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ARGIA

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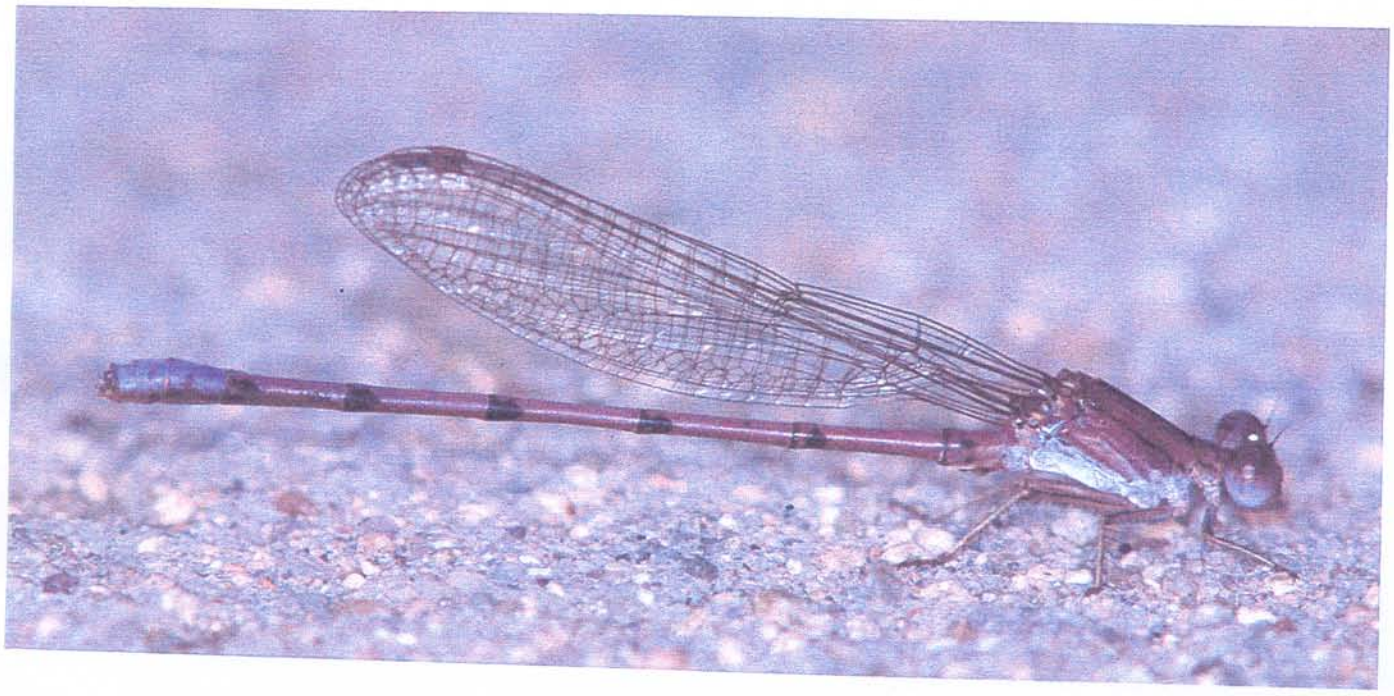

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THE DRAGONFLY SOCIETY OF THE AMERICAS

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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** should preferably be submitted as hard copy and (if over 500 words) also on floppy disk (3.5" or 5.25"). The editor prefers MS DOS based files, preferably written in WORD, WORD for WINDOWS, WordPerfect, or WordStar. Macintosh WORD disks can be handled. All files should be submitted **unformatted and without paragraph indents**. Each submission should be accompanied by a text (=ASCII) file. Other languages should be submitted only as text (=ASCII) files. Line drawings are acceptable as illustrations.

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

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

MEMBERSHIP IN THE DRAGONFLY SOCIETY OF THE AMERICAS

Membership in the **DSA** is open to any person in any country. Dues for individuals in the US, Canada, or Latin America are $15 for regular membership and $20 for contributing membership, payable annually on or before 1 March of membership year. Dues for members in the Old World are $20. **ARGIA** is mailed Air Mail outside of the US and Mexico, and First Class in those countries.

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Cover: ***Argia pallens***, a new record for Texas. Photo by Bob Behrstock

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

IN THIS ISSUE

This has been a strange year. In the Northeast it has been wet beyond our memories. In the Southeast and South Central it has been dry, dry, dry. During June there were numerous reports of large movements of dragonflies in the Mid-Atlantic region. We hope to have a summary of this activity for the next issue. Meanwhile, keep looking and recording.

The Southeastern meeting in Cades Cove was a resounding success. This is a "kick-off" for a ten-year inventory of all biological taxa within the Smoky Mountain National Park, for which Ken Tennessen is directing the Odonata portion. I would like to say that we got lots of new records, but. . . Anyway, it was great fun.

The Northeast meeting in Sterling Forest, led by Karen Frolich, was also successful. The following day a few of went on to New Jersey with Allen Barlow to see a National Wildlife Refuge in the northern portion of the state that will merit further work.

Josh S. Rose contributes a short piece on the "Dragonfly Days" meeting in McAllen Texas in May. In spite of the heat, a great time was had by all.

Paul Lederer contributes an article about taking Odonata to the public in Staten Island. He has come up with another truly marvelous use for the lock bag, which I have come to believe is one of the great inventions of the past century.

We continue to add species to our various state lists. George Harp has some new Zygops for Tennessee and Missouri, and Bob Behrstock has found ***Argia pallens*** in Texas. Also, a very recent e-mail indicates that Josh Rose has found the first specimen of ***Gynacantha mexicana*** in Texas; the previous record was photographic, and this specimen will make several people happy. Continuing with Texas, Omar Bocanegra notes a county record for ***Epiaeschna heros***.

Steve Valley contributes a piece on ***Tanypteryx***, which faces occasional drying-up of its very moist habitat in the Cascades. Speaking of which, Steve was the subject of a short television program (Oregon Public Television) on dragonfly study. Our Steve is a star!

Jerrell Daigle sends in an account of what must have been a wonderful trip to Bolivia. Quick, without looking, guess how many exclamation points appear in this vivid tale.

Ethan Bright has added the little-known tropical gomphid ***Perigomphus*** to the Honduras list, based on a larva. Now we need to find the adult. The Odonata of this interesting country remain almost entirely unstudied.

José Ramos Hernández has contributed an interesting article on bats predating dragonflies in Cuba. These tropical bats seem to scoop up roosting dragonflies in great numbers, an activity which seems counter-intuitive.

Roy Beckemeyer ran across some interesting information about R.J. Tillyard, one of the great Odonatists of all times. Several of us had heard about his interests in spiritualism, and Roy neatly presents the story of his odd beliefs.

Mark O'Brien has contributed a history of the study of Odonata at the University of Michigan Museum. Few of us appreciate how important Williamson's activities were in making this Museum a focal point of Odonata studies for several decades in the early part of the 20th century.

Sid Dunkle reviews a book about Florida insects which includes several dragonflies. Sid is probably gnashing his teeth (along with the rest of us) wondering when HIS book is going to hit the news stands. I was recently in Hong Kong and was told by Keith Wilson that all the volumes of Sid's forthcoming guide were still (as of the end of June) in a Hong Kong warehouse. The world moves in mysterious ways.

I am appending to the end of this issue the (slightly) revised bylaws of the DSA. Take a good look at them; they will be presented formally at the Vancouver Island meeting. Speaking of which, I am sorry that I will not be there this year.

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CADES COVE COOK-DOWN!

Jerrell J. Daigle and Ken J. Tennessen

The 2000 Southeast Regional Meeting was held in Cades Cove, Blount County, Tennessee in the Great Smoky Mountains National Park from May 26 to 28. Twenty-two (22) people from all over the Eastern U. S. participated in the meeting. They were Ailsa and Nick Donnelly from New York, Anna Hecker (NYU) from Vermont, Bryan Reece

(East Tennessee State U.), Meredith Clebsch, Ben Cash, Mary Steele, and Jerry J. J. Daigle from Tennessee, Phoebe and George Harp from Arkansas, Ken Tennessen, Mary Jane and Steve Krotzer from Alabama, Teresa, Joseph, and Ellis Laudermilk and Carl Cook from Kentucky, Duncan Cuyler from North Carolina, Dirk Stevenson and David and Minter J. Westfall, Jr. from Georgia, and Bill Mauffray and myself from Florida.

Ken, Bill, Bryan, the Westfalls, Carl, and myself stayed at the ranger house in the park and the others stayed in motels in nearby Townsend. We had a get-together dinner in Townsend at Deadbeat Pete's Friday night. Saturday evening we were treated to a really great cookout provided by Bill and Ken at the cabin. They served hamburgers and bratwurst and we had a very enjoyable evening topped off by Ken's slide show of tantalizing Bolivia odonates! At the meeting that evening, we voted on holding next year's meeting in September also in the Smokies with a side trip to the Cumberland Plateau. Organizers are Bill Mauffray, Nick Donnelly, and Carl Cook. We discussed forming a DSA group which will host tropical collecting trips. Carl presented a small roast of Nick Donnelly. Just before our meeting in Cades Cove, Carl had been talking to a group of KY farmers about the seriousness of the drought. He told them that whenever Nick Donnelly showed up for a DSA meeting, it would rain and even storm, and that we called it the "Donnelly Effect". Later that day it rained 6" in their area, so they wrote a letter of appreciation to Nick and they all signed it. Carl presented the letter to Nick amidst a round of chuckles and applause.

While bears, turkeys, geese, woodpeckers, gnatcatchers, and especially tire-nibbling deer were seen, the purpose of this meeting was to inventory the Odonata of Cades Cove for the ATBI (All Taxa Biological Inventory) project sponsored by the Dept. of Interior. Collecting was done in Cades Cove, mostly at the Cabin Mill at Mill Creek and nearby creeks. Also, Ronnie Clink gave us access to the campground sewage pond which was literally teeming with dragonflies and damselflies! Over the weekend and admidst the red, pin, and white oaks, we collected the following species: ***Calopteryx maculata, Chromagrion conditum, Enallagma aspersum, E. civile, E. signatum, Ischnura hastata, I. posita, I. verticalis, Lestes disjunctus australis, Tachopteryx thoreyi, Cordulegaster bilineata, C. maculata, C. obliqua, Anax junius, Boyeria vinosa*** (larvae only), ***Epiaeschna heros, Arigomphus villosipes, Gomphus exilis, G. lividus, G. rogersi, Lanthus vernalis, Hagenius brevistylus*** (larvae only), ***Macromia*** sp. (larvae only), ***Epitheca cynosura, Ladona deplanata, Pachydiplax longipennis, Perithemis tenera, Plathemis lydia,*** and ***Tramea lacerata.*** Some of the ***Cordulegaster maculata*** males had green eyes while others had teal blue eyes. Surprisingly, we didn't see either of the ubiquitous ***Erythemis simplicicollis*** or ***Pantala flavescens***, although these species are expected to occur in the park. Data from this survey will be used in conjunction with surveys done by Dan Johnson, Bryan Reece, Don Defoe, and others to compile a master list for the entire Great Smoky Mountains National Park. Almost all the records are new! This is to be expected since collecting has generally not been allowed previous to the ATBI.

Our thanks to the rangers, park personnel, Jody Fleming (Discover Life), and all of you for making this meeting a very enjoyable and successful one! See you here again next year!

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NORTHEAST DSA MEETING IN STERLING FOREST

Nick Donnelly

One criterion for locating DSA field meetings is the possibility that the participants can increase the local odonate list. What are the possibilities that a meeting in Orange Co., NY, on 10 June will add to a county list of 121 species, one of the highest in the nation? As our small group (Fred Sibley, Allen Barlow, Nick and Ailsa Donnelly, Don Miller, Mike Thomas, and leader Karen Frolich, joined later by Paul Novak and NY Heritage director Kathy Schneider) stepped out of our cars on a beautiful, sunny (No Donnelly effect this time!) day, we saw several ***Epitheca*** flying around in the woodland clearing. The first caught turned out to be ***E. spinigera*** – a new county record! There were also several ***Gomphaeschna furcillata*** and ***Gomphus lividus*** in the clearing – a good introduction to ode study.

Continuing into the forest, we walked up a beautiful stream with three ***Cordulegaster*** species (***maculata, diastatops,*** and ***obliqua***), and ***Lanthus vernalis***. Close by were ponds with ***Amphiagrion saucium, Enallagma divagans,*** and ***Nasiaeschna pentacantha***. The habitat where ***Gomphus rogersi*** had been found in 1993 was totally overgrown with small trees and impassable. Last year's Hurricane Floyd had damaged the dirt roads extensively, and we could not drive into several other ponds and

woodland streams. This vast woodland area still needs further surveying.

On Sunday Allen Barlow led a few of us to the Wallkill NWR in northern Sussex Co., NJ. We immediately found a marshy pond full of ***Lestes dryas***, a previously rarely recorded species in New Jersey. Flying all around the parking area were ***Gomphaeschna furcillata*** and ***Epitheca cynosura***, and a few ***Epiaeschna heros***. Later we found ***Enallagma basidens***, which still continues to penetrate northward.

Which goes to show that there are still many new things to discover in the supposedly well-surveyed Northeast.

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DRAGONFLY DAYS [13-14 May, in the Rio Grande Valley]

e-mail from **Joshua Stuart Rose**

I just wanted to thank Bob Behrstock and his allies in the Lower Rio Grande Valley for throwing a great festival! They are already discussing arrangements for next year, I highly recommend that anyone who can make it do so. We saw at least 31 odonate species, many of them not found elsewhere in the US, and also enjoyed some great birds and butterflies. The gift shop of the LRGV Nature Center in Weslaco, which hosted the event, was (and still is) selling copies of "Common Dragonflies of California" and "Common Dragonflies of Wisconsin" while they awaited the arrival of "Dragonflies through Binoculars". They also sell all kinds of dragonfly paraphenalia: models, kites, note cards, etc., plus the official "Dragonfly Days" shirt featuring the Great Pondhawk, Erythemis vesiculosa.

Indoors, two Bobs - Behrstock and Honig - discussed dragonfly life history for the many novices in attendance, and also showed slides of most of the common species and local specialties of the region. Forrest Mitchell, creator of the "Digital Dragonflies" website (http://www.dragonflies.org/) gave two talks, one discussing his research using odonate larvae in a study of water quality, the other describing his methods for (a) rearing naiads to adulthood in captivity and (b) scanning the amazing images with which he has built his website! We were also showered with margaritas at the opening reception and lasagna and beer at the banquet.

Outdoors, we visited four dazzling locations. The first was the Weslaco Wetlands, an area created using water from the local sewage treatment plant, now being developed as a wildlife-watching site. The weather was cloudy, windy, and drizzly, which made the odonates hard to come by. Even so, we tracked down a few species; Four-spotted Pennant, Brachymesia gravida, was the most common, with the ever-troublesome Orthemis spp. also common, but most exciting was probably the Sulphur-tipped Clubtail, Gomphus militaris. Pin-tailed Pondhawks, Erythemis plebeja, showed up here as well. Later that afternoon, under much more favorable conditions, we proceeded to the Edinburg Scenic Wetlands, also created using treated wastewater, and were treated to the beautiful Thornbush Dasher, Micrathyria hageni, along with its congener the Spot-tailed Dasher, M. aequalis. We ran into several damselflies here as well, most notably the Rainpool Spreadwing, Lestes forficula.

The following afternoon, we visited the reknowned birder's mecca of Santa Ana NWR and found it worth visiting for odonates as well. Damsels here included the Neotropical Bluet, ***Enallagma novaehispaniae***. We had great looks at Striped Saddlebags, ***Tramea calverti***, and Black Setwing, ***Dythemis nigrescens***. I photographed a female of one of the other species of ***Dythemis***, as yet unidentified; Bob B. thought it was probably Swift Setwing, ***D. velox***. I also took a shot of an unidentified clubtail in the genus ***Aphylla***, presumably either ***A. protracta*** or ***A. augustifolia***. We also saw a Needham's Skimmer, ***Libellula needhami***, and a mating pair of Eastern Ringtail, ***Erpetogomphus designatus***. From there, we continued on to the Mercedes Tract, a part of the refuge not open to the public, and enjoyed several species including more Thornbush and Spot-tailed Dashers, Great Pondhawks, and at least one Orange Bluet (***Enallagma signatum***).

All told, we had a great time in spite of uncooperative weather. Many more thanks to the Bobs, Forrest, and the staff of the Nature Center; I'm already looking forward to next year!

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THE TRAVELLING ODE SHOW

Paul Lederer

When I commenced the Staten Island Dragonfly Survey (SIDS) in 1996 my aim was quite simple: to do a survey of the Odonata of the county in

which I reside. I did not envision that, as the survey commenced, I would be doing more than just identifying, counting, recording information, and publishing the results. Life sometimes has more in store for you than you think. So it was for me and the SIDS. I became involved in "dragonfly education" really almost by chance.

