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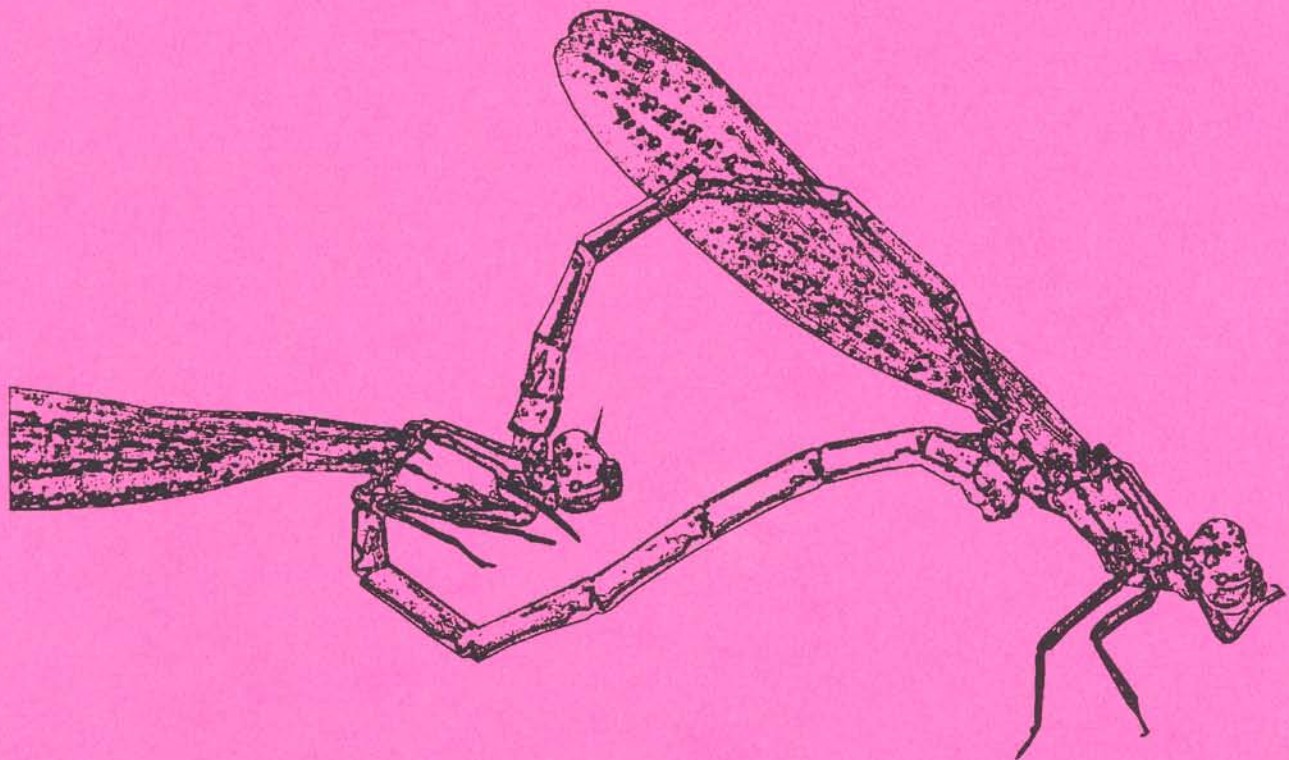
ARGIA

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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 and 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 are \$10 for regular membership and \$15 for contributing membership, payable annually on or before 1 March of membership year. Institutional (e.g. libraries or universities) membership is \$15 per year. All members receive **ARGIA** via surface mail at no additional cost. For delivery by first class in the U.S. there is an additional charge of \$4, and for Air Mail delivery outside the U.S. a charge of \$10.

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

Cover: *Enallagma laterale*, computer graphic from a photograph, by Jean Held.

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

IN THIS ISSUE

Mark your calendar. The next annual meeting of the DSA will be in southern New Brunswick on the weekend of 29-30 June 1996.

The 1995 DSA meeting at Silver City NM was a smashing success. We had a record crowd and the field trips during and after the meeting produced many notable southwestern records. Jerrell Daigle and John Michalski give their separate account of the trip, and tell us why citizens of Douglas, Arizona, are still saying, "Remember the Adams".

