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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 above) 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.

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

Cover: William T. Davis in a characteristic pose. One of a series of photographs of this estimable man supplied by the Staten Island Museum of Natural History. See article by Paul Lederer.

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

IN THIS ISSUE

Spring is truly here, a little later in upstate New York than elsewhere. The *Anax junius* have been here for more than a week, the males patrolling vigorously and the females not yet in evidence. We now believe that these are all early migrants from the south and not early emergents from our own ponds and lakes. I still haven't seen *Enallagma boreale*, *Leucorrhinia hudsonica*, nor *Tetragoneuria canis*, which are among the earliest locally emerged species. The march of Spring from south to north was brought home forcefully in the beginning of April, when Ailsa and I went to the Everglades field trip (articles by Jerrell Daigle and Tim Vogt). It was approaching summer there but still quite cold and bleak up here.

Summer brings our DSA gatherings. The annual meeting is early this year - just a few weeks after you receive this issue. If you haven't made your plans yet, do so now! Shortly after this trip will come our northeastern meeting in Vermont. This promises to be exciting, especially because we will be looking at some places that have been little investigated. For those who can attend, a recently announced late May meeting in North Carolina promises to be worth while.

A truly sad piece of news is the announcement that Richard Forster, an enthusiastic and accomplished beginning odonatist, died at a relatively young age this Spring. Those of us who met him at the New Brunswick meeting were immensely impressed with his abilities and his charm. He will be greatly missed.

The Gainesville meeting will honor Minter Westfall for his many years of contributions to the study of Odonata and his very generous support of many of us. Four of our members with close ties to Minter have provided reminiscences in this issue.

Our historical feature this issue is a superb account of the life and contributions of William T. Davis, the Staten Island "Bug Man". Paul Lederer has provided this biographical sketch, drawing heavily on the resources of the Staten

Island Museum of Natural History, which features Davis as one of its main historical figures. The Museum also kindly provided some charming photographs from its well-kept archives, and I couldn't resist running these in honor of a truly great man.

News keeps coming in from Texas - this time of the finding of two more species of Odonata for the U.S. list. The e-mail system enables us to learn of these discoveries almost as they are being made. I thank Blair Nikula, John Abbott, and Sid Dunkle for this news.

The Ohio and Michigan groups are growing impressively. I urge all Mid-Western members to participate in their activities.

Dennis Paulson tells us that activity in the state of Washington is growing rapidly. Dennis will have a paper on the Odonata fauna of Washington in a forthcoming issue of the Bulletin of American Odonatology.

In this issue we present reviews of a pamphlet and a book of interest to our group, and the notice of a third to appear shortly. The Kansas guide is especially timely because of the increasing demand for some sort of guide to Odonata.

The e-mail bulletin boards recently featured an account of yellowjackets attacking a dragonfly. Whether this is rare or common behavior seems to be in dispute. Keep your eyes open for behavior of this sort - we all have a lot to learn.

Our president Ken Tennesen asks us to think about what the annual meeting should consist of. We started with simple field trips and convivial evening gatherings where we could relax, chat, tell a few lies, and eat too much. Should we introduce presentation of papers in the fashion of other scientific meetings? Should we schedule a separate (winter?) meeting for this purpose? Should we have long post-meeting field trips? Should the meetings be near clusters of members, or should they be where there are few members but many interesting species? These are all

important questions, and I urge all of you to ponder them before you arrive in Gainesville.

Our poem this issue is by Roy Beckemeyer, who marveled with the rest of at the beautiful *Erpetogomphus lampropeltis natrrix* that we all enjoyed at the New Mexico meeting.

Jackie Sones has happily taken over the *TRAMEA* column, devoted to the Web. This new source of information promises to expand and to change all of our lives, and it behooves all of us to understand it and exploit it. If you are not wired, you probably should be, as Jackie explains.

Two last final items. (1) Recently we have lost and then reconstituted our mailing list. Please alert us of any mistakes in your address. Also, don't rely on the Post Office to forward your mail. Their grace period for forwarding seems to be getting shorter and shorter, (2) In this vein, we are using a third-class mailing service for U.S. recipients only, starting with this issue. We plan to mail it on 20 May. I urge all of you with e-mail to tell me the day your issue arrives. (Notify me at ttonnel@binghamton.edu.)

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1997 DSA MEETING: THIS IS REALLY THE FINAL NOTICE!!!!

Bill Mauffray

The 1997 DSA meeting will be held June 6-8 1997 in Gainesville Fl. This meeting will be to honor Dr. Minter J. Westfall Jr. It will be hosted by Bill & Carol Mauffray. Access to the Florida State Collection of Arthropods and the International Odonata Research Institute collections will be one of the features. Collecting trips to Gold Head Branch State Park and the Santa Fe River. *Libellula jesseana* and *Progomphus alachuensis* will be available for taking along with a host of other goodies such as *Gomphurus dilatatus*, and *Arigomphus pallidus*.

The following people have informed me so far that they are attending:

Name (Residence) (dates in Gainesville)

John Abbott (Texas) (-); Peter Allen & Wife (UK) (5-8); Roy Beckmeyer (Kansas) (4-9); Jeff Cole (-); Bernie Counts (Ohio) (6-); Jerrell Daigle (Florida) (-); Nick and Ailsa Donnelly (New York) (-); Sid Dunkle (Texas) (-); Rosser Garrison (California)(6-8); Robert Glotzhober (Ohio)(6-9); John Heppner and Wife (Florida)(local); Steve and Mary Jane Krotzer (Alabama); Bill and Carol Mauffray (Florida) (Local); Dave McShaffrey (Ohio) (-); John Milio (Florida) (-); George Harp (Arkansas) (-); Ken Knopf (Florida) (Local); Alice Philips (Ohio)(6-9); Clark Shiffer (Penn) (-); Laura Sirot (Florida) (local); Jan Trybula (Ohio) (6-); Steve and Robin Valley (Oregon) (-); Minter and Dave Westfall (Georgia) (-); Blair Nikula (Mass) (5-).

If you are not on this list or if your information is incorrect, please let me know by e-mail, phone or mail ASAP. Please let me know if you will be in Gainesville either before 4 PM on Friday(6th) and/or after 6 PM on Sunday(8th).

The tentative schedule is as follows:

Thursday PM: 6:00pm, small get together for early arrivals (tentative)

Friday: Possible field trip for early arrivals

Friday PM: 3:00-6:00 IORI store open in Doyle Connor auditorium.

4:00-4:30 Tour of FSCA facility by FSCA Staff
6:00p-7:30p supper at yet to be determined restaurant

8:00-10:00 Meeting at Doyle Connor Auditorium: discuss collecting trips, future DSA meeting sites, DSA old business, talks and presentations.

..10:00-11:00p IORI garage sale

Saturday AM: 7:00-8:00 Breakfast on your own

..8:15: Group picture (place to be determined)

..8:30-5:30pm field trip to Gold Head Branch State Park

Saturday PM: 6:00-7:30, Buffet dinner at Doyle Connor Auditorium

..6:00-11:00p IORI store open in auditorium

..8:00-10:00p Business meeting at Doyle Connor Auditorium: DSA unfinished business from Friday night, DSA new business, voting, Sundays breakout groups set up, Talks and presentations.

Sunday AM: 7:00-8:00am breakfast on your own

.. 8:30-till ? various smaller group collecting excursions: Santa Fe River, Gold Head State Park, small lakes to East of Gainesville, behavioral workshops, larval workshops, Photographic workshops (all of these are suggestions)

So far the following presentations have been lined up:

Sid Dunkle: How not to photograph dragonflies

Laura Sirot: Using Odonata in Education

Laura Sirot: Capturing Odonates from an animal behavioral perspective

Nick Donnelly: Sorting out *Orthemis "ferruginea"*

Bill is soliciting volunteers to host workshops and also post meeting collecting trips into Georgia, The Florida panhandle and/or possible into North Carolina for *Ophiogomphus*, etc. If interested please contact Bill Mauffray: (352) 375-5903 or e-mail iori@afn.org Please let me know if you have any presentation to give (either slides or a talk) and which night you prefer to give it.