The SIDS is being done under the sponsorship of the Staten Island Institute of Arts and Sciences. After the first year of field work was completed, I was approached by the Institute to discuss my first year's findings at their March, 1997 Science Section meeting. I felt obliged to do this since the Institute's sponsorship facilitated securing the necessary permits to most of the sites I was working for the survey. I had one big problem though: I would be addressing an audience which had very little knowledge of dragonflies, or insects for that matter. I knew that the Institute's Science Section consisted of, by and large, "birders" and some "botanists." Most would not know a Libellula Lydia if it landed on them! I knew that if I rattles off the Latin names of the species that the first year documented, I would be, to say the least, the more boring speaker ever to address the Institute. I needed something visual, but since my photographic skills got only as far as getting a free 35 mm single focus plastic camera from Time magazine (Time gave you the camera as their gift to you for subscribing for one year: I still have it) I had no slides to illustrate the species I wanted to discuss. Being desperate, I gave Sidney Dunkle a call for help. I had a copy of his book, Dragonflies of the Florida Peninsula, Bermuda and the Bahamas, and I had been quite taken by the beauty of the dragonfly photographs he used to illustrate his field guide. I explained my situation to Sid and he graciously promised to send me slides of each species I needed.

"O.K." I thought, "The visual effect problem has been solved. I will be able to show my audience slides of the dragonflies so they could then associate what the species looked like with the name." But, now another problem arose, because I would be using slides of different species, namely, I would be comparing the appearance of the various species. It quickly dawned on me that before I showed the slides, I should do an introduction explaining dragonfly anatomy. "Hmmm," I thought to myself, "since I would be addressing birders, I can get and hold their interest by explaining where to look for and the nomenclature of the various "field markings" used to identify each species, a la the Peterson field guides. Now, what can I do to illustrate dragonfly anatomy?" I went to a local office supply store and purchased poster paints, brushes, and something called "foamboard," which is composed of two pieces of a white cardboard between which is laminated a piece of hard foam. I constructed two three-foot long (about 1 meter for our Continental and Canadian readers) dragonfly models: one a dorsal view model, having wings which could be attached by using Velcro strips; and the second, a lateral view model. The models were color coded: eyes, dark blue; forehead, red; face, yellow; thorax, light brown; legs, black; abdomen, light blue with black lines demarcating the separate segments. On the lateral view model, I made it possible to change the model's sex with, dare I say, an ingenious use of blank index cards: one painted to be part of a female's abdominal segments 1, 2 and 3, which strategically covered the underlying male's accessory genitalia; the other to cover the model's male inferior anal appendage. These were "pasted" on to the model with a temporary glue stick so that the model appeared to be female, but when the "pasties" were removed, revealed was a male dragonfly with the accessory genital organs on segment 2 and inferior caudal appendage on segment 10: I called this model "Victor-Victoria" from the Broadway play having to do with trans-dressers.

Armed with Sid's borrowed slides and Victor-Victoria, I gave my presentation. To fill the need of my audience's general lack of knowledge of dragonflies, the first part of my lecture was a discussion of dragonfly anatomy, biology, and field markings, and behavior. Victor-Victoria stole the show here. The second part of my presentation were the slides showing the male and the female of each of the species the survey found in the first year. Sid's slides were a big hit (he gave me permission to make copies). I used the slides to elaborate on what had been discussed in the first part of the lecture.

What had originally been intended as a survey rep9rt turned out to be a well-received discussion on dragonflies. Word spread and soon I was receiving calls to give repeat performances to other groups and organizations. I soon realized that various organizations with a need for speakers quickly find you out. The North American Butterfly Association, the American Museum of Natural History, Clay Pit Ponds State Preserve, and the Gateway National Recreation Area were the next stops on what turned out to be my ongoing tour. I even have "dragonfly groupies" who

manage to attend several of my presentations. My audience wanted more, so I started giving "dragonfly walks" in 1998 at New York City parks, State parks, and at Gateway Natural Recreational Area. On one of my walks at High Rock Park, which is run by the New York City Department of Parks, one of the Urban Park Rangers who accompanied me asked if I could train the Urban Park Rangers in some sort of dragonfly seminar. Although the Urban Park Rangers were naturalists, few of them knew much about dragonflies and I saw I could teach others who could then, in turn, teach the public. Who better to train than professional naturalists? I gave a two-day dragonfly workshop for them: one day of classroom and one day actually in the field. The classroom phase was a much expanded version of my usual dragonfly lecture, geared for those with a good background in natural history. It was based on dragonfly biology, behavior and identification of all the species in the area likely to be encountered. I found that the best way to do the identification part was to show the slides in the following order: first those species with clear wings or apparently having clear wings when seen in the field, and then those species having colored and/or wings with markings. Each of these two categories was in turn broken down by the colors of the thorax and abdomen. I also prepared a key for the species to be found locally based on these divisions, giving to each keyed-out species the appropriate pages where that species could be found in both Sid Dunkle's field guide for the dragonflies of Florida and Virginia Carpenter's field guide for Cape Cod. I had arranged beforehand that the Urban Park Rangers purchase several copies of each field guide and felt some satisfaction that both Sid and ginger would be receiving a larger than usual royalty check that year.

On the field day, I saw my "students" correctly identify most of the species without my direct help. I don't know who was more pleased and excited, they or I.

The same two-day workshop is now in the works for the U.S. Department of Interior park rangers who work at the Gateway Natural Recreational Area. This will be done in the summer of 2000.

Last year I added a new attraction to the "Travelling Ode Road Show" which was a big hit, especially for the younger members of my audience. Prior to the lecture I captured about ten different species of dragonflies and chilled them in a cooler. Just prior to going on, I took each dragonfly individually and placed it in a zip lock bag, the one with the sliding lock. I slid the lock almost all the way back into the closed position, then blew into the bag to inflate it, and closed the lock the rest of the way. The result was an individual, balloon-like cage for each live specimen. When it came time to discuss that species, I passed around the "dragonfly balloon" and each member of the audience got to see and hold that dragonfly, alive and flying around within the balloon's interior. At the end of the lecture, we held a "dragonfly release," freeing each specimen one by one. Kids and grown-ups loved it.

I originally thought of entitling this article "Planting the Seeds," but opted instead for the current, more catchy title. I was thinking of the legendary "Johnny Appleseed" who, as legend has it, planted apple seeds wherever he went, knowing that he might never taste the fruit of his labors. I too am planting seeds hoping that some will take root. I may or may not get to see the results. I do know that I can make a difference and that some members of my audience may see something beautiful and special the next time he or she sees a dragonfly darting this way and that over a sunny pond.

I found, by accident really, that there is a need and perhaps even a duty for those of us who study odonates to actively offer to others our knowledge and love for these winged beauties of creation. Before studying dragonflies, my interests in entomology covered diptera and coleoptera. It is much more difficult to lead a nature walk for the public discussing mosquitoes or carabid beetles, whose structure can be seen only with a hand lens or microscope, than it is in this respect for dragonflies which are large and conspicuous. Dragonflies are more like birds than insects, and I found that "birders" really take to dragonflies, using the same field techniques they use for birds: binoculars and looking for behavior and field markings. Children and general nature enthusiasts find dragonflies an object which will hold their interest. So I plant my seeds.

Nature centers and conservation groups which hold programs for the public are always on the lookout for speakers and walk leaders and, if my experience is any guide, once you do your first presentation, the word will spread and you will be receiving calls which start out, "So and so heard your lecture and told me it was great. Can you do a similar presentation for my organization?" You could, if you bent is doing field trips, do one through one of

these organizations. Resident naturalists are not always up on odonates, and you can fill this need. You could do some type of training workshop for professional naturalists who work with the public in municipal, state, or federal parks and natural areas. Odds are that their expertise is in areas of training other than odonates and they will appreciate an opportunity to broaden their natural history skills. With government funding cuts, an offer to do a workshop for free will invariably be well received. Once you train these naturalists (don't forget to have them buy Sid's and Ginger's field guides) they will start discussing dragonflies more on their field trips and nature walks.

Victor-Victoria, Sid's slides, and I have come a long way since 1997. The "Travelling Ode Road Show" is gearing up to plant more seeds in the year 2000.

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NEW ZYGOPTERA STATE RECORDS

George L. Harp

Tennessee: ***Telebasis byersi***. This record was acquired while I was assisting Ken Tennessen and Carl Cook survey the odonates of this state: Tennessee, Lake County, Reelfoot State Park, Reelfoot Lake, trail to Ronaldson Canal at Ronaldson Canal, 25-VI-98. This is on the west side of the lake. Only one individual was seen, a male. This fills a gap in its known distribution.

Missouri: ***Lestes inaequalis***. These collections were made while surveying ***Ophiogomphus westfalli*** distribution for the Mo. Dept. Conservation: Missouri, Howell County, Eleven Point River 13 mi E of Pomona @ Co Hwy W, 24-V-99. Only one individual was seen, a male. Pulaski County, Gasconade River five mi S of Crocker, or 0.4 mi downstream from MDC Schlicht Springs Access, 23-VI-00. One individual was seen, a male. These records fill a gap in its known distribution.

Missouri: ***Ischnura kellicotti***. The following collections were simply opportunistic: Missouri, Howell County, lake @ cemetery 1 mi S of Pomona on E side of US Hwy 63. Several individuals were seen. Iron County, lake @ Baptist retirement home, one mi E of Arcadia on St Hwy 72, 9-VI-00. Several individuals were seen. These records fill a gap in its known distribution.

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FIRST TEXAS RECORD OF AMETHYST DANCER (*ARGIA PALLENS*) CALVERT, 1902

Robert A. Behrstock

On 25 April 2000, I visited Big Bend Ranch State Park just east of Presidio, Presidio Co., Texas. My goal was to photograph Mayan Setwing (***Dythemis maya***), a Mexican species that barely enters the U.S. Springs at this park in far western Texas are its only known U.S. locale. Although other species were present, some in good numbers, I did not locate the setwing. It may not have been flying yet, or its peripheral populations may have been affected by the severe drought.

At the suggestion of John C. Abbott (University of Texas, Austin), who had collected in the park, I visited an intermittent spring just east of Las Cuevas, a geological formation of water-carved volcanic ash cliffs. The spring, part of the Bofecillos Creek watershed, was mostly dry; but stretches were lush and shaded by willows, cottonwoods and grape vines. The site is at an elevation of approximately 3560' and lies about seven miles from the Rio Grande and the Mexican state of Chihuahua. About 200' south of the dirt road traversing the park, the creek sprung from its dry bed as a series of muddy puddles, then widened into a narrow, moving body of water, eventually making several drops over boulders and forming small, clear pools. During the time I spent there (12:48-14:55 hrs), the temperature was nearly 100 degrees F and there was a persistent breeze from the south. Odonates, primarily zygopterans, were plentiful and bird activity along the creek was frenetic.

At 14:17 hrs, I observed a curious male *Argia* perched at the edge of a pool. This damsel, clearly unlike any I'd seen in Texas, exhibited the distinctive reddish-brown color of ***Argia pallens***, a species I'd observed during three trips to Arizona, and what I suspected it to be. I cautiously attempted a photograph, but only succeeded in losing it for 10 long minutes. When it reappeared, I abandoned my conservatism, slapped my cap over it, and took the specimen.

Other odonates at this desert oasis were: Giant Darner (***Anax walsinghami***); Plateau Dragonlet (***Erythrodiplax connata***); Flame Skimmer (***Libellula saturata***); Great Spreadwing (***Archilestes grandis***); Variable Dancer (***Argia fumipennis violacea***); Lavender Dancer (***Argia hinei***); Kiowa Dancer (***Argia immunda***); Sooty

Dancer (***Argia lugens***); Aztec Dancer (***Argia nahuana***); Springwater Dancer (***Argia plana***): and Desert Firetail (***Telebasis salva***).

Upon returning to Houston, I sent the specimen to Rosser Garrison who critically examined the genitalia and confirmed that it was indeed a male ***pallens***. Amethyst Dancer is known from southern Arizona and New Mexico; the Mexican states of Sonora, Jalisco, Morelos, Puebla, Guerrero, and Oaxaca, and from Guatemala (Garrison 1994, Westfall and May 1996). This record is an eastern extension of its known range.

I thank Rosser Garrison for identifying this specimen that now resides in his collection. David H. Riskind (Texas Parks and Wildlife) kindly issued me a collecting permit (#21-00) for odonate investigations in Texas State Parks. John Abbott and Kelly Bryan (Davis Mountains State Park) recommended a trip to this remote and interesting park, and David Alloway (Big Bend Ranch State Park) provided information that facilitated my visit.

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PREDATION BY THE BAT *MACROTUS WATERHOUSEI MINOR* (CHIROPTERA: PHYLLOSTOMATIDAE) ON DRAGONFLIES

José M. Ramos Hernández, Apartado Postal 2204, Sancti-Spíritus, CUBA CP.60100
(translated by Nick Donnelly)

Dunkle and Belwood (1982) present a list of no less than 19 species of odonates found among the stomach contents of the bats *Micronycteris megalotis* (Gray), in Costa Rica, and *Macrotus waterhousei* Gray, in Haiti, Jamaica, and the Cayman Islands. Also, Silva Taboada (1979) found remains of odonates in a low percentage of digestive tracts of *M. waterhousei minor* Gundlach, indentifying ***Gynacantha nervosa*** among the alimentary deposits of this bat at its resting place.

Based on these findings, I undertook between December 1997, and September 1999, a sampling project of nocturnal resting sites and diurnal roosts of *M. waterhousei minor*, located in eight caves in the province of Sancti-Spíritus. For that purpose I collected all the wings of odonates (entire or fragmental) found in these sites. Our objective was to demonstrate that in Cuba, and probably other West Indian islands, this bat consumes many species of odonates. The localities were as follows: Municipio de Cabaiguán: (1) Cueva de La Subida; (2) Cueva del Jagüey; (3) Cueva de La Herradura (all in Sierra de Las Damas); (4) Cueva de Los Murciélagos (Sierra de Esperanza); (5) Cueva de La Tinaja; (6) Cueva del Residuario (both Sierra de Gabino). Municipio de Yaguajay: (7) Cueva de La Chucha (Lomas de La Canoa); and (8) Cueva de Los Chivos (Cayo Caguanes).

All the material examined is deposited in the author's collection. The results (table 1) show the presence of 17 species of odonates which were consumed by *M. waterhousei minor*. All but species one were Anisoptera, and, of these, 70 % were libellulids.

Two species (***Orthemis ferruginea*** and ***Pantala flavescens***) were present at all eight sites; ***Gynacantha nervosa*** was present at a majority of the sites. A fourth species, Erythrodiplax umbrata, also very common in Cuba, was found at half the sites.

According to Silva Taboada (1979), *M. waterhousei* minor is nocturnal, beginning its activity 26 to 28 minutes after sun set. This author adds that this species takes its captures directly from the ground and from vegetation, which could be accomplished with the intervention of the mouth and the wings.

Gynacantha nervosa and Triacanthagyna septima are crepuscular insects and relatively common in Cuba (Alayo, 1968), their activity coincides with that of *M. waterhousei minor*. Neverthelss, the other species are eminently diurnal, so that they must have been captured while roosting on vegetation.

The presence of ***Orthemis ferruginea*** and ***Pantala flavescens*** at all the sites, and also ***Erythrodiplax umbrata*** at half the sites, reflects their broad distribution and high population density. The discovery of a single specimen of Zygoptera, ***Enallagma coecum***, certainly one of the most common species at many Cuban locations, does not

taxa	localities							
	1	2	3	4	5	6	7	8
ZYGOPTERA: Coenagrionidae								
Enallagma coecum (Hagen)	*							
ANISOPTERA: Aeshnidae								
Anax junius (Drury)	*							*
Coryphaeschna viriditas Calvert	*							*
Gynacantha nervosa Rambur	*	*			*		*	*
Triacanthagyna septima (Selys)		*						*
Libellulidae								
Brachymesia furcata (Hagen)	*	*	*	*	*	*	*	
Cannaphila insularis funerea (Carpenter)							*	
Dythemis rufinervis (Burmeister)					*			
Erythrodiplax umbrata (L.)	*	*		*		*		
Miathyria marcella (Selys)		*	*			*		
Micrathyria hageni Kirby		*			*			
Orthemis ferruginea (Fabr.)	*	*	*	*	*	*	*	*
Pantala flavescens (Fabr.)	*	*	*	*	*	*	*	*
Tholymis citrina Hagen								*
Tramea calverti Muttkowski				*				
Tramea onusta Hagen	*							
Tramea sp.	*							

Table 1. List of Odonata forming part of the diet of *Macrotus waterhousei minor* in the province of Sanct-Spíritus. Localities: (1) Cueva de La Subida; (2) Cueva del Jagüey; (3) Cueva de La Herradura; (4) Cueva de Los Murciélagos; (5) Cueva de La Tinaja; (6) Cueva del Residuario; (7) Cueva de La Chucha; (8) Cueva de Los Chivos

exclude the possibility that others were eaten, but their small size could favor the dispersal or destruction of their remains by other insects.

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AN INTERESTING COUNTY RECORD FOR TEXAS

Omar R. Bocanegra, US Fish and Wildlife Service, Arlington, Texas

One of the giants of the North American Anisoptera, ***Epiaeschna heros*** (77 – 94 mm), can be found in the eastern United States from Maine to Florida and extending to the Midwestern and south central states, including Texas. Its habitat is primarily swamps, from which its common name "swamp darner" is derived, but can be found patrolling wooded areas surrounding ponds and slow-flowing creeks and streams. In Texas, these habitat requirements limit the swamp darner to the eastern half of the state, which consists of the Pineywoods, Cross Timbers, Gulf Coast Prairies, and Blackland Prairies ecoregions. Dunkle (1989) describes this species as having a peculiar habit of entering buildings in search of a shady area to perch. In the metropolitan area encompassing Forth Worth and Dallas (Tarrant and Dallas Counties) the only record of this species (from a thorough but undoubtedly incomplete literature search) is from Dallas County. This record comes from Alice Ferguson (1940) in which she

documented a female ***E. heros*** in the collection at Southern Methodist University dated May 17, 1939, which was captured when it flew through an open window of a campus building. On August 3, 1999, a friend gave me a female ***E. heros*** that she captured shortly after it entered her suburban home in Fort Worth at approximately 10.30 p.m. To my knowledge, this is the first record of this species for Tarrant County. I have also collected this species in the forested wetlands of Hagerman National Wildlife Refuge in Grayson County, where it has also been previously unreported. I believe new or unusual records such as this confirm the importance of publishing and/or reporting geographic data to further the knowledge of the distribution, behavior, and migration of odonates. In this case, an argument might even be made for noting the incidental discovery of a rather unorthodox collecting method!

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SOME INTERESTING OBSERVATIONS OF TANYPTERYX HAGENI

Steve Valley

I have been studying ***Tanypteryx hageni*** at Todd Lake in Deschutes National Forest, Oregon for many years now. The 1993 DSA meeting was held in Oregon and we visited the larval site at Todd Lake. During the 1994 season Ken Tennessen, Bob Kemp, Steve Butler and I visited the site and discovered that the larval habitat (that was visited by the DSA members the year before) had dried up. The flow of water through the hillside bog had been diverted by forest debris and no ***T. hageni*** burrows were to be found there, although they were thriving in other bogs a few hundred meters away.

We speculated whether the larva had been able to survive the drought conditions, perhaps by staying deep in their burrows where they might be able to stay moist. In 1995 when I visited the site, water was again flowing and there were many burrows of fully mature larva. I assume that they did indeed have a survival strategy for the dry conditions, but it is unknown whether they stayed in their burrows or migrated to the stream that carried the diverted water.

The water flow over the site has remained constant in the years since 1995 and it should be noted that the whole area is covered by as much as 30 feet of snow in the winter. Last summer, 1999, Jim Johnson and I visited the site with a film crew from Oregon Public Broadcasting while working on a short documentary about dragonflies. We were surprised to find only a few burrows. ***T. hageni*** normally has a 5 year life cycle and the drought conditions 5 years before, in 1994, meant that no eggs were deposited there. The abundance of ***T. hageni*** bogs around Todd Lake insures there will probably be always be some sites with flow. Sites that suffer from drought can be re-colonized when water flow returns even if the site remains dry for a period that is to long for larval survival. The interesting question is how long can they survive? -

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MEET THE BEETLES!

Jerrell J. Daigle,<Jerrell.daigle@dep.state.fl.us>

Let's "Meet the Beetles!" In February, I went to Bolivia with several beetle scientists who arranged the trip. They were Mike Thomas and Byrd Dozier from FSCA in Gainesville, Florida, and Jim Wappes from Houston, Texas, and Bill Warner from Phoenix, Arizona! I had a great time with them at Robin Cook's Hotel Flora and Fauna in Buenavista. After a round of introductions with Robin and staff, I hurried down the trail to the closest stream and almost immediately Elias and Ruperto pointed out a black ***Argia*** sitting on shrubbery along the trail. Trembling, I got a good shot at it and I had my first ever Bolivia damselfly, ***Argia difficilis***! I was ready! Let the games begin!

Later, the Beetles showed me how to collect beetles and I was able to catch spectacular Megacephalid tiger beetles, Cerambycid longhorns, weevils, scarabs (a beautiful green *Pelidnota chlorana*, and a huge brilliant green dung beetle, *Oxysternon conspicullatum*). Exotic birds (400+ species) such as toucans were common at the hotel plus wildlife like tayras, squirrel monkeys, anteaters, sloths, and lots of army ants! I saw an army ant march just about everyday in the jungle! In the nearby big rivers, 300 pound spotted catfish abound! Butterflies were abundant! I caught and released 6

species of brilliant blue Morphos when sometimes forgetting what I really came here for!

Along the stream [Watch out for quicksand!] and its seepage tributaries, the following odonata species were common: ***Argia difficilis, A.. nigrior, Heteragrion inca, Hetaerina sanguinea,*** and ***Progomphus boliviensis*** but several species were rare. I only got single females of ***Progomphus intricatus, Macrothemis declivata,*** and ***M. tessellata.*** Deep in the primary forest, fogged glasses prevented me from anxiously making a net swing at a flushed aeschnid male. Now I know how exasperated Sid felt with his fogged glasses in the jungles of Peru! Quickly, I tossed my net to Jim Wappes who then caught the dragonfly as it hung up in a tree. It looked strange and I was unfamiliar with it. Later, I sent it to Rosser Garrison who excitedly confirmed it was his rare undescribed ***Triacanthagyna*** species from Panama. The next day, I wore my contacts and I was able to get a nice ***Gynacantha tenuis*** male I flushed out the trees along a very small tributary.

Odonata diversity was much higher at open farm ponds and they were much easier to work. The following Zygoptera species were present at 3 such ponds within 1 kilometer of the Hotel Flora and Fauna: ***Acanthagrion ascendens, A. leonardi, A. obsoletum, A. peruvianum*** (very common), ***A. vidua, Helveciagrion chirihuanum, Ischnura capreolus, I. fluviatilis, Lestes forficula, L. jerrelli, L. jurzitza, Metaleptobasis sp.*** A, ***Telebasis limoncocha, T. rubricauda, T. sanguinalis, T. willinki,*** and 2 new species of ***Telebasis*** which I will soon describe. Among the Anisoptera, I snared ***Aphylla boliviana, Erythemis attala, Erythrodiplax basalis, E. connata, E. fusca, E. paraguayensis, E. parvimaculata, E. unimaculata, Micrathyria caerulistyla, M. hypodidyma, M. longifasciata, M. occipita, M. ocellata, M. tibialis, Nephepeltia flavifrons, N. leonardina, N. phyne,*** and ***Perithemis mooma.*** The dirt road to this pond was filled with rainwater puddles and I got such common tropical weeds such as ***Erythemis vesiculosa, Erythrodiplax umbrata,*** and ***Pantala flavescens,*** but I did see and catch a nice male of ***Tramea rustica*** with its unusually long cerci!

Deep in the forest, one of the local farmers, Ruperto, took me to an enclosed laguna, hacking his way through the jungle with his trusty machete to create a gringo trail! The Odonata community was very different and I got the following exciting species plus 3 possible new species of ***Aeolagrion:*** ***Acanthagrion apicale, A.*** new species, ***Calvertagrion*** sp. A, ***Metaleptobasis*** sp. B, ***Erythemis haematogastra, Macrothemis hemichlora, Micrathyria laevigata, Oligoclada rhea, Orthemis biolleyi, O. cultriformis, O. schmidti, Perithemis electra, P. lais,*** and ***P. thais.***

No neotropical collecting trip is complete without futilely windmilling at crepuscular aeschnids! However, flying among the cabins, the swarming males often watched each other and did not pay much attention to our merry band of net swingers! We all got specimens of ***Anax amazili, Coryphaeschna adnexa, Gynacantha mexicana, Tricanthagyna caribbea, T. ditzleri,*** and ***T. septima.*** I was able to swap colorful beetles for them with the Beetles, so I got a good assortment of these dusk flyers! Also, since this was the rainy season, the *Psophora* mosquitos were out and they were thirsty for blood! The next time, I will bring plenty of repellent!

All in all, I had a great time with the Beetles and I can't wait to go back again! See you there! Adios!
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PERIGOMPHUS: A NEW COUNTRY RECORD FOR HONDURAS

Ethan Bright and **Kevin L. Cronk**, School of Natural Resources and Environment, University of Michigan and University of Michigan Museum of Zoology, Insect Division (Bright)

Perigomphus pallidostylus (Belle), so far a monotypic genus, is recorded from Panama and Costa Rica (Westfall 1989), but no published records appear to exist for locations in countries further north. During a trip to Honduras by KLC, a small stream was sampled which evidenced a small larval gomphid that EB later identified as ***Perigomphus*** cf. ***pallidostylus.*** Because of the larva's small size, a definitive association with that species is probably unwise, but we are confident in attributing this specimen to ***Perigomphus***. This represents a new record for Honduras, and a considerable, though perhaps expected, northward extention to this species' (or a new one) known distribution.