The DSA should confront the issue of English names for dragonflies. There are two issues: (1) what should the status of these names be and which names are the most suitable? Attached to this issue is a list of proposed names submitted by Dennis Paulson and Sid Dunkle. Readers are urged to ponder the issue and the names and get back to us.

This has been a hectic and wonderful season. We began the year with an extraordinary spring migration of southern dragonflies in the northeastern United States. In the last issue we featured an article about *Epiaeschna heros* and other species in vast numbers on Cape Cod. We follow this up in this issue with several accounts of *Libellula axilena* in the northeast, with a summary article by Ken Soltesz, Bob Barber, and Ginger Carpenter about weather and dragonfly migrations. We will all have to start watching the weather news on TV not only to plan our trips but to understand our bugs.

Numerous letters and e-mails about dragonflies and damselflies that were found this year have been merged into a single long account arranged geographically. Additional records (and I anticipate these will continue to roll in) will appear in the next issue.

Several articles tell us of collecting trips or projects. Roy Beckemeyer gives his account of collecting in the west during his trip to Silver City. Richard Orr tell us about an especially attractive

dragonfly place in Maryland. Paul-Michael Brunelle describes what is probably the oddest and most spectacular dragonfly collecting device in several years. Javier Muzon describes additional experiences with the malaise trap, which we described in a past issue.

Rosser Garrison and Javier Muzon describe a trip to the southern end of the New World, which sounds like a great way to spend a January. Closer to home, Peter Burke e-mailed in fascinating observations on *Ophiogomphus anomalus* in Ontario. This is the only incident known by me of this species being taken over rapids - most specimens are found resting away from water. We are slowly finding out the habits of this remarkable and elusive species. Dave Czaplak describes occurrences of both species of *Lanthus* in Maryland. As more and more encounters are described, it becomes that these species inhabit the same habitats. Roy Beckemeyer adds many Odonata records for Kansas and Oklahoma.

Endangered species continue to be of interest. Jerrell Daigle notes that *Somatochlora hineana* is now officially Endangered and that *Cordulegaster sayi* and *Williamsonia lintneri* may be given this status in the future. Bob Glotzhober clarifies Ohio's law, which now seems to be more compatible with collecting activities. Listing of species poses a problem to Federal and State officials: Efforts to protect species by prohibiting their capture may seriously limit information on the insects that are being protected! A reasonable middle ground should be found that will allow collection activities which do not threaten these insects.

I have added a brief account of an article in the American Entomologist on dragonflies as food. Rosser Garrison tells us of the status of reprints of some of his articles. Roy Beckemeyer has added some notes on mapping software for the computer users.

We're short of tropical articles in this issue, but Jessica Logan writes of her adventures in Costa Rica and the perils of water pollution even in this fecund country.

Finally, I include a charming poem submitted by John Hubbard.

One issue not dealt with in this issue is the Collecting guidelines. We will present the final version in a later issue.

Remember that e-mail is fast and cheap and a very good way to send things in. Keep those submissions coming in!

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1996 ANNUAL MEETING IN NEW BRUNSWICK

The 1996 annual meeting will be held in St. Stephen, New Brunswick, on the 29th and 30th of June. The host will be Paul-Michael Brunelle of Halifax, Nova Scotia. The sites visited will be on the St. Croix River, which is the boundary between the US and Canada, and on small tributary streams to this river. The Odonata of special interest will include a presently undescribed species of *Neurocordulia* which has been found there recently. Also featured will be *Ophiogomphus anomalus*, which reaches its northeastern range limit on the St. Croix River.

New Brunswick is one of the smaller and lesser known of the Canadian provinces, and this meeting will display its many charms to good advantage. There are four good motels in St. Stephen. The St. Stephen Inn is the tentative headquarters site. Their rates are \$54 dollars US for a double with an additional charge for a conference room. There are other possible sites, so this venue is not firm. Ailsa and I stayed there this summer and found it very comfortable. Remember that the Canadian dollar is currently about \$0.75 US dollars.

We envision pre- and post-meeting trips to adjacent Maine and elsewhere in New Brunswick.

For additional information contact Paul-Michael Brunelle at 902-422-6490; FAX 902-429-9382 or Nick Donnelly at 607-722-4939 or e-mail: tdonnel@bingsons.cc.binghamton.edu.

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DSA ANNUAL MEETING MINUTES SILVER CITY NM, 5 AUGUST 1995

Sidney W. Dunkle, Secