indies (For two months a powerful wind from the east had blown in Guadeloupe, and this beginning of the Carême [dry season] was characterized by unusual precipitation.). The climate of Guadeloupe is characterized by constant trade winds, the Alizés, which blow all year round. They blow from the East in a regular way, growing during the morning and decreasing during the afternoon to fail in the evening. It is the mode of wind of the dry season (Carême) during which the passages of the wind to the SE or S are always brief. The climate of Guadeloupe is also directly regulated by the positions of the anticyclone of the Azores, which directs the North-East Alizés, and of the zone of equatorial low pressures where the Alizés of the northern hemisphere meet those of the southern hemisphere, along the Intertropical Convergence Zone (ITZC). During the wet season, the mode of winds is much more unstable. They vary ENE in the West while passing to the South.

The Alizés appears in a persistent way, at altitudes usually comprised between sea level to 1,500 or 2,000 meters high, without exceeding 3,000 meters. So, the general circulation of the winds at low altitude is mainly controlled by east winds in the tropical and equatorial areas, contrary to the temperate areas where it results overall in winds of west (which can explain the arrival in France or England of species of dragonflies coming from North America). Because of the friction exerted by the surface of the sea, oceanic trade winds are characterized by a moderate speed (about 20 km/h or 5 meters/sec) which, added to their persistence, allows us to understand the help that they can bring to insects which they may carry towards South America. This phenomenon is known to concern other afro-tropical insects, such as *Schistocerca gregaria* (Orthop-

tera), whose swarms reached the French West Indies in October 1998 (Pour la Science 2006). Also, another report (pers. comm.) relates that thousands of dragonflies were observed in January 2003, at Ste. Anne and St. Francois (Grande-Terre, Guadeloupe), coming from the Atlantic Ocean. Unfortunately, it's impossible to know more about that, and especially the species concerned.

The presence of *Anax ephippiger* both in French Guyana and Guadeloupe seems to argue for a possible establishment of this species in the New World. This second observation in Americas has some interesting implications. Since 2000, and despite of our searches, this species was never previously seen in Guadeloupe (Anse-Bertrand is however a well known place for birders and entomologists). Is *A. ephippiger* extending its range? It will be interesting to document further the occurrence of *A. ephippiger* in South America and Lesser Antilles.

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Still Looking for Warthogs

Nick Donnelly

(A note on the obscure title. In early 2001 Ailsa and I visited Uganda. We immediately made the enchanting warthog our personal totem and I titled the story “Watch out for Warthogs” [ARGIA 13(1): 15–17]. We’re still at it.)

In the 1970s President Jimmy Carter, facing a major oil crisis, begged universities, among others, to consider drastic energy conservation measures. Among other responses, my university decided to restructure its academic calendar, so that in January there would be a long hiatus in classes. Since that time, Ailsa and I have used this interval to seek warm places to soak up the sun and look for dragonflies. In January 2005 we happened to stay in Binghamton—big mistake—we experienced the coldest January ever for our community, with frozen pipes and everything else bad you can imagine. This year we vowed to get back on our January “tropical” track. South Africa seemed far enough away to ensure warmth, and we had been inspired by Roy Beckmeyer’s account of his trip last year (ARGIA 17[1]: 17–18). If further inspiration were needed, then the appearance of the second of Warwick and Michelle Tarboton’s two guides to South African odonates (reviewed in ARGIA 15[4]: 28 and ARGIA 17[2]: 19–20) provided it.

News of our plans drifted down to Austin, and John Abbott and Greg Lasley, their shutter fingers getting stiff from lack of use, decided to join us. Just after the New Year the weary foursome deplaned at Johannesburg in the middle of the night (ah, the warmth!) and met David Steyn, our guide for the next three weeks. Setting out the next day, we were immediately immersed in the rich bird life of southern Africa. Greg and David, both sharp ornithologists, set a high standard for instant roadside identification—a skill that added immeasurably to our intended dragonfly trip.

We headed northeast from Jo’burg and spent the next week threading our way through what used to be the Transvaal in the general direction of Kruger Park. The plan was to visit several localities before we reached the park, then spend a few days in the park reveling in animal watching, and then make our way back to Jo’burg. Our first destination was a tourist hotel in the boonies where our very thoughtful tour manager had located us just a few miles from the home of Warwick and Michelle Tarboton, of odonate-guide fame. Naturally we visited them right off the bat and enjoyed their tiny backyard pond, with its small but lovely assortment of dragonflies and damselflies. The species were all ones which Ailsa and I had encountered in Uganda, but seeing them again was a huge treat, and John and Greg were immediately immersed in

ode photography. The biggest thrill for us at the Tarboton home, however, was the dusk visit of bush babies to their feeder. I imagine you knew that bush babies really enjoy banana slices. Did you know they regard Mars Bars as a special treat? That is one captivating small animal.

The photographic part of the trip is a story in itself. While watching NFL games on cold Sunday afternoons, have you ever noticed that along the sidelines are dozens of photographers? Ever notice their cameras, with huge cream-colored lenses, all nestling on tripods? Put a beard on one of them and it’s John. Put a freshly shaven ex-beard on another, and it’s Greg. Our trip quickly became a photo expedition, with these two occupying the wide middle seat in the van, balancing gigantic bean bags on the window sills to steady their huge cameras, and even crawling out of the van windows like lizards to shoot photos over the roof, when the subject was on the other side of the vehicle. Their really, really expensive outfits produced some really, really good photos—not only of odes but also animals, birds, and some reptiles. At least I will never again get strong static from Ailsa if I decide to buy a new lens for \$500, which would hardly buy a lens cap for their outfits.

A typical stop along the road, in response to a sighting of some sort of photogenic wildlife, instantly produced two tripods with the hugest cameras imaginable, and two photographers jockeying for the best camera angles. One time when I was enjoying this spectacle, I was not surprised to hear the screeching of brakes, followed by a car backing, and then followed by a bluff male voice saying, “I saw you had a 20-D and I had to stop . . .” You can take it from there.

Our first complete day in the field consisted of Warwick Tarboton himself taking us to a lovely stream called Olifantspruit, (meaning “Elephant River”), near Naboomspruit (which seems to mean “Euphorb River”). We caught and photographed several species of *Pseudagrion*, *Trithemis*, and *Orthetrum*. (If you want to tell an African hand how successful your trip was, you can tell him it was a 11-*Pseudagrion*, 6-*Trithemis*, 4-*Orthetrum* sort of trip. He will understand immediately.) Although struck by how many of these species I had seen in Uganda, I found the odes delightful, with several new species to me, such as *Zygonyx torridus* (Ringed Cascader, like a big *Brechmorhoga*) and *Paragomphus cognatus* (Rock Hook-tail, like an *Erpetogomphus*). One the best things we saw was *Phyllomacromia bifasciata* (Two-banded Cruiser), a really big yellow and black dragonfly, patrolling the road far too high to net. But not too high to avoid a Pygmy

Kingfisher, which had a nest full of young, and was madly scooping up the local fauna to feed its chicks. Greg settled in with his camera to photograph the kingfisher and its various prey items—a frog, a moth, etc., but not the dragonfly. He was winding the film or something and missed this shot. (I know there is no film . . .)

Did I tell you it rains in South Africa? Well, it does, and our next stop, a mountain lodge called Karisa Moya in the vicinity of Polokwane (which they used to call Pietersburg) would have been even lovelier on a sunny day. We added several birds and animals (first chameleon!) in our few days there. The biggest ode thrills were the Platycnemid *Allocnemis leucosticta* (the Goldtail), a lovely forest damselfly with—are you ready—a yellow spot at the end of the abdomen. Very interesting, but not really a thrill, was *Chlorolestes fasciatus* (Mountain Malachite), a large, green chlorolestid. Why not a thrill? After all, it is in a family of its own. But it looked so similar to the common *Lestes plagiatus* (Common Spreadwing) that you had to look closely to see which species it was. It is odd to see odes in different families that are so very similar in appearance. We found almost the same thing in southeast Asia, where the skimmer *Orthetrum sabina* looks and even flies like several clubtails of the genus *Onychogomphus*.

Now it was time for Kruger Park, where we would not be allowed to net anything. Heck, we weren't even allowed to get out of the car for a quick widdle. Just before entering the park, we spotted a small, foul water hole along the road and stopped for a look. It was hodging with odes, including *Philonomon luminans* (Barbet), a *Sympetrum*-sized red tailed skimmer, and *Anax ephippiger* (Vagrant Emperor), which ranges from Europe throughout Africa. (And also to Guadeloupe—see the article in this issue!). Twice an *Anax tristis* (Black Emperor), Africa's largest dragonfly, sailed lazily right through our group, just daring us to net it. Naturally we were too paralyzed with amazement to do so.

Kruger Park was good for birds and large animals, but not as spectacular as we had expected. When you can't leave the vehicle, you can only imagine what ode delights linger in the grass edges of the windmill-fed ponds which have been constructed to provide water for the herds of animals. We could have done with a lion, but every day produced birds which outdid the previous day.

When we left the park we headed straight for the huge escarpment of the Drakensberg. The lower part could have been the plains east of Denver, and the plateau surface looked in places like Iowa or upland Wyoming. But the escarpment itself belongs to a select group of the world's scenery that is really worth whatever effort is required to

get there. We stayed for a few days at the Aventura Resort, a comfortable place right at the edge of the cliffs. There were two ode habitats here: a small, wadeable, forested stream incised in the plateau, and the upper part of this stream, where it flows in full sun in crevices in the sandy bedrock of the plateau. The lower stream produced our first *Platycypha caligata* (Dancing Jewel), a blue and red damselfly which could well contend for the title as the world's most spectacular damselfly. *Chlorolestes fasciatus* and *Lestes plagiatus* were common, and distinguishing them at a moderate distance became an interesting challenge. There were relatively few dragonflies, but I spied and stalked (and failed to net) the first *Notiothemis jonesi* (Forest-Watcher) of the trip. This skimmer looks like a small *Dytthemis nigrescens*, but it is very wary. (I netted one at a later stop.) It belongs to the tetrathemines, which are supposed to be the most primitive Old World skimmers. I also found *Trithemis aconita* (Monkshood Dropwing) here. This species was described by Lieftinck 1969, reminding us that taxonomy is continually developing.

We learned from David, our guide, that if you hear two bulbuls up in a tree screaming you ignore them, but if they have been joined by a group of other birds, also screaming, you get out your binoculars and take a look and you will see a snake in that tree. You then shake the tree and the snake falls down and you catch it. We found several snakes this way.

At Aventura we were introduced to the fascinating Stick Snake, which curls around a branch, sticks out a long bit of its body and its head absolutely straight, and since it is colored like a stick, an unwary bird comes down for a perch and it is curtains for that bird. It turned out that this snake, which John found, was well known to the resort naturalist, who pointed it out to every group of awed tourists that she guided down that particular path.

In the upper part of the stream, there were lots of skimmers, including the large skimmer *Zygonyx natalensis* (Blue Cascadier). This genus just loves small cascades, and larvae are found in and around small waterfalls all over the Old World tropics. A lovely gomphid, *Ceratogomphus pictus* (Common Thorntail) was common on the rocks, providing lots of photo ops (see the cover). We got our best looks at (and photos of) *Orthetrum cafferum* (Two Striped Skimmer) here. This species is a good example of how difficult odonate identification is in Africa. In South Africa it has two vivid pale stripes on the thorax (hence the common name). In Uganda it lacked these stripes entirely!

And all the while at this, and several other localities, the large red *Anax speratus* (Orange Emperor) chugged up and down the stream.

Proceeding onward, we still had some discoveries to make. Our best find was at an open and nearly unwadeable river up on the Drakensburg Plateau where we found very little, but John spotted and netted a very small, all black *Diplacodes deminuta* (Little Percher). This relatively new skimmer species (described in 1969) was apparently the third record for South Africa. I saw another but failed to net it in a very windy, montane pond near Nelspruit the following day.

In the closing days of the trip we found some lovely upland ponds, small streams, and hillside springs, all in open areas far from tree cover. One rather unattractive stream at Nelspruit (I found myself collecting beneath a bridge amidst the litter left behind by numerous homeless people) yielded five species of *Pseudagrion*, and a specimen of *Notiothemis*. This was also the first place where we found *Phaon iridipennis* (Glistening Demoiselle), South Africa's only Calopterygine, and the only place we found the yellow-faced *Pseudagrion gamblesi* (Gamble's Sprite), the largest species in this genus I have ever seen.

We were surprised to find that *Chlorolestes* was just as common in the open country of the plateau as it had been in more wooded places earlier. There were a few *Pseudagrion* species that we had not seen earlier—curiously each with a yellow face. On the Plateau surface we started to find abundant “*Enallagma*” that are all assigned now to three other genera, thanks to the work of Mike May. Thus we took *Africallagma glaucum*, *sapphirinum*, and *elongatum*, and *Azuragrion nigridorsum*. In one especially soggy hillside at fairly high elevation we found *Proischnura rotundipenne*, flying with *Pseudagrion caffrum* and *Orthetrum machadoi*, all while we were trying to escape being mired in the muck, and hoping the rain would hold off for a few more minutes, please God.

We visited a private game farm near Nelspruit. This farm boasted two species of rhinoceros; we saw several of the white rhino which looked at us from just a few feet away and trundled off into the brush—David said white rhino are fairly placid, but when we got to the area inhabited by black rhinos he warned us that they are “tricky”. Luckily we never had to see just how tricky they can be.

Wildlife viewing in South Africa is somewhat of a surreal experience. Most of the wild game is in private ownership and lives quite happily behind electrified barb-wire fences. As you drive down the highway, you divide your attention between on-coming traffic and sight of ostriches, wildebeest, and warthogs, not to mention vast herds of impala, all just off the road behind these fences. If you have permission to enter one of these enclosures, then you may see giraffe, rhino, and some shier antelope, such as roan and sable. If you want to see elephant or lion, then you will probably have to visit a much larger public park—maybe even Kruger, which is the size of Delaware.

One of our best localities on the way back was another private farm whose owner was acquainted with David (David has lots of friends!) The owner was not in residence, but we visited his lovely house and gorgeous hillside stream and, frankly, had a ball. In addition to the usual suspects, we found two species of *Aeshna* flying up and down the stream, *elliotti* (Elliot's Hawker) and *minuscule* (Friendly Hawker). These looked so similar in the field that although we sensed there might be two species present, we had to have them in the hand to confirm this.

Our last field day, near Dullstrom (a weekend retreat for Jo'burg, if you have the money), we ended our trip on a high note. This was really open country, and the fields were full of flowers. We were dazzled by the abundant, tall, red-flowered *Crocosmea*, of which we grow much smaller examples of in our garden at home. There were several small species of orchids growing on the ground. And ferns . . . I don't want to get going on these. John and Greg managed to get superb photos, and finally a specimen, of *Notogomphus praetorius* (Yellowjack Longlegs). All I netted was air.

This was definitely not a tropical trip, and our list reflected this. I was amazed to find what a high fraction (more than half) of these species I had found previously in Uganda, which is right on the equator. Those of you thinking of Namibia in 2007 (WDA conference) might well consider a side trip to South Africa. You won't be disappointed. 

Anyone Interested in Doing Some Dragonfly Research?

Jason Bried, The Nature Conservancy & Albany Pine Bush Preserve Commission, Albany, NY, <jbried@tnc.org>, 518-456-0655 ext. 221

Sometimes I get these hair-brained ideas and then, for better or worse, expose them publicly.

The question has simple wording, even if the carry-out

will have sticking points: More sites or more surveys to find more species and occurrences? I think this question would plague research and inventory studies of insects if not for being ignored so often. We assume that a snapshot

survey within some defined area is not enough to determine the “representative spectrum of Odonata” (Schmidt 1985) based on adult stages. But where does the amount of detection from multiple surveys plane off and what might be an optimum balance of trade-offs between how many sites and surveys we can do?

The New York State Natural Heritage Program recently launched the New York Dragonfly and Damselfly Survey (Novak 2006), which is committed to updating the New York Odonata-by-county and state-level species lists. Typically in these statewide volunteer-based inventory projects participants fan out over a broad area and make one-stop visits to numerous sites. But the varied turnover patterns and life histories among Odonata species means that infrequent or snapshot surveys will miss species and in turn limit conclusions on their distributions (Hawking & New 2003). Is it worth it to allocate some effort towards replicated sampling events, if labor can be spared (the New York survey has 150 registered volunteers, Novak 2006)? Of course a statewide inventory with many dedicated people will likely cover a variety of habitat and last throughout the flight season, but without systematic study how can we know for certain that species and occurrences are not being overlooked?

The study hopes to accomplish one of two things: (1) validate the current approach to statewide volunteer-based odonate inventories, or (2) suggest an optimal site-survey balance for meeting objectives of the New York survey and other statewide dragonfly inventories. Without substantial rigor the answers will not be definitive, but even low intensity studies can shed some helpful light.

There are signs that the idea is moving forward—a grant proposal has been submitted and a few folks have expressed interest. I am fishing for more and would love to hear from people who:

1. Think they might be interested. There would be hourly pay plus partial compensation for travel *if* the grant is successful.
2. Could commit to sampling at least one site at least 12 to 15 times, about once every ten days for one hour (?) per day, from May into September 2006. I think it is important to simulate what actually happens in formal statewide odonate inventories—that is, we want to spread our coverage both in space and time. However, at least for an initial study I would rather it be regionalized (like in the upper Hudson Valley . . . which happens to be where I live) than spanning across five states, to reduce the ecological noise.