If anyone would like to come early or stay later then the dates for the meeting, the FSCA/IORI facility will be made available. There are scopes and an extensive reprint library on the premises. The facilities can be made available "round the clock" but I will need your advance reservation at least by mid May, so that I can reserve research space for you.

My wife and I are providing a catered meal of two styles of Louisiana Jambalaya: Shrimp and Sausage. French bread and soda will be provided, plus there will be Acadian Eclair Pie for desert. The cost will be \$6.00 per person to cover expenses (payable that night). This buffet style dinner will be held in the same auditorium that the Saturday night business meeting will be held in. This will make it easier to keep our group together on Saturday night.

Items that will be available at the IORI store include poly and cellophane envelopes, Dunkle field guides, Westfall-May Damselfly book, Back issues of *Odonatologica*, *Notulae Selysia*,

as well as numerous reprints, and various other Odonata "Stuff"

There are many restaurants and motels within a 2 mile radius of the IORI and most of the collecting sites are within a hours drive. The following cluster of motels offers a variety of classes of accommodations. They all within walking distance of one another. The area code for Gainesville is (352)

Motel 6: 4000 SW 40th Blvd @ I-75 & Sr-24 (373-1604) rates quoted \$27.99 single. \$31.99 double +\$2 per extra person

Super 8: 4202 SW 40th Blvd @ I-75 & Sr-24 (378-3888) rates quoted \$38.13 single \$44.03 double

Ramada Limited: 4021 SW 40th Blvd @ I-75 & Sr-24 (373-0392) rates quoted \$54.00 single \$59.00 double

Sr-24 is Archer Road for those of you who remember Gainesville.

Camping is available at nearby O'Leno State Park (904) 454-1853 (45 minutes from IORI) and also at Gold Head Branch State Park (352) 473-4701 (1:15 from IORI).

There is an Airport at Gainesville with Delta and US Air providing service; however much better rates are usually available to either Jacksonville (1:30 hours drive from IORI), or Orlando (2:15 hours from IORI) Rental cars are available at all three airports. they can be picked up at one and dropped of at another with no penalty any where in the state of Florida.

A Web site for the meeting has been set up. It includes useful tourist information about Gainesville and North Central Florida. The address is <http://www.afn.org/~iori/gnvlinfo.html>

Jerrell Daigle will be attending the June 6-8 DSA meeting in Gainesville, Florida and will be available to identify any specimens from USA, Hawaii, the Caribbean, Ecuador, Mexico, etc. Bring your specimens and I will take a look at them. He is particularly interested in Hawaiian and Ecuador species

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NORTH CAROLINA PROGRAM IN LATE MAY

e-mail from Mark O'Brien

For anyone who might be in the **Raleigh, North Carolina** area in late May, the NC State Museum of Natural Sciences is sponsoring a program for the public called "Dragonfly Delights". An evening session on Thursday **May 29** (7:30-9pm) will cover fossil history, ID, techniques of collecting and captive care. A field trip on Saturday **May 31** (9am-Noon) will include observing territorial and courtship behaviors, netting dragonflies and catching aquatic immatures. The fee is \$10, and there is a minimum age of 12 (with an adult).

To reserve your space call the Museum at (919)733-7450.

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VERMONT MEETING

Paul Novak

Date: 21-22 June. Place; Poultney River, Vermont (and adjacent New York). Contact:

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TRIBUTES TO MINTER WESTFALL

Nick Donnelly

Several of our members have contributed short remembrances of Minter Westfall in this issue. The Gainesville meeting will honor Minter for his many years of generous help and inspiration to the Odonata community. Minter has recently had his 81st birthday but continues his immense interest in these insects. Tennesen's biography (ODONATOLOGICA 1986, 15(2): 5-17) is an excellent comprehensive account of his career up to his 70th birthday. His Damsel fly manual, co-authored with Mike May, appeared last year, culminated a project which occupied him for several decades, and constitutes the bulk of his work since that time.

I first corresponded with Minter in 1952, informing him that I had taken *Archilestes grandis* and reared *Stylurus laurae* in the

Paul Novak (e-mail pnovak@tnc.org; tel 518-765-4524)

I have just received information from Mary Droege regarding hotels/motels in the area of the June gathering. There are 2 in Whitehall, NY and 2 a couple over miles the border into Vermont. Mary strongly recommends one of the 2 (the Edgewater) in Vermont which is actually an Inn. It serves breakfast and dinner and has cabins as well as the Inn. It is a few dollars more than a couple of the others, but might be worth it. There is probably something to be said for being on a lake as well. We can stand on the shore and try to catch *Neurocordulias* if they are around.

It would be nice to all be together, and we'll all have to get together at some point so I can give people maps of where we're going. Participants should make their arrangements and then plan to gather at the Edgewater Friday evening to plan for the day's agenda. Participants to date include Al Barlow, John Michalski, Bob Barber, Ken Soltesz, Richard Orr, a group from MA, Ginger Carpenter, two Donnelly's, Paul Novak, and possibly Mike May

Washington DC area. His gracious reply ended with this sentence: "We are glad to learn of your interest in the Odonata and trust that you will have much pleasure with that group." How prophetic!

I actually met Minter quite by accident. As I related in my ARGIA article about a trip in 1954 through Texas and the Southwest, I had corresponded with Minter in 1954 and 1955, extolling the glorious places that George Beatty and I had found on that trip. Ailsa and I stopped in Garner Park, Texas, on a trip across the country in 1956. We were wandering around separately, nets in our hands. A small boy (now the rather large David Westfall) came up to Ailsa and asked her if she were "collecting dragonflies or damselflies?" Sensing something out of the ordinary, she alerted me, and I shortly found

Minter almost hidden in tall grass along the river's edge, dredging for Odonata larvae.

Since that time we have met several times, mainly in Gainesville. On the way from Houston to a Caribbean Geology Symposium in Miami in 1963 I stopped in to see him Gainesville. He showed me, with justifiable satisfaction, his recent finds of fascinating damselflies and their larvae from some Caribbean islands. He told me that he was now nearly ready to complete the damselfly manual. We waited a long time for that manual, but it was well worth it.

During that and subsequent trips I stayed with Minter and Margaret at their home near the University campus. Their gracious hospitality is a wonderful memory.

In 1982 I invited several Odonatists to gather at our home in Binghamton for a summer meeting, which was followed by other meetings, until in 1989 we decided to establish a formal organization. Minter and Margaret were among the most far-traveled participants at the 1982 meeting, Minter was very encouraging to our fledgling society and was a major help in getting it off the ground.

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A LETTER FOR MINTER

Ken Tennessen

Dear Minter,

When it comes to memories for this momentous occasion, an experience that comes to mind was the first time we went collecting together in South Carolina. I wonder if you remember it as I do. It was the third week of April, 1972, and the weather was beautiful as we left Gainesville. It took us all day to get to Charleston; the temperature was in the high 70's, and the sun was shining clearly. We dropped Margaret off to visit relatives in Charleston while we continued on to Cheraw State Park to spend a few glorious days collecting.

It was very late when we arrived at the park (around midnight) and the gate was locked, so we parked the camper right there at the entrance and went to sleep. When we woke up early the next morning, it was cloudy, windy, and very cold! I

was still really tired (seems one of us was snoring and the other got little sleep) and too cold to think about going out, so I nodded off to sleep some more. You woke me up a few hours later, and showed me some of the larvae that you collected from the small lake. Not to be outdone, I got busy with my dip net and started searching in some of the small tributaries of the lake. In a small sphagnum-choked seep I collected several interesting larvae which I kept alive to rear. The *Somatochlora* turned out to be *provocans*, the first time it had been reared, and from the small damselfly larvae emerged *Nehalennia gracilis*, another hard-to-find species. I learned a long-lasting lesson from this experience--even if the weather is miserable, there is still a lot that can be learned about the odonate fauna by getting in the water. For the next three days the sky remained dark, the mercury stayed low, and rain fell. We were limited to collecting larvae, but in the process found the rare *Gomphus diminutus* and other goodies such as *Neurocordulia alabamensis*, *Enallagma davisii*, and my first field experience with *Epithecica (Tetragoneuria) semiaquea*. And wouldn't you know, the day we were to return to Gainesville the sun appeared and the air warmed, and as we were getting ready to leave we saw a few dragonflies taking to the air. As I look back on that trip, it appears we set the precedent for foul weather at the early-season DSA meetings!

Then there was the time that *Macromia* came flying toward us on the trail near Torreya State Park, and I swung . . . [this story appeared in *Odonatologica*, 1986, vol. 15(1):1-4]. Minter, I have many fond memories of the years we spent together, and I will always treasure the things I learned and the friendship we built.

Best wishes,

Ken Tennessen

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ADVENTURES WITH MINTER

Sid Dunkle

I had been photographing and collecting dragonflies in Gainesville, Florida, for several months before I heard that one of the authors of the "bible" on North American dragonflies was living in the same city. So, I went to see him, I

his family, all equally gracious, came to be a special treat on a Gainesville visit.

For one of the greats in odonatology, Minter is surprisingly unassuming. Although well traveled, his demeanor is still "small town southern gentleman." He has always had a smile, an anecdote to relate, and an encouraging word. He has been hard of hearing for years, so being with him was always an exercise in speaking clearly, which in turn should have promoted economical thinking!

Minter has coauthored the two primary books on North American Odonata, and he has described over a dozen species and one genus and written many other papers on dragonfly systematics and larval descriptions, but his greatest contribution to odonatology is surely in his unstinting help to all of us in the younger generation (or should I say 2 or 3 generations?). I knew he could have written a lot more books and papers but for the time he spent with us. The students lucky enough to be enrolled at the University of Florida got a lot from him, but they had to share him with people from all over the world in the dragonfly collection room and at meetings. Any description of this man would have to include "Minter the mentor," a phrase that comes to mind often when I think of him.

Besides building it himself, Minter was a tremendous asset to the collection at Gainesville because he had so many people falling all over themselves to send him specimens, just to show their gratitude! I was elated when he came to Costa Rica in 1967, and I got to take him out to my favorite collecting areas and watch him get excited at those fabulous Neotropical genera. I have photos of him from that visit and from several meetings in other parts of the world with a smile on his face and a long-handled net towering above him. I'm sorry our respective spheres of activity haven't coincided in recent years, but I'm really glad I've known him all this time.

I often think of Minter when younger people view me as a teacher and mentor. Nothing pleases me more than to think I can continue his legacy by encouraging in others that excitement that comes when they realize in a flash of emotion that dragonflies are just about the coolest animals around.

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MEMORIES OF MINTER

Jerrell Daigle

It seems like yesterday but I first met Dr. Westfall about 20 years ago. My boss, Ray Kaleel, and I drove up from Orlando to visit him at Bartram Hall at the University of Florida in Gainesville. I brought with me a Riker mount displaying rare gomphids spread out like butterflies.

He excitedly pointed out that my *Dromogomphus spoliatus* was really *D. armatus* and that it was a new record for Orange County, Florida! He encouraged me to write this up for posterity! With his generous help, I published my first ever scientific paper titled "A Checklist of the Odonata from Orange County, Florida."

Also, he steered me towards all the proper techniques in processing and storing specimens. I soon became a rookie disciple right behind his prophets, Ken Tennessen and Sid Dunkle. I am really glad I met him because I really think studying dragonflies and damselflies can be a ton of fun!!

Did I ever tell you about our trip to the Arkansas Ozarks to look for *Ophiogomphus westfalli*? We found some wary adults at the Caddo River but to Dr. Westfall's surprise, he had bought the wrong kind of field spectacles! The cheeky little devils flew between his legs and over his head! Luckily, I managed to catch a few by sheer luck and proffered them to him. He quickly accepted as anyone knows when he is offered specimens!

Also, do you know that Dr. Westfall has a world-class appetite! We celebrated our luck that day by stopping for dinner at my favorite roadside hot-dog stand in town. We were both very hungry, so I ordered us the gigantic "Burrito Grande!" This stuffed beef burrito was about the size of a football, heaped high with lettuce, tomatoes, olives, cheese, onions, peppers, and red beans. The total weight was about 6 pounds!

To this day, I am still not sure what happened. After a few minutes of listening to him and munching on my burrito, I glanced over to him. Do you know what he was doing? He was

licking his plate! The burrito was gone and I had only touched mine! Unbelievable!

I have had a number of requests to recount our "Great Bear Story or the Spur Lake Road Saga" for this issue, so here it is. After the DSA Grantsburg meeting in Wisconsin, Dr. Westfall and I went to sample the *Somatochlora* swarms at Spur Lake Road near Dunbar. As we chased an overhead *S. kennedyi*, I happened to glance down the dirt road. My eyes popped out when I saw the young black bear loping towards us! Witness the ensuing conversation:

Me: Bear! Bear!

He: Where! Where!

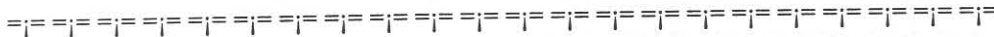
Me: There! There!

He: Oh! Oh!

Me: Run! Run!

We hightailed back the other way! All I could think of was to stay ahead of Dr. Westfall!! At the second glance back, I saw the bear veer off into the brush. I stopped and Dr. Westfall plowed into me! After composing ourselves, we decided to move to the other end of the road. Needless to say, we were in a state of heightened awareness the rest of the day!

Yes Sir, indeed! Collecting with Dr. Westfall can be very memorable! Thank you very much, Dr. Westfall for everthing! See you later, alligator!



WILLIAM T. DAVIS - A Short Biography

Paul T. Lederer

More than fifty years have passed since William T. Davis last went afield on his beloved Staten Island, knapsack slung on his shoulder and insect net in hand, his trained eyes exploring everything of interest. We here on Staten Island have not forgotten him, and, indeed, he is something of a local legend. In his own lifetime those who met him and worked with him saw in Davis an extraordinary human being. I hope that the following short sketch of his life will explain to you why he is still held in such high regard.

In appearance, one person who met the elderly Davis described him as a "Mr. Chips", and photographs of him do bear a striking resemblance to the old movie version of that fictional character, with his large gray mustache, his bright eyes behind wire-rimmed spectacles, and thin frame. Like Mr. Chips, children and youngsters were invariably attracted to him, the reason being, I surmise, because he always retained a child-like wonder for the natural world around him. Children, ever sensitive to the barriers which separate the adult world from their own, saw in him just a larger and more knowledgeable version of themselves. They easily related to Davis who did "kid things" and did them well, such as climbing trees and catching insects. How many adults besides Davis

did they see, in the two or three piece suit and a straw or derby hat (Victorian field attire was somewhat more formal than what is currently in fashion) he invariably wore in the field, with trousers rolled up in knee deep water, catching frogs, turtles and salamanders? Definitely a "kid" thing!

Davis, childless himself, became the mentor and friend to a cadre of budding naturalists. Their names and faces changed over the years, but collectively they were referred to as "Davis' Boys". He took an avuncular interest in their development and honed their naturalist skills by taking them on field trips and on frequent visits to "Davis' Attic", which was the top floor of the Staten Island Institute of Arts and Sciences building. The Attic was where Davis did much of his research, usually late into the night after the Institute's museum on the lower floors had closed for the day. It was crammed full of insect boxes, a botanical herbarium, all sorts of specimens in jars neatly labeled, books and papers, microscopes, and trophies from past collecting expeditions such as a mummified cat which Davis had come across in an old well. On hand was Davis' store of marshmallows and other munchies for his boys to snack upon as they discussed some aspect of the natural



William T. Davis surrounded by a group of youthful naturalists. Davis was noted for the attention he paid to young people interested in natural history. Photo courtesy of the Staten Island Museum of Natural History.

sciences. Davis guided his boys intellectually and sometimes helped them financially. Many were started on their own careers in natural history for their early association with Davis. Alanson Skinner, who as a boy accompanied Davis on visits to old Indian sites, went on to make a name for himself as an archaeologist and anthropologist of Native American culture. Another, James Paul Chapin, found a soul-mate in Davis' vast knowledge of birds, and he went on to become an ornithologist of note. Howard Cleaves was presented by Davis with a new camera and started on his career as a wildlife photographer. One day Davis came upon a youngster suffering from a bleeding nose. Davis took him up to the Attic to apply first aid and in the process recruited a new Davis Boy. The youngster in question was Carlton Beil whose choice of career in natural history and museum work was influenced by Davis. Many years later Carlton took me on my first field trip, pointing out to me the different trees, plants, birds and insects, and thus opening my eyes to the workings of Mother Nature. Carlton is now 89 years old and is still leading youngsters on field

trips, as Davis had done before him. I like to think that I am, through Carlton, a Davis Boy myself, once removed.

William T. Davis was born on October 12, 1862, on Staten Island where he would live his whole life. His family was a prominent one on the Island, and he could trace his ancestry back to its first settlers who arrived in the seventeenth century. His formal education was limited to two local private schools, and it is not known how long he attended these. He worked six days a week at the New York produce Exchange when others of his age were off attending university. What is known, though, is that at a very early age he developed a love for natural history and a special fondness for insects.

Davis did not have to travel to far distance horizons to find sights and sounds to explore and mysteries to unravel. He found them in his own backyard and his frequent hikes all over Staten Island. He once advised someone that the best way to learn the trees, birds, insects, and plants, was to learn one small area well. This was based

on his own experience, and it is still sound advice.

Young Willie Davis began "Natural History Notes" on April 7, 1879 when he was 16 years old. This was his record of observations, questions, discoveries, speculations, and his trips afield. His curious mind "observed" and did not just "see", be it the yearly decline of an ancient tree in his own yard, or the roosting habits of a flock of crows. He loved the wilder areas of Staten Island and his many long walks were trips of exploration and discovery which were duly recorded in his journal. Creatures and plants were noted by their Latin genus and species names, even in his earliest entries of 1879. His journal reveals that even as a sixteen year old, Willie not only had the romantic's emotional feelings for the wonders his eyes discerned all about him, but also the inquiring mind of a scientist which keenly desired to know more about the object of his interest. Davis made entries into his journal for the next 65 years, a tangible record of the life-long pursuit of discovery and of a man who sought to answer the question "Why?".

Davis was largely self-taught through observations made in the field and by books, yet he did have teachers. Davis was fortunate growing up when he did. In his youth, Staten Island was producing or had in residence an extraordinary assemblage of naturalists who became his life-long friends and with whom he often went on field trips. Together they established the Natural Science Association of Staten Island in 1881. Young "Bug Davis", as he was sometimes called, was one of its younger founding members, a membership which included, among others, such notables as the botanists Nathaniel Lord Britton (who later became the first director of the New York Botanical Gardens) and Arthur Hollick, Sanderson Smith (a conchologist associated with the American Museum of Natural History), Louis Poe Gratacap (who later became Curator of Mineralogy at the American Museum of Natural History), and the coleopterist Charles Leng, with whom Davis formed a very close life-long bond. These naturalists were drawn together by their common interests and worked as a team to document the flora and fauna of Staten Island. Their pioneering efforts were continued by those who came after them and resulted in establishing for Staten Island a well-documented record of its

natural history for well over the last 120 years, a continuing record which few other locales in the United States can match.

Although technically an "amateur", Davis went on to become a renowned entomologist and America's leading authority on the Cicadidae. He described and named more than 100 of the 170 species of cicada known to North America at the time of his death. However, his interests did not stop at cicadas and the insect order homoptera. His published papers give some indication of his wide ranging interests. They included studies and lists of Lepidoptera, Orthoptera (he discovered and named several species in this order, including the Eastern walking stick *Mamomera atlantica*), Coleoptera, Hymenoptera (including lists of ants for both Staten Island and Long Island), Diptera, and Odonata. His interests went beyond entomology. His more than 400 scientific papers covered a variety of topics: mammals, such as the first list of the mammals of Staten Island, and papers on mice, bats, squirrels, and opossums; many papers on ornithology; many papers on the subject of botany, including his discovery of a new type of hybrid oak, *Quercus brittoni* (named in honor of his friend Britton) and additions to the lists of the local flora; herpetology (he discovered that the color of the eyes could distinguish the sex of *Cistudo carolina*, and also discovered the first corn snake ever to be recorded from New Jersey); ichthyology (he did the first survey of freshwater fishes on Staten Island and wrote papers on the habits of some saltwater species); paleontology; local history (he recorded gravestone inscriptions of the early settlers from private plots when they were fast disappearing due to time, neglect, and vandalism); a history of the 1660 Billop mansion, where in 1776 the British and the Americans met in an abortive peace conference; a history of Saint Andrew's Church which was founded during the reign of Queen Anne; and he also documented and mapped old local place names. Not to be omitted is a literary work entitled Days Afield on Staten Island, written when he was in his late twenties, which received positive critical acclaim from naturalists and literati alike. Among his writings are two which I find intriguing and stand out as being unusual but revealing of the man's personality. One, "Bitten by a Rattlesnake", recorded his sensations and the effects of a bite he received from a pygmy rattlesnake he collected on one of his excursions off the Island.



W.T. Davis wading in - what else? - the Wading River, Long Island. Note the umbrella, which appears in all three photos of Davis. Photo courtesy of, and with permission of, the Staten Island Museum of Natural History.

Always the observer, he was able to find a subject for scientific commentary in what would for others have been just an unpleasant experience. The other is entitled "How to Cook the Extinct Wild Pigeon" (Davis was known for his wit and sense of humor; although he does give several recipes on how to cook the then extinct passenger pigeon, it is also a serious examination of how this extinction came about).

In the area of dragonfly studies, Davis did monumental field work. He did the first list of Odonata for Staten Island in 1898. He expanded his study of the order and in 1913 published his list of Odonata covering an area within a 50 mile radius of New York City, which included the southern part of New York State and also a good part of the State of New Jersey. The 1913 survey was possibly Davis' most important contribution to odonatology. He added to the number of species for the state list for New York, thereby expanding upon the work previously done by Calvert. Both of his lists formed the groundwork for the locales he surveyed in subsequent lists of New York State by Needham (1928) and Donnelly (1992). Some of these locales were never surveyed again. I am currently doing a resurvey of the Odonata of Staten Island, the first since Davis did his one hundred years ago.

Davis' contributions to odonatology went beyond his important field work. He also was a skilled taxonomist. He described two new species of Anisoptera, *Neurocordulia virginensis* (1927) and *Didymops floridensis* (1921). He described the genus *Williamsonia* in 1913. Of special interest is his discovery on Long Island of the threatened damselfly *Enallagma recurvatum* in 1913.

Those who knew Davis personally recall a man of boundless energy, wit, and accomplishments. Most of all, they recall a man who was truly happy with the simple things of life and whose quest to understand the natural world around him was sheer enjoyment. He understood what modern civilization was doing to the wild areas he loved so dearly, and was an early voice against what he called "development", when conservation was still in its infancy. He never had a harsh word for anyone and, being respected by all, sometimes assumed the role of mediator, and cooled the intellectual tempers that sometimes are aroused when specialists come together with different points of view. Although

meek-looking, Davis could display remarkable personal courage when the need arose. Once, when on a solo insect collecting trip to one of the more secluded areas on the Island, he was accosted by three holdup men, one of whom had placed a gun to his ribs. Davis was in his late seventies at the time, yet age was no barrier to the indignant wrath of the aged entomologist who was so rudely interrupted. He immediately went on the attack with his butterfly net, sending the rascals off bruised and none the richer. When a friend after hearing the story commented that he took an awful chance, Davis agreed, saying that he might have done them serious injury.

On another occasion, when on a collecting expedition with others, he stood his ground when an irate bull, who obviously did not care much for entomologists, charged the party. Davis coolly pointed his umbrella (which he used when beating for insects) at him, opened and closed it quickly several times in succession, and brought the startled bovine to a complete halt, thus saving the party from almost certain hospitalization.

His generosity was unlimited. He gave away gifts of money, sometimes anonymously, for worthy causes, such as in personally buying the mortgage of a seventeenth century house, now a landmark, and gifts or loans of money to scholars too poor to afford the university education he himself never received. Most importantly, he gave of his time to lead field trips, become an officer in several scientific societies and institutions, and worked to establish a system of parks for the island of his birth. I know of few lives more productive than his, and fewer minds with such wide ranging expertise.

Davis' death in 1945 marked the end of an era on Staten Island. He was the last of the naturalists who gathered in his home to form the Natural Science Association of Staten Island, later to become the Staten Island Institute of Arts and Sciences. He was also one of the last of the pioneering naturalists of the nineteenth century who did the groundbreaking work of discovery and systematizing this branch of knowledge. We, who carry on where men like Davis left off, are the heirs of a wonderful inheritance.

Last year I commenced my own dragonfly survey of Staten Island. One of my survey sites is the ponds at Moravian Cemetery where Davis is buried. Out of respect I visited him each time I

did my work there. I discovered that I was not his only visitor. From spring to fall, I followed the progress of a nest of bumblebees that had made their nest on his grave and called it home.

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SNOWBIRDS SIGHTED IN THE SUNNY EVERGLADES!

Jerrell J. Daigle

The 1997 Southeastern Regional Meeting was held near the Everglades in Florida City, Florida from April 3-6. The rousing flight of "snowbirds" included Ailsa and Nick Donnelly from New York, Clark Shiffer from Pennsylvania, George Smolka from Ohio, Ken Tennesen from Alabama, and Tim Vogt from Illinois. The meeting was very successful since we found several new sites for the rare Everglades Sprite (*Nehalennia pallidula*), including three inside the Everglades National Park! To top this off, we found 3 species of *Coryphaeschna* in South Florida! They were *adnexa*, *ingens*, and *viriditas*!

Tim Vogt and I got an early jump by surveying my *Nehalennia pallidula* (Everglades Sprite) site near Thompson Park at Hwy. 997. Recent DOT ditch maintenance resulted in wholesale cutting and removal of invasive *Melaleuca* trees which completely dried out the *Eleocharis* ditch where we had hoped to find the undescribed larva. However, we did find lots of adults in the deep shade on the other side of the road. We may have to go back in the fall and try again after the rainy season.

That afternoon, we observed several adults of *N. pallidula* and *Coryphaeschna ingens* at Chekika Recreation Area (=Grossman Hammock). We also drove down to Key Largo to pick up our Lignumvitae Key permits (see Tim's story) and do some collecting at the nearby Calusa Campground. Here we found a dry limestone hammock sinkhole that had a few *N. pallidula* in the deep shade! This is believed to be a new record for the Keys and Monroe County! Another thrilling moment was the flock of rare Caribbean White-crowned Pigeons (*Columba leucocephala*) roosting overhead!

Clark, George, and Ken were waiting for us at the motel when we got back that evening.

Amidst several spirited discussions, Odonata-wise and otherwise, we made plans for our Everglades National Park Inventory the next day.

That morning, Dick Reamus of the Park Service met us at the Visitor's Center and guess what our first inventoried species was flying in the parking lot! Drumroll, please!!! Yes, it was *Pantala flavescens*!!

Dick offered to lead us to the Royal Palm Hammock and then to Campground Pond on Long Pine Key before leaving us on our own. On the Gumbo Limbo trail in the Royal Palm Hammock, we got *N. pallidula*, *Coryphaeschna ingens*, *Nasiaeschna pentacantha*, *Celithemis eponina*, *Erythrodiplax umbrata*, and *Libellula needhami* among others. I was really excited to see two rare large pale lime-green tree snails (*Liguus fasciatus elliotensis*) on the gumbo-limbo trees. George Smolka put on a great show net-fencing with a 4-foot alligator that didn't want to share its waterhole!! You really had to be there for that!!

By then, we realized that the Everglades was bone-dry. Oddly, it was like walking on PLAY-DOUGH amidst the sawgrass. Mushy but not damp! Finding fresh water (with or without gators) would be hard! But at the limestone Campground Pond, hundreds and hundreds of dragonflies such as *Brachymesia gravida*, *Celithemis eponina*, and *Libellula needhami* were swarming everywhere!! *Idiataphe cubensis* and *Macrodiplax balteata* flew with them and we tried particularly hard to catch these scarcer species. We missed a single *Arigomphus pallidus*. Some other sites we looked at were Pine Glades Lake (oolitic borrow pit), Nine-mile Pond (brackish mangrove lake), Mahogany Hammock area (home of the largest Mahogany tree in the USA), and Sisal Pond (borrow pit). Nick and Ailsa also looked at Hidden Lake and Sweet Bay Pond later. Outside of *Enallagma pollutum*, the odonates and other fauna at these sites were basically the same. Although the crocodiles were common at the saltwater Flamingo area, we did not drive all the way down there to see them. That would be another trip at another time!

Our inventory list for the Everglades National Park on 4 April 1997 included the following species: *Coryphaeschna ingens* *Nasiaeschna*

pentacantha, *Arigomphus pallidus*, *Brachymesia gravida*, *Celithemis eponina*, *Erythemis simplicicollis*, *Erythrodiplax umbrata*, *Idiataphe cubensis*, *Libellula needhami*, *Macrodiplax balteata*, *Orthemis ferruginea*, *Pachydiplax longipennis*, *Pantala flavescens*, *Perithemis tenera*, *Enallagma pollutum*, *Ischnura hastata*, *I. ramburii*, and the rare Everglades endemic, *Nehalennia pallidula* for a total of 19 species. Literature records for Dade County indicate an additional 39 species could be found inside the Park.

When we got back to the motel, Nick and Ailsa Donnelly were there to warmly greet us! We quickly made plans for Saturday and we could hardly wait to get started!

After breakfast, our first stop was at the several large lakes and ponds inside municipal Tropical Park near Miami. Several of us had visited this place years ago with good results! We collected or missed shots at all of the common species (no *N. pallidula*) plus *Erythemis vesiculosa*, *Crocothemis servilia*, and *Brachymesia herbida*. The *Brachymesia herbida* catches are new for Dade County and the Florida mainland, although they have been thought to be extirpated from the Keys!

After a really fun picnic in the shade, we headed out for that good *N. pallidula* site near Thompson Park. Despite the searing sun, we were all able to catch series of the adults hiding in the deep shade or in the leeward side of trees and rock-hugging bromeliads. Definitely shade-dwellers, they avoided the direct sun at all costs.

Finding some solid ground, Nick and I sat among some shady trees. We spotted several ground-hugging adults hiding among the sawgrass blades. Using two fingers in the best *Palaemnema* fashion, we picked off several close unsuspecting adults without moving from our seats! Ahhh..yesss! This is my idea of easygoing collecting!

That evening, we ate dinner at a local Spanish restaurant that was recommended by Ailsa. Serenaded by a lively Mariachi trio, we all had a good time and the chimichangas were delicious! Caramba!

Afterwards, we reconvened at Ken's room to conduct official business. We voted to hold the

1998 SE Regional Meeting in Consauga, Georgia to be hosted by Ken Tennesen plus Steve and Mary Jane Krotzer sometime in late May or early June.

George Smolka gave an informative slide show on the Great Lakes Sand Dunes area and its Odonata fauna. Ken and I showed slides from Ecuador of local odonates, Hercules beetles, tree ferns, and priceless poses of the "Rat Patrol!" Nick concluded the presentations with his astounding photos of odonates from Thailand that had us salivating and raring to go to Thailand!! Tim topped off the evening by surprising us with a genuine yellow Key Lime pie for dessert! Thanks, Tim!

The next day was check-out day. Ken and I said good-bye to everyone and we headed west to Myakka State Park near Sarasota. As we crossed the Collier County border, we decided to stop at collect at a sedge marsh and rock pool just to see if we could find *N. pallidula* in a different county record. We found a few adults hiding in the shady sawgrass fringes, so Collier County was confirmed.

Our last collecting was done in the canal draining into the Myakka River just east of the Myakka River State Park entrance. No sooner than 5 minutes had elapsed when Ken spotted a patrolling *Coryphaeschna adnexa* male. We missed this one badly! While Ken dredged unsuccessfully for the larva, I waded up the canal and just plain missed 3 males! It was not my day for aeshnids!

All in all, it was a very informative and fun trip! It was mild and sunny with not too many alligators and only 15 species of mosquitoes! I will go back soon! I hope to see everyone again in Gainesville or next year in Consauga, Georgia! Adios, amigos!

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PRELIMINARY OBSERVATIONS OF ODONATA AT LIGNUMVITAE KEY STATE BOTANICAL SITE.

Tim Vogt

What is it about tropical (or subtropical) islands that make them so fascinating? Is it the solitude, the tranquillity, or the exotic flora and fauna?

Well, of course, the answer is all of the above! Of all of the islands in the Florida Keys, Lignumvitae is the most pristine and contains the only remaining undisturbed hammock forest. It is owned, managed, and protected by the state of Florida as a State Botanical Site and is accessible by boat only.

Lignumvitae Key has an exceptionally diverse flora. Some of the common trees include lignum vitae (*Guaiacum sanctum*), poisonwood (*Metopium toxiferum*), gumbo limbo (*Bursera simaruba*), strangler fig (*Ficus aurea*), torchwood (*Amyris elemifera*), mastic (*Mastichodendron foetidissimum*), pigeon plum (*Coccoloba diversifolia*), and black ironwood (*Krugiodendron ferreum*). As an additional measure of taxonomic diversity, these eight species belong to eight different families. This island got its name honestly. Even though it is on the northern edge of its range, lignum vitae apparently is more abundant here than anywhere else in its range.

Fresh water on the Florida Keys is about as common as hen's teeth. The Florida Natural Areas Inventory refers to these rare, natural ponds as "Coastal Rockland Lakes." There are at least 12 ponds on Lignumvitae Key. Three that I saw near the Florida Bay are reportedly permanent and brackish (5-7 meters diameter). Although they were surrounded by small trees and shrubs, they were open canopy wetland communities. The remaining ponds are further inland and are freshwater. Most of these are intermittent and were dry at the time. Only two of these ponds contained substantial amounts of water. Some of these depressions contained a layer of moist, dark, (organic?) soil. The others contained only leaf litter and may not hold water as long. All of these sites were in dense forest and were closed canopy wetland communities.

The species I observed or collected (5 April 1997) are listed in decreasing order of abundance; *Libellula needhami*, *Erythemis vesiculosa*, *Coryphaeschna viriditas*, *Erythrodiplax umbrata*, *Macrodiplax balteata*, *Brachymesia gravida*, *Erythrodiplax berenice*, *Tramea carolina*, *Tramea lacerata*, and *Pachydiplax longipennis*. Although I didn't observe any damselflies at the time, I suspect that *Nehalennia pallidula* and *Lestes spumarius* occur here. It would be interesting to know how much the fauna changes throughout the year. *L.*

needhami, *M. balteata*, *B. gravida*, and *E. berenice* were associated with the small, shallow, brackish ponds near the southwestern edge of the island. The only *P. longipennis* I saw during this survey was flying at one of these ponds.

E. vesiculosa was found throughout the forested areas of the island. Both ponds with water (2-3 m diameter) had one adult associated with them. Two of the intermittent ponds that were dry also had 1-2 adults present. Occasionally an adult would hover at 1-1.5 m above a small forest trail. These sections of trail were heavily forested (closed canopy) and light intensity was low. The behavior reminded me of some *Somatochlora* spp. male territorial patrols, but with almost no stationary pivoting! The individual I collected was a female and there were no nearby ponds of any type. Miller (1987) suggested that hovering "... may also allow an airborne insect to detect movements more readily than if it were in forward flight, particularly at low light intensities." Perhaps these types of flights were associated with prey detection. If so, then the advantages (more prey consumed) should outweigh the disadvantages (possible increased energy demands). Presumably, there could also be thermoregulatory consequences. Has anyone observed this type of flight behavior elsewhere?

The *C. viriditas* (mostly males) were flying and feeding over dirt lanes. These trails created open canopy areas in the forest. One male perched about 25 cm off the ground on a small sapling near the edge of a dry pond. During the course of the Everglades meeting, Ken Tennessen told me that the larva is still unknown. Lignumvitae Key might a good place to put an end to that mystery!

A collecting permit is required at this site from the Florida Department of Environmental Protection, Division of Recreation and Parks, should you be interested in conducting research here. In addition, the Park Manager, Pat Wells, should be contacted two weeks prior to your arrival. All of the park staff that I met were friendly and extremely helpful. Pat Wells and Bill Cater were invaluable guides and taught me a great deal about the natural history of this island. I hope to go back there some day.

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TEXAS NEWS

E-mails from **Blair Nikula, John Abbott, et al**

As a follow-up of the news that *Aeshna psilus* has been taken in Texas, John Abbott has amended his article to add that the specimen is in Clark Shiffer's collection.

Recently I received several e-mail messages telling of the discovery, by Blair Nikula and Jackie Sones, of *Neoerythromma cultellatum* and *Neoneura amelia* in south Texas - firsts for the US. Right on the heels of this came a message that Sid Dunkle and John Abbott also found the two species a few weeks later.

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WASHINGTON ODONATA INVENTORY

Dennis Paulson

After a decade of preoccupation with shorebirds, I've been rehabilitated as an active odonatophile, and, with Rob and Syd Cannings, I'm working on a book on Northwest Odonata. Thanks in part to the energy of a whole bunch of new enthusiasts, in particular Bud Anderson, Molly Hukari, Roger Long, David Nunnallee, and Idie Ulsh, we have carried out a huge amount of field work in Washington in 1995 and 1996.

Only two species were added to the state list during this period, but both events underscored the value of communication. *Aeshna sitchensis* was long overdue in the state, so Syd Cannings contacted Andy Stepniewski, birder and ecologist in Yakima, to ask him about high-elevation fens that might support this species. Andy mentioned two localities in northern Okanogan County that matched Syd's description, Syd made a lightning-quick raid across the border (what's the matter with those Customs people?) in August 1995, and he found the species at both! Subsequently Dave Nunnallee and Roger Long found another population in Pend Oreille County, at a locality I had visited several times but apparently too early in the season for *sitchensis*.

Jim Johnson, another birder in Vancouver, on the lower Columbia River, contacted me in August 1996 and expressed interest in dragonflies. During our e-mail communication, I described for him and told him to be on the lookout for *Libellula luctuosa*, known from a few counties south on the Oregon side. It didn't take a week until he got back to me with "I've got a population of them at Lacamas Lake, Clark County."

Meanwhile, in 1996 Dave Nunnallee started visiting a pond/stream complex at 600 feet elevation east of Seattle--about 40 minutes from my home--and coming up with astounding dragonflies. He rediscovered *Calopteryx aequabilis* and *Cordulegaster dorsalis* in King County and found populations of *Somatochlora minor*, *S. walshii*, and *Leucorrhinia proxima* that I had thought confined to the mountains.

Finally, after getting a copy of the new damselfly book by Westfall and May, I decided it was time to tackle a box of unidentified female Zygoptera from the past 3 decades. The first specimens I looked at were two female *Lestes* collected in 1974 in Clark County that I had not been able to identify at the time but then completely forgot about. They were obviously not any Washington, or west coast, species, and appear to be *L. forcipatus*, not otherwise known from west of eastern Montana. We launched an immediate expedition to the locality but were unable to find any, perhaps too late in the year; a bonus was the first population of *Archilestes californica* west of the Cascades. Identification is still tentative, until we can find males, but the huge ovipositors of the females point either to *forcipatus* or an undescribed species.

Mostly what we've been doing is "county busting," visiting counties with low species lists and in the process often making interesting discoveries. During these two summers, the average number of species recorded from each county increased from 21.3 to 28.0 (of 75), while the average number of counties from which each species has been recorded increased from 11.1 to 14.5 (of 39). New county records totalled 257. We accomplished our first "grand slam," getting *Ischnura cervula* in all 39 counties; additional species are destined for the same fate next summer, I'm sure. We've also been looking for dragonflies early and late in their seasons, and

we have extended the average length of the flight season for all species combined by 15 days (the added flight-season days add up to just over 3 years!).

It's unlikely we can keep adding records at this pace, but rest assured we've got a serious odonate inventory in progress in Washington state.

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MICHIGAN NEWS

from **WILLIAMSONIA**, the newsletter of the Michigan Odonata Survey.

The second issue of the newsletter is full of information about Odonata new to Michigan and the status of some less common species (*Nannothemis bella*, *Tachopteryx thoreyi*). From this issue we learn of the movement to select *Anax junius* the state insect. I applaud this and wryly note that New York has selected the Chinese mantis, which is, appropriately, an illegal immigrant!

The Michigan group is contemplating a summer dual field meeting - one group collecting in Hell and another in Paradise the same day. Intrigued? Well, contact Mark O'Brien (313-647-2199; e-mail mfobrien@umich.edu)

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OHIO NEWS AND MEETINGS

from the **DRAGONFLIER**, newsletter of the Ohio Odonata Society

For those of you within reach of Ohio, there are three field meetings of the very active Ohio group. One of these (16-18 May), will have just occurred when you receive this **ARGIA**, but two are forthcoming. On 20-22 June (sadly, in conflict with our Vermont trip) the Ohio group will visit Shawnee State Park in southern Ohio. On 19-21 September the group will have a late season Aeshna trip, possibly to Indiana. If you are interested, call Bob Glotzhober at 614-297-2633 or e-mail him at rglotzho@winslo.ohio.gov. Note that this is a new address.

CHECKLIST OF KANSAS DRAGONFLIES

Roy J. Beckemeyer and **Donald G. Huggins**
The Kansas School Naturalist
Box 4050, Emporia State Univ.
1200 Commercial Street
Emporia KS 66801-5087

reviewed by **Nick Donnelly**

The **Checklist of Kansas Dragonflies** is an excellent addition to a very thin selection of popular guides to dragonflies. In this publication "Dragonflies" means Anisoptera only; damselflies are sadly omitted. However, this guide will be a good starting point for beginners.

If I have any reservations at all about the book, it is that for me the section on "Studying Dragonflies" seems a bit thin. It encourages observation of the life history but contains no illustrations of larvae or discussion as to where they may be found. One of the most fascinating aspects of any insect study is the total life history of the bugs themselves. Dragonflies are especially well suited for this because their larvae are so different from the adults and they are easily obtained and reared. Further, the highly territorial character of the adult life lends itself admirably to all sorts of observational projects well suited to high-school age people. I hope a second edition of this brochure will develop these topics in more depth.

Illustrated with many of Sid Dunkle's well-known color photos of living specimens, this guide would serve admirably for the identification of a surprisingly high proportion of the species found in Kansas and elsewhere in the mid United States.

There has been a movement in the past few years to produce guides for the identification of all sorts of plants and animals using color photos, exemplified mainly by the well-known Audubon field guide series. One can debate whether this approach is better than or at least as good as the "Peterson" approach of using color drawings and paintings. The present example is probably not quite as successful as Dunkle's Florida guides but superior none the less.

Whether the concept of visual field identification will catch on and gradually replace netting specimens (as many endorse) is not easy to

predict. Jeff Glassberg's marvelous guide for the identification of butterflies has encouraged many odonatists to move in this direction. However, identification of many dragonflies and, especially, damselflies is very difficult in the field and still requires examining specimens with a hand lens.

The purpose of this guide, however, is not to produce specialists, but to stimulate interest and make young people aware of these marvelous insects. It contains just enough information to help to identify many common species, and should stimulate many younger people to begin a serious study. It is an excellent product for which the authors should take considerable pride.

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**A BOOK OF INTEREST TO
ODONATOLOGISTS: "FEMALE
CONTROL: SEXUAL SELECTION BY
CRYPTIC FEMALE CHOICE"**

by **W.G. Eberhard**, 1996, Princeton University Press

reviewed by **Roy Beckemeyer**

This book deals with the concept of female control in sexual selection: the idea that there are processes and activities undertaken by the female after intromission has occurred "...that can modify the chances that a given copulation will result in offspring". Eberhard calls such discrimination "cryptic" because "...it is a hidden, or internal, decision made by the female after the more obvious decision to copulate." He relates this idea to the concept of sperm competition (Parker, 1970) by pointing out that "Just as the idea of sperm competition extends the possibility of male-male competition past the moment when active copulation begins, so the idea of cryptic female choice extends the possibility of female choice past initiation of copulation."

While his book covers a wide range of animals, Eberhard makes reference to a number of examples from the literature of odonate reproductive biology in his arguments. He also reports some previously unpublished data from Enrique Gonzalez (personal communications from Gonzalez to Eberhard) that will prove of interest.

The references to previously published studies include the observation that *Erythemis simplicicollis* females "refuse" to oviposit after some copulations (27% of copulations with satellite males, 7% of copulations with resident territorial males were observed by McVey in 1988 to result in the female not ovipositing, but flying away to return within minutes to mate with another male). Another mechanism used by females is that of ovipositing in time-separated bursts of activity, with the female refusing to copulate intermediate to the oviposition events, thus retaining the sperm from the last mating (Siva-Jothy & Tsubaki, 1989).

The new phenomenon reported by Eberhard is "...the recent discovery that female odonates sometimes emit droplets of sperm during or immediately after some copulations but not others...E. Gonzalez, pers. comm. ..." Gonzalez observed this behavior in *Paraphlebia quinta*, as well in the genera *Cora* and *Palaemnema*, and also noticed the phenomenon in a video of mating *Coenagrion scitulum*. [I leave the detailed recounting of Gonzalez' observations for you to read in the book - see pages 14-15 and 91-93.]

While I have yet to finish reading the complete text of this book, what I have read so far leads me to highly recommend it to all interested in the biology of reproduction and sexual selection.

References:

- McVey, M.E., 1988, The opportunity for sexual selection in a territorial dragonfly, *Erythemis simplicicollis*, pp. 44-58 in T.H. Clutton-Brock, ed., *Reproductive success - studies in individual variation in contrasting breeding systems*, University of Chicago Press, Chicago.
- Parker, G.A., 1970, Sperm competition and its evolutionary consequences, *Biol. Rev.*, 45:525-567
- Siva-Jothy, M.T., & Y. Tsubaki, 1989, Variation in copulation duration in *Mnais pruinosa pruinosa* Selys (Odonata: Calopterygidae). 1. Alternative mate-securing tactics and sperm precedence, 24:39-45, and 2. Causal factors, 25:261-267, *Behav. Ecol. Sociobiol.*

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**ODE TO *ERPETOGOMPHUS*
LAMPROPELTIS OVIPOSITING IN A GILA
RIVER RIFFLE:**

poem by **Roy Beckemeyer**

Your dipping abdomen,
regular
as a metronome,
seems to reveal
your true identity:
nature's divining rod,
unerringly finding
and revealing
waters.

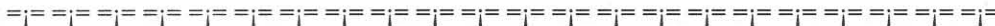
You seem more skilled
(certainly more subtle)
than the human
Water Witcher
with her urgent directions:
"Dig your well here
and you'll need fear
no drought!"

Of course,
it could be argued
that it takes no great skill
to find these waters,
sparkling
as they are.
The surface film
never quite
breaking.

The fist-sized gravel
and nearly level grade
warping the boundary
between air and water
to perfectly meet
your exacting specifications.

But surely
there is magic
at work here.
After all,
these waters contain,
with each rhythmic tap,
another and another and another
translucent,
jeweled,
organic
watchwork machine
of infinite
coiled complexity:
the essence
of your being,
the promise
of your continuing
far beyond
this present,
this most precious
moment.

Ah, there it is, then:
You witch not for waters,
but for dragonflies to come!



TRAMEA

Odonatological Surfing by Jackie Sones

While reading the last issue of **ARGIA**, I felt as if I were standing at home plate, watching Nick Donnelly's pitch come in. I was hesitant, but decided to swing. I sent a short e-mail to Nick offering to help out with *TRAMEA*, a new column which would discuss odonate-related information on the Web. I consider myself a beginner when it comes to dragonflies and to the World Wide Web. I have been looking at dragonflies for about four years and I have maintained a personal web site about dragonflies on Cape Cod, MA for one year. A major part of this web site is a list of links to other odonate-related web sites around the world. I have some experience with what's out there...and I thought this column would be a great way to let other people know how to find it!

There are more than 200 sites on the World Wide Web containing information related to dragonflies and damselflies. The sites differ from each other in many ways, e.g., size, structure, and content. A lot of the information has yet to be published on paper. What follows is a summary of what the Web has to offer to odonatologists. For each topic, one web site is listed. However, all of the sites mentioned in this column may be accessed from links at the *Ode News* web site: <http://www.capecod.net/~bnikula/odenews.htm>

Photographs. Many web sites contain photographs of dragonflies and damselflies. The number and quality of the images vary, but all of them are fun to look at and offer learning experiences. At some sites you may find one photograph and at others you may find hundreds. With the present lack of field guides, Web-published photographs are sometimes the only visual resource available for some species. If you are trying to do some background research on a certain species, you might find a very detailed written description in a manual, but have a difficult time imagining what it really looks like. If you enjoy a challenge, try identifying some of the unlabeled photographs! Kathy Biggs has started to collect photographic references for a checklist of California odonates. Wouldn't it be fun to have something like this for all of North America! For access to Kathy's site, try:

<http://www.sonic.net/~bigsnest/Pond/Lists/dragons.html>

Specimen Collections. Some colleges and museums have posted information about their odonate collections. If you are interested in looking at specimens, this is a good way to discover where you might be able to find certain species. Sometimes collecting information is included, so that you may be able to learn about species distributions as well. Cornell University is working on a searchable database for their collection. Check out their progress at:

<http://www.cals.cornell.edu/cals/dept/entom/type/html.doc/holdings/odonata.htm>

Checklists. This is another way to learn about species distributions and to check up on the status of dragonflies and damselflies in other states. Wouldn't it be terrific to see lists for all countries and states! Hawaii has created a list which includes some colorful range maps:

<http://www.wco.com/~aecos/Odonata.html>

Recent Sightings. A few sites offer information about local sightings. If you are interested in flight periods, and how they may vary from location to location, this a good resource. Here is an example from Michigan:

<http://insects.ummz.lsa.umich.edu/MICHODO/sightings.html>

Current Research Projects/Interests. Some states (e.g., Kansas, Michigan, Ohio, and Oregon) are currently conducting odonate surveys and are publishing their results on the Web. A few people have posted information about projects that they or their students are working on. At Marietta College in Ohio students are studying various topics such as flight speed of odonata. At Texas A&M University researchers are taking a closer look at the effects of water quality on nymphs. You can find out about the interests of various college professors and museum curators such as Robert Cannings, Michael May, and Dennis Paulson. Recently, I was referred to Mark McPeek's site in New Hampshire – look for yourself:

<http://www.dartmouth.edu/artsci/biology/mamcpeek.html>

Introductory Material. There are many web sites offering basic information about dragonflies and damselflies. One that seems particularly well done is Gordon Ramel's site in Britain:

<http://www.ex.ac.uk/~gjlramel/odonata.html>

Organizations with Odonate Slants. The Dragonfly Society of the Americas, the British Dragonfly Society, the Societas Internationalis Odonatologica, and the International Dragonfly Fund are just a few of the organizations that have developed web sites. At their sites you will discover membership information, announcements about upcoming events and publications, and more. For the Slovene Dragonfly Society (which presents the table of contents of recent issues of ODONATOLOGICA), use this address:

<http://www2.arnes.si/~mbsodonad1/index.html>

E-mail Addresses of Odonate Enthusiasts. Bill Mauffray of the International Odonate Research Institute maintains a list of people who are interested in dragonflies and damselflies. If you have a question and need to contact someone, this is an especially helpful resource. To access this list, type in:

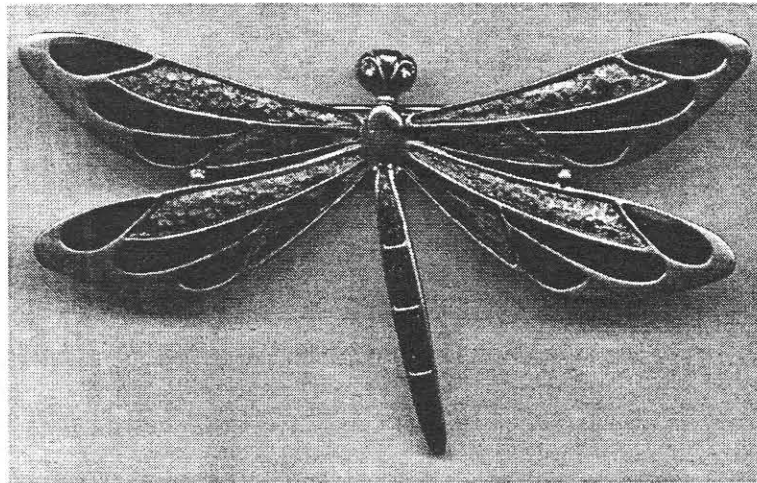
<http://www.afn.org/~iori/oinemail.html>

Publications. While surfing the Web you can find magazine and newsletter articles, references to journal articles and books, and online newsletters. Roy Beckemeyer and Bob Barber have made some of their references available. The Natural History Book Service in London has an efficient service which searches for odonate-related books and lets you know of their price and availability. There are also a few newsletters, such as ODE NEWS and PETALURA, which allow you to access newsletters. PETALURA presents information on odonate systematics and phylogeny and can be found at: <http://members.aol.com/petalura/sgspo.htm>

Useful Tools. Roy Beckemeyer suggested making you aware of tools, such as software and identification keys, that are available on the Web. For example, you can download a database (e.g., Orthoptera DB) to keep track of your odonate sightings and collections. Bob Barber offers an identification key to northeastern gomphids and to *Ophiogomphus* exuviae. Dennis Paulson produced a key to adult dragonflies in Washington and another to those in Alaska. You can also download Jerrell Daigle's identification keys to the larval stages of Florida's dragonflies and damselflies from the following address: <http://www.dep.state.fl.us/biology/Library.html>.

E-mail Groups. Mark O'Brien of the Michigan Odonate Survey has set up a mail group. If you subscribe to this service, you'll be sent any e-mail messages that are posted to the group. This is a quick, easy way to distribute information to lots of people. The International Dragonfly Fund offers the opportunity to subscribe to Odonatological Discussions Online (ODO-L). This service relays information through e-mail about once a month. To subscribe to ODO-L, go to: <http://members.aol.com/odoweb/idf.htm>

So...there's just a sampling of what odonatologists might find on the Web. I hope to provide you with more details on all of the sites described above, as well as other odonate-related web sites, as this column develops. If you have any questions or comments, please don't hesitate to send e-mail to: odenews@capecod.net. Happy odonatological surfing! ☺



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