The larva was taken from a tributary (86' 45"W, 15' 44" N, ca. 100m elev.) of the Rio Cangrejal, at the base of the cloud forest preserve Parque Nacional Pico Bonito, about 10 kilometers southeast of La Ceiba, Atlantida, Honduras. The collection site was immediately upstream from a

dirt road crossing the tributary in the vicinity of El Naranjo, and near where the tributary empties into the Cangrejal. The dense streamside riparian vegetation of dense underbrush appeared undisturbed and intact. Stream substrate consisted of a gravel-cobble mixture, with sand and boulders mixed in. There was considerable slope, and the water was cool to the touch and extremely clear (no turbidity). Stream depth ranged from several centimeters to about 1 m. Sampling was done with a coarse (ca. 1 mm diameter) metal mesh kick seine, with samples on site temporarily stored in isopropanol and later transferred to 70% ETOH in the USA.

The specimen has been deposited in the UMMZ-Insect Division collection. Requests to examine this specimen can be made by contacting Mark O'Brien (mobrien@umich.edu).

Acknowledgements

We thank Dr. Dennis Paulson for verifying the identity of the larval specimen.

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R.J. TILLYARD AND THE MEDIUM MARGERY: DRAGONFLIES AND SEANCES.

Roy Beckemeyer

We often tend to think of those whose names are familiar to us only through their scientific works in narrow terms, holding them in high regard for their scientific accomplishments, and therefore failing to see them as fellow humans sharing human foibles and quirks. A case in point is Robin John Tillyard (1881-1937), known to many of us as the author of the classics textbooks "The biology of dragonflies" and "The insects of Australia and New Zealand" and of hundreds of other scientific papers on Odonata, fossil insects, and other entomological topics.

I had been interested in Tillyard since first obtaining a copy of "The biology of dragonflies" shortly after I got seriously involved in studying dragonflies. Later I read with much relish the exchanges between Tillyard (and others) and **J.G.** Needham, another of our "grand old men" of odonatology. (The debate that went on over the interpretation and origins of insect wing venation got quite vitriolic at times. The human nature of the participants occasionally showed through in their writings on this subject - objective scientific prose often being pretty much being tossed aside. We talk about road rage today, but there was some serious "science rage" back then. But that is a story that I would prefer to come back to some other time.)

The past couple of years, as I began studying fossil insects (particularly the protodonates – the Paleozoic relatives of the dragonflies), and Tillyard's intimate involvement in the study of the important fossil insect record of the Kansas Permian deposits, I became even more fascinated by his life's story. Unfortunately, there is little available in the way of biographical information on Tillyard (if only he had written an autobiography!). This account is pieced together from a number of sources which are listed at the end of this article.

By way of introduction, let's go over Tillyard's life in general before focusing on his encounters with spiritualism and mediums.

Tillyard was born in Norwich, England, and was interested in natural history as a youngster. He attended Cambridge University, earning a BA in mathematics in 1903. He subsequently studied oriental languages and theology. He suffered from rheumatism, and he moved to Australia in 1904 hoping the climate change would help. He took an appointment at Sydney Grammar School teaching science and math. It was in Australia that he first became interested in dragonflies. He earned an MA from Cambridge in 1907, and was given a Research Scholarship at Sydney University in 1913, earning a BSc by research in 1914 and a DSc in 1917. In 1914 he was involved in a railway accident in Sydney and injured his back; the injury affected him all his life. He was appointed Linnean Macleay Fellow in Zoology in 1915, holding the post through 1920. Publication of "The Biology of Dragonflies" led to his award in 1917 of the Crisp Medal by the Linnean Society of London. He was awarded a DSc from Cambridge in 1920 and was made a Fellow of the Royal Society of London in 1925. In 1926 he published "The insects of Australia and New Zealand."

In 1928 he was appointed as first Chief of the Australia's CSIRO (Commonwealth Scientific and Industrial Research Organization) Division of

Entomology. As seems to be the case fairly often with research-oriented scientists, Tillyard did not have the temperament required of an administrator. This was apparently known even by those who had sought him out for the CSIRO position, as some correspondence to the CSIRO executive committee before his appointment indicates: "With regard to entomology...we ought to seriously consider Tillyard...I know there are all sorts of objections based on the belief that he gets people ruffled and is not a good cooperator. But then he is probably the foremost economic entomologist in the Empire, and no one has questioned his immense enthusiasm."

Tillyard was to have many arguments with the executive board of the CSIRO and was eventually put on "retirement" in 1933. The continued tension through his tenure with the CSIRO apparently put him under much stress during this period. He was to suffer a nervous breakdown on a trip to the US in 1933. The history of the Australian National Insect Collection summarizes his overall contributions to that organization this way: "...whatever his shortcomings, Tillyard must be given credit for laying the foundations of a Division that was to withstand the test of time. He fully recognized the necessity of combining taxonomy and its assorted collections with other entomological disciplines in order to provide a sound basis for the applied entomological research required of the Division." Tillyard died at the age of 56 as the result of an auto accident.

I have attempted to reconstruct some of the history of Tillyard's visits to the US, and particularly to the fossil insect sites and schools where they were studied (Beckemeyer, 2000). It was in the course of conducting that research that I came across the records of his interest in spiritualism. Tillyard visited New Zealand in 1919 to give advice on trout food problems; that visit led to an appointment as Chief of the Biological Department of the Cawthron Institute in Nelson, NZ. He visited the USA in 1920, bringing back a parasitic wasp (*Aphelinus mali*) for control of a New Zealand wooly aphid orchard pest. On that trip he also visited Yale, and while there saw some of the fossil insects that E.H. Sellards had found in the Kansas Permian deposits. He became so excited about them that he inspired Charles Schuchert to seek funding from the National Academy of Science for a collecting expedition to Kansas in 1921-1922. Some 2000 specimens from that trip were to form the basis for Tillyard's studies of the Kansas fossil insects over the next 15 years. There is no evidence at this date of his future interest in spiritualism.

Tillyard mentions in his Nature article "Evidence of survival of a human personality" (see the references) that he had been in Boston in 1926, but I have found no record as yet of the details of that trip. But it appears that his interest in the supernormal probably arose or was spurred on during his visit to Boston, as he wrote a letter to the editor in Nature in 1926 asking scientists to take a "wider and more generous outlook...towards psychical research." The 20's were a time of much activity in spiritualism, with séances and mediums being in vogue. One of the most famous spiritualists in the U.S. was "Margery the Medium". Mina "Margery" Stinson Crandon (1888-1941) was a Canadian by birth who moved to Boston at an early age. Her second husband was a prominent Harvard Medical School instructor, Dr. Le Roi Goddard Crandon. The couple was well established in Beacon-Hill society. Dr. Crandon became interested in parapsychology and his wife became on of the most prominent spiritualists of her time. Mrs. Crandon had a brother, Walter, who had died in a railway accident in 1912. Her mediumship came to involve a spirit named Walter who would "speak through her" and produce various "paranormal" effects. It was Margery and "Walter" with whom Tillyard became entranced.

In 1928, at the height of his administrative difficulties with the CSIRO, Tillyard made an extended trip to the US. It was to involve a search for senior entomologists for the CSIRO Division of Entomology, visits to the Kansas fossil sites, and attendance at the International Congress of Entomology at Ithaca, N.Y. He left Sydney in April, 1928 and traveled to the US via New Zealand, visiting Riverside, California, Chicago, Minnesota, Washington D.C. and Boston in addition to Kansas and New York. His trip continued to Montreal and London, then back across the U.S., with a return to Australia in October. He apparently visited the Kansas fossil beds twice, once on his way east (28 May), and again in late summer (27 August) on his return trip; I have seen some rather poor Xerox copies of photos of him at the Kansas fossil beds that were in the possession of the late Don Wilbur, a Professor of Entomology at Kansas State University.

During this trip, spiritualism and séances with Margery were a significant part of his itinerary. He reports (Tillyard, 1928) "attending and controlling four remarkable séances." In his article he recounts two of the events, one of which involved "Walter" leaving his thumb print on some warm wax. (The

thumb print was later to be shown to belong to the Crandon's dentist, who had provided the wax used to acquire the ghostly prints.) Tillyard closed the article with the statement "My own conclusion is that Walter Stinson, who died in 1912, has fully proved in a scientific manner his claim that his personality has survived physical death." The editor of Nature took exception to Tillyard's claim of having found scientific proof, and an interesting bit of correspondence ensued (see references). During his stay in London, Tillyard was hosted by the National Laboratory of Psychical Research, which was where he published the results of his Boston experiences. This very public airing of his thoughts on spiritualism undoubtedly also influenced his superiors' views of his fitness for the job of Chief of the Entomology Division and may have played a part in his eventual termination.