3. Want more information about the plan, or have concerns/questions.

I would be happy to involve both experienced and inexperienced odors. Projects like the New York survey are dominated by first-timers, and it would be interesting to assess whether experience level affects the results. Therefore, anyone is eligible to participate, but ideally there should be a balance of veterans and tenebrals.

There are plans later to extend the concept to incidence-based research using adult stages, and I would love to join forces with anyone interested. From my view, adult dragonflies and damselflies offer not only their well-known pragmatic, heuristic, and empathetic potentials for aquatic and wetland conservation, but also might be effective tools for ecologically-based applications (e.g., habitat quality indicators, rapid monitoring assessment, buffer zone bio-delineation). To assign such heavy responsibility to adult odonates means we must draw the most accurate information possible—I think this requires an investment in finding objective criteria for separating resident species from strays.

Although a project may not materialize this year or next, throwing it out there sooner than later seems wise. Maybe someone else will be able to run with it if life’s logistics or random events (like I get run over by a truck) prevent me from doing so.

Studies like this can *not* be carried out effectively by a single person. So thanks for reading this and I hope to hear from you . . . the sooner the better!

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Book Review: Dragonflies of Alaska, by John Hudson and Robert H. Armstrong. 2005. 48 pp., 9 × 6 inches, spiral bound. Todd Communications, 203 W. 15th Ave., Suite 102, Anchorage, AK 99501; phone 907-274-8633. \$12.95.

reviewed by **Dennis Paulson**

This thoroughly illustrated handy guide is another much-needed addition to the rapidly growing set of books available for North American odonates, and its authors have done a good job of presenting the Alaskan fauna. It includes the seven zygopterans and 25 anisopterans recorded from the state (three of the latter of irregular occurrence), all with color photos. The book begins with a photo-illustrated introduction to the basic life history of odonates. Brief descriptions of identification characteristics and natural history of each species are included, as well as a general description of its range in the state.

The species list of this high-latitude region is small, and many of the species are common and widespread, so a beginning enthusiast should be able to learn the fauna quickly, however, the species of several pairs—Boreal and Northern Bluet, Ringed and Hudsonian Emerald, and Belted and Crimson-ringed Whiteface—will be distinguishable only by study of individuals in the hand. The line drawings in the book of structural differences will make that easy.

The second author is well known in Alaska for his natural-history books and photos. His photos in this book are large, sharp, and attractive and quite adequate for identification purposes. Photos of females of more species would have been helpful, and I was sorry to see some of the species posed in positions unlike their normal perching behavior. This is often the only way to get photos of “flyer” species such as aeshnids but shouldn’t be necessary for libellulids and damselflies, which are frequently seen at rest.

Alaska’s odonates are still poorly known, as so much of the state has not been adequately surveyed, but this book probably has just about all of them, some only newly discovered there in the past few summers of survey work by the authors. Much more study of some of the little-known northern species would be rewarding, as well as a more thorough understanding of their distribution. Dragonflies of Alaska will hopefully stimulate some of that effort. Everyone should own this book to learn about the dragonflies that thrive so far from the Equator, but one thing we know already is that they don’t control Alaska’s mosquitoes! 

Enhancements and New Features Added to OdonataCentral

John C. Abbott, Section of Integrative Biology, The University of Texas, Austin, TX 78712, <jcabbott@mail.utexas.edu>

Since the new OdonataCentral <<http://www.odonatacentral.com>> was first announced in November 2004 (see announcement in ARGIA 2005) I have been working hard to add new features and enhancements to the site. I have outlined some of these below.

(1) I have put up a gallery of 43 species of Odonata I photographed on a recent trip to South Africa, <<http://www.odonatacentral.com/gallery/South%20Africa/>>.

(2) The journals of the Dragonfly Society of the Americas, ARGIA and the Bulletin of American Odonatology are now online, <<http://www.odonatacentral.com/dsa1/publications.htm>>. All issues up to three years (or three volumes in the case of BAO) ago are available to everyone. The most recent issues are password protected and will be available to members of the DSA next year.

(3) Rosser Garrison’s New World Odonata Catalog is now available in a searchable form, <<http://www.odonatacentral.com/utilities/catalog/default.asp>>. I will be adding type

information and links to the references soon.

(4) I have added a feature so that you can view the distribution of species using Google Maps, <<http://www.odonatacentral.com/gmap/>>. The maps work nicely, but are slow when looking at species with numerous records. This is a limitation of Google.