Although Tillyard made no mention of it in his written summaries of the séances, J.W. Evans, a young Australian entomologist who was Tillyard's traveling companion on the trip, reported in his autobiography that Tillyard had showed an insect fossil at one of the séances in the hopes of having the living insect produced. (Some of Tillyard's other colleagues, including the late Frank M. Carpenter, the noted American insect paleontologist, had commented in verbal interviews and off the record, about this peculiar event and about Tillyard's interest in spiritualism. Liz Brosius of the Kansas Geological Survey, who helped to edit Carpenter's Treatise on Invertebrate Paleontology volumes on Hexapoda, had interviewed him for a brief biographical piece. She indicated in a conversation with me about Carpenter and Tillyard that Carpenter had shared the story about Tillyard's odd interests.) One wonders if, given Tillyard's long and fruitful history of work with fossil insects, his desire to know more about what the Paleozoic insect fauna were really like might have contributed to his gullibility regarding spiritualism.

I would appreciate hearing of other written material or reminiscences relating to Tillyard's trips to the US and to his life and times.

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A BRIEF HISTORY OF ODONATOLOGISTS AT THE UNIVERSITY OF MICHIGAN MUSEUM OF ZOOLOGY

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This past year, I have had several requests for information about documents or transactions about people associated with our Odonata collection.

Luckily, not only do we have collections from some prominent workers, but we have a valuable archive of historic and scientific merit, based upon the papers and collections of E.B. Williamson (EBW), Clarence H. Kennedy (CHK), Dolly Gloyd (LKG), and others.

As far as I have been able to tell, we started to accumulate a dragonfly collection around 1900, when the University Museum (forerunner of the UMMZ) and the Michigan Biological and Geological Survey sent naturalists off to the northern reaches of Michigan to assess the fauna and flora there. Trips to Gogebic Co. and the Porcupine Mountains (1904), Isle Royale (1904 and 1909), and Schoolcraft Co. (1915), were partially funded by patrons of the Museum. D. S. Kellicott, a friend of EBW, published the first list of some Michigan species in 1894. The first survey paper on Michigan Odonata by Ruthven appeared in 1906. Abigail O'Brien (1916) published a short paper on the Douglas Lake fauna from work done in 1910. Later, C. F. Byers (1927) and Ed Kormondy (1958) would try to list the state's fauna. Byers went on to a career at the University of Florida in Gainesville.

Edward Bruce Williamson from Bluffton, Indiana, became associated with the UMMZ around 1916, when he was appointed "Honorary Curator of Odonata." Whether it was because he published in the Museum Publications that year (UMMZ Misc. Publ. No.1), or because of some friendship with the staff, EBW started depositing some of his specimens here. He deposited specimens in other collections too, (Carnegie and the USNM) but that occurred before he had a permanent UMMZ link. Williamson and Frederick M. Gaige, the entomologist at the UMMZ, were good friends, and perhaps that is why EBW gravitated here. I know that Williamson and Alexander Ruthven also exchanged letters for quite some time as well. Eventually, the family-run Wells County Bank (where EBW had worked since 1905) failed in the stock market crash, and Williamson was given a 4-month appointment (at $300/month!) at the UMMZ in 1928. From the letters, it seems that the iris business Williamson started (Longfield Iris Farm) kept the family in better finances than most.

Even before EBW's death, the collection gained prominence from the Williamsons' (E.B. and his cousin, Jesse H.) forays into the southern U.S. as well as Central and South America, and the field notebooks and photographs from those trips are real treasures. The large series of specimens collected allowed him to more accurately describe new species, including observations of habitat and behavior. This kind of information was often omitted by earlier workers who based their descriptions on a few specimens (sometimes only one) collected by a hired collector.

Williamson corresponded widely and traded specimens to obtain more comparative material from around the world. All of the major Odonata workers at the time traded or provided specimens to Williamson. His correspondence files have letters from de Selys, Kirby, MacLachlan, Calvert, Martin, Navas, Kennedy, Brauer, Tillyard, Ris, and many others. He and Friedrich F"rster exchanged many letters and specimens and became good friends. EBW was a godfather to one of F"rster's sons, who later emigrated to the U.S. After F"rster' death in 1918, EBW arranged for the UMMZ to purchase F"rster's entire collection from F"rster's widow for about $750. The F"rster collection was shipped to the U.S. and arrived in Ann Arbor in June 1924, further establishing the UMMZ as a center for Odonata research. We also have many photographs of F"rster and his family as well as many letters.

Williamson's impact on the UMMZ is still felt to this day. The 50,000 specimens, and his library became the nucleus of our Odonata collection, and drew in collections from others. From the correspondence files, I see that everyone held him in the highest of esteem. After EBW's sudden death in 1933, all of his collections and memorabilia stayed at the UMMZ. Fred Gaige mourned the loss of Williamson in a long letter to Clarence Kennedy in 1933, and he also wrote an extensive obituary in 1934. Donnelly (1998) also provides additional information on the life of EBW.

Clarence Kennedy's collection would also serve to enhance our holdings. As a result of his long-time friendship with Williamson (According to Hubbell [1952] "The two men purposely made their collections and libraries complementary, in the hope that they would someday be combined."). CHK's Odonata library, collection, and letters came to the UMMZ in 1951, and those additions significantly expanded the scope of the collection to include Hawaii, Oceania, S.E. Asia and the Andean region. We have only recently been able to incorporate most of the material that came from his collection. Many of the specimens purchased from his network of collectors were still in the original cigar boxes from when they arrived at the UMMZ. I summarized our renewed efforts in curating the collection in 1996.

Mike Wright, an aquatic entomologist from Tennessee died in 1953 and his collections and reprints came to the UMMZ (Kormondy 1955). One of his former students, Ed Kormondy, became a Ph. D. student at the University of Michigan. Kormondy published two major papers while at the museum (1958, 1959), and added over 2000 specimens to the UMMZ collection while here.

The one link throughout the generations was Leonora (Dolly) K. Gloyd. Dolly Gloyd was a hard-working assistant of EBW, and he thought quite highly of her work. Dolly, as many know, practically worshipped EBW, and I doubt that she ever held anyone as high in esteem as EBW. She wanted to continue the work he never finished on ***Argia*** -- and in letters from Gaige to CHK, it is apparent that Gaige felt that Dolly would carry on EBW's unfinished work. ***Argia*** did become Dolly's life work, but unfortunately, she was handicapped by having to raise a family after being divorced from Howard Gloyd. In between working full-time and raising her children, she still managed to find time for Odonata work. To our benefit, Dolly kept up her association with the UMMZ with intermittent visits, and in 1972, she came here from the Illinois Natural History Survey on an NSF grant to finish the work on ***Argia***. She never did finish her magnum opus, but she ably assisted many other Odonata workers over the years. In addition, she added a considerable number of specimens to the collection, most of which were purchased from Neotropical collectors, such as Luis E. Peña and Felix Woytkowksi. Dolly Gloyd died on June 2, 1993, and the final link with the greats of the past was gone (see Garrison 1994; Van Brink & Kiauta 1977). It is amazing that the revision of ***Argia*** was "passed on" from one worker to another, and finally outside the confines of the UMMZ, it is being completed by Rosser Garrison. Rosser has probably spent more time at our collection than any other modern Odonatologist, and knew Dolly Gloyd as well.

Fortunately, EBW, CHK, and LKG have left us with all of their correspondence. Dolly's correspondence was quite voluminous (perhaps one reason she didn't finish any big projects), spanning 50+ years of Odonata research. Williamson's and Kennedy's files are mostly well-sorted into boxes by alphabetical order. In addition, we have many photographs of field trips taken by Williamson, a few by Kennedy, and some by Gloyd. There are also many photos of other Odonata workers/collectors that were amassed by Williamson. Together, these collections contain a great deal of the information about late 19th - early 20th century Odonatology. I recently completed archiving all of the photographs. The photos are now in plastic sleeves in archival-quality binders. Eventually, I'll have the photos and artifacts catalogued, but at least for now they are accessible and protected from deterioration.

After looking through the correspondence files, I came away with some distinct impressions of some of the people that EBW and CHK dealt with: P.P. Calvert was highly respected by both gentlemen. Fraser was fine, so long as he "stayed away from S. American fauna." Needham was hated by EBW and CHK for his shoddy work and lack of cooperation. Apparently, Needham had arranged for Kennedy to illustrate his book on North American dragonflies. Kennedy went ahead and started making sketches, and had some sort of falling out with Needham. If I interpret his notes correctly, it seems that Needham wanted the drawings to look a certain way, when in Kennedy's opinion, the insects did not look the way Needham thought they did. Kennedy, an accomplished and experienced artist, was not going to compromise his work to satisfy Needham. The drawings that eventually appeared in Needham's book are quite similar to the ones Kennedy started, and Kennedy never got a bit of acknowledgment in the book. It was written by Williamson that C. F. Byers cried when Needham's book on Chinese Odonata came out.

Richard D. Alexander, Curator of Insects at the UMMZ, told me that when he was a doctoral student at Ohio State, Kennedy (then an old man) used to hold exhibitions of his illustrations in the museum every once in a while, and they were definite works of art. We have many of Kennedy's original illustrations here at the UMMZ.

It is quite interesting to see how well-crafted the letters were from Williamson, Gaige, Kennedy and their colleagues. They were real wordsmiths, and it is obvious that such talents are not often realized today. Since telephones were not used as easily and frequently as they are in modern times, a letter was the only way to communicate. It is to our benefit that their thoughts and discussions were not in an ephemeral form. I wonder how they would have liked e-mail?

We are fortunate to have these resources here at the UMMZ. The letters, photographs, and artifacts are a window into the past, and help make those

individuals' lives something other than a footnote in a book. The papers and field notes will provide ample material for any future biographers.

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FLORIDA'S FABULOUS INSECTS, by Mark Deyrup

Book review by **Sid Dunkle**, Plano, TX.

This, one of the most beautiful insect books I have seen, is a large-format, soft-cover book, filled cover to cover with color photos. The principal author is Mark Deyrup, a very knowledgeable entomologist, from whom I learned interesting snippets of information throughout the 169 pages of the book. The Odonata are covered on pages 6 to 25, including 54 color photos of larvae and adults. The book, published in 2000, has already had 3 printings, and courtesy of editor Tim Ohr, I was able to correct nearly all of the (few) errors that were present in the odonate chapter of the second printing. Some of the odonate photos were posed, some were not. A few of the posed photos are misleading, namely: 1) Three dragonflies are shown perched on flowers, which they rarely do, 2) One female ***Erythemis simplicicollis*** is shown eating another as they face each other, and 3) ***Tramea onusta*** is shown eating a honeybee, although I have no records of such large prey for this species. My only other objection is that scientific names of species are not given, although the reader will be able to identify nearly all the photos of adult odonates by referencing my Florida field guides. The book is published by World Publications, PO

book is well worth the $16.95 price, plus $3.95 shipping, plus 6% tax for FL residents.

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BY- LAWS

SECTION I. MEMBERSHIP AND DUES

A. Membership is open to all individuals interested in Odonata and the conservation of Odonata.

B. All dues and memberships are by the calendar year, without regard for the month in which you join, payable with enrollment application and on or before March 1 of each succeeding year. Dues are deemed in arrears on July 1 of current year.

C. Dues are payable in US Dollars [current rates (2000-2001) are $10.00 for regular members, $15.00 for sustaining member, $20.00 for institutional member]. Dues rates may be changed annually as required by action of the Executive Council.

D. Gratis membership shall be extended to colleagues, upon request, residing in low-income countries outside North America. Continuation of this policy for each succeeding year will depend on available revenues. The Executive Council shall determine the feasibility of this policy at each annual Business Meeting.

E. Members in good standing may cancel their membership for the forthcoming year in writing, which must reach the Treasurer prior to December 31 of the current year. Cancellation of current year membership and/or removal of name from current Membership List cannot be considered,

F. Members remaining in arrears for one year may be removed from membership.

SECTION II. FINANCIAL

A. The Treasurer shall be responsible for establishing the Society's bank checking account and/or savings account, shall be the only person empowered to endorse instruments made payable to The Dragonfly Society of America, shall keep the bank account books current and available for inspection by the Executive Council upon notice.

B. Only the Treasurer shall be empowered to disburse funds from the Society's bank account. All accounts submitted for payment shall be itemized for each particular article of goods or service and shall include a statement that said goods or service were provided for The Dragonfly Society of America. Where Officers or Members submit statements for reimbursement of expenses, the name of Officer or Member must also appear on statement.

C. If, at a future time, the Society's funds should accrue beyond anticipated operational needs, the Executive Council may consider awards or grants for research projects of outstanding merit and/or for exceptional programs or publications that advance the Society's aims and objectives. Preference shall be given to research projects concerning Odonata, to members of this Society, and organizations with similar aims.

SECTION III. PUBLICATIONS

A. The regular serial publications of the Society shall be ARGIA, a quarterly news journal of informal articles, notices and current news items regarding almost every aspect of Odonatology, and BULLETIN OF AMERICAN ODONATOLOGY, the latter in volumes (annual if possible) of four numbers. All members in good standing shall receive ARGIA as part of their membership. The BULLETIN OF AMERICAN ODONATOLOGY will be available by separate subscription to be set by the Editor-in-Chief with the approval of the Executive Council.

B. The Society may issue other publications from time to time, which shall not be inclusive with membership. Members in good standing shall be entitled to purchase such publications at 20% discount under regular prices.

C. The production of the Society's publications and the administration of its editorial polices shall be under the direction and control of the Editor-in-Chief. The Editor-in-Chief shall have the responsibility to appoint Associate Editors, and special project Editors, as required to carry out the Society's publications program, The Editor-in-Chief shall submit a written proposal for the establishment of any new publication to the Executive Council, and must receive the approval of 2/3 of the Council Members before preceding with proposed project.

D. The Editor-in-Chief is elected by the membership from among nominees approved by

the Executive Council on the basis of experience and qualifications.

SECTION IV. GOVERNANCE

A. **BUSINESS MEETING.** The Society annually shall hold a Business Meeting, open to all members. Any member may bring before this meeting matters of concern relevant to the functioning, goals and purposes of the Society. Actions of the Business Meeting, within the framework of these By-Laws, become the acts or policies of the Society.

B. **THE EXECUTIVE COUNCIL.** The Executive Council of the Society shall consist of the President, Immediate Past President, President Elect, three Vice Presidents, Treasurer, Secretary, Editor-in-Chief, ex officio but with vote, and three Regular Members. The Council shall be empowered to carry out the business of the Society between annual meetings.

C. **TERMS AND METHODS OF SELECTION.**

1. The terms of all officers shall be two years, beginning at the Business Meeting of odd-numbered years. Regular Members of the Council shall serve for six years beginning at the Business Meeting of an odd-numbered year, with a new Member being elected every two years.
2. Officers, except for President, Editor-in-Chief, and the Regular Members whose terms have not expired, shall be nominated by a Nominating Committee consisting of all members of the Council. The President shall appoint one Regular Member to chair this committee. Nominations for Vice Presidents shall be of three or more persons, each from a different country within the Western Hemisphere. The President Elect shall automatically become President for the succeeding two year period.
The chair of the Nominating Committee, in consultation with the Editor of **ARGIA**, shall also insure that a ballot, including all the Committee's nominations and a space for write-in candidates for each position, be delivered to the Society membership with the first issue of **ARGIA** for the year of the election.

D. **DUTIES OF OFFICERS**

1. PRESIDENT: Shall preside at all meetings and other functions of the Society; shall be Chairman of the Executive Council; and shall be empowered to call special meetings of the Society and/or Executive Council.

2. PRESIDENT ELECT: Shall assume all the duties of President in the event of death, resignation, disability or absence of incumbent President,

3. IMMEDIATE PAST PRESIDENT: Shall serve one term on Executive Council with full voting privileges.

4. VICE PRESIDENTS: Each Vice Presidentshall regularly consult with and represent the interests of members from their respective regions.

5. SECRETARY: Shall transcribe minutes and proceedings of all Society meetings and insure that the proceedings of the immediate past meeting are published in ARGIA before the next meeting and are available for distribution at that meeting for approval by the Society membership. The Secretary shall keep records of all Society proceedings available for inspection upon proper notice and shall be responsible to insure that the By-Laws of the Society are available on the World Wide web (but not necessarily at a site maintained by the Secretary of the Society).

6. TREASURER: Shall have the responsibility for handling the Society's funds, through deposits, investments, and disbursements, as described in Section II., above.

SECTION V. CHANGE OF BY-LAWS.

A. Changes may be proposed at any time by majority vote of the Council or by petition of at least ten members of the Society.

B. Proposed changes will be presented to the membership at large in the form of a paper ballot for approval or disapproval in the next feasible issue of **ARGIA**. The opportunity shall be afforded for approval/disapproval of each paragraph in which a change is proposed.

C. Members shall have at least two months to return their ballots to the Secretary, who shall record the vote for each proposed change and publish the result in the next issue of ARGIA.

D. Changes will be approved by 2/3 vote of members returning ballots. Approved changes shall take effect upon publication of the vote results in **ARGIA**.

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