(5) Species distributions can now be viewed using Google Earth. To access this feature, choose “Google Maps” under the “Maps” heading at the top of the page. After viewing a species distribution you can click on the hyperlink that says “View Data in Google Earth.” Note you can also download the data as a text file. You will receive a popup box that says you can save or open the file. Choose open and if you have Google Earth installed you will be able to view the species distribution. You can view multiple species in Google Earth by querying additional species in Google Maps and then clicking on the Google Earth hyperlink again. Google Earth will automatically zoom out so you can view the most recent species. All records in the OdonataCentral database

will be visible and when you select one it will give you the relevant information along with a photo of the species if one exists on the site. You do need Google Earth installed on your computer to use this feature. You can download it at <http://earth.google.com/>. Large data sets will take some time to download. Google Earth is now available for Macs and can be downloaded from the same address above. Please note that distributions displayed in both Google Maps and Google Earth are for the centers of counties, not the actual latitude and longitude of a record. As more and more records are submitted, we will be able to plot actual collection localities.

(6) A georeferencing utility to determine latitude and longitude for collection localities has been added using Google Maps. It can be accessed through the new records portion of the site http://www.odonatacentral.com/records/US_new_records.asp or by choosing "Georef Tool" from the Maps menu.

(7) I have added a searchable bibliography that currently contains over 9,000 references; <http://www.odonatacentral.com/utilities/literature/default.asp>. I am still tweaking the reference database so you will find some duplicates and other inconsistencies, but these will be rectified with time. Soon we will be linking to the actual publications in a PDF form and this database will be linked with the Taxonomic Catalog mentioned above.

(8) I have added a utility where archives of all the North American Odonata list serves can be viewed and searched, <http://www.odonatacentral.com/utilities/mailling-listarchives/>. Individual archives can be searched or you can search all of them at once.

(9) The University of Texas Odonata collection is now available online, <http://www.odonatacentral.com/collection/>. The collection currently contains over 10,000 specimens and nearly 700 species with a primary focus of the south-central United States, but contains specimens from around the world.

(10) A searchable thumbnail gallery has been added to the Photo Gallery section of the site. Users can peruse thumbnails for all taxa, suborders, or families. It can be accessed by the following URL http://www.odonatacentral.com/gallery/thumbnail_gallery.asp.

Please remember that we have worked hard to insure cross compatibility with different platforms and browsers. The site is best viewed though using a PC and Internet Explorer with a screen resolution of at least 1024 pixels wide.

I would also like to remind everyone to submit their information to the odonatologists directory if you haven't already. You can not only add your contact information, but also your web site. With time this will hopefully be the most up-to-date resource for finding people interested in odonates near you. The link to the directory is <http://www.odonatacentral.com/utilities/directory/>.

Also, if you have linked to OdonataCentral, please be sure you have listed the domain name as www.odonatacentral.com (not odonatacentral.bfl.utexas.edu). This will prevent any broken links if the server is moved in the future.

Finally, feedback on the web site is always welcomed and I appreciate everyone who has been actively submitting records to help fill in the gaps of our knowledge of Odonata distributions. An article on OdonataCentral recently appeared in *American Entomologist* (Abbott & Broglie 2005) and discusses more of the citizen science side of this web site.

References

Abbott, J.C. 2005. OdonataCentral: A New North American Web Site. *ARGIA* 17(1): 26–27.

Abbott, J.C. and D. Broglie. OdonataCentral.com: A model for the web-based delivery of natural history information and citizen science. *American Entomologist*. Winter, pp. 240–243. 

Bylaws Revisions Voting Results

Steve Krotzer, rskrotze@southernco.com

All of the proposed revisions to the Bylaws have been overwhelmingly approved. The effective date of the revised Bylaws is the publication date of this issue of *ARGIA*, and the Bylaws that are published on the DSA web site should now reflect these revisions.

I would like to thank the Executive Council for their

consideration of the possibility of updating our Bylaws; ad hoc committee members (Jim Johnson, John Abbott, and Mary Jane Krotzer) for further defining the proposed revisions and incorporating them into the existing Bylaws; and especially the members of DSA who invested the time and effort to read over the proposed revisions and send in their ballots. Thanks, everyone! 

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Back cover: (upper) George Bick sitting on his back porch in 2005. Photo by Suzann Bick. (lower) Not all of them make it! Solitary Sandpiper with a fat gomphid larvae. Photo by Noble Proctor (see accompanying article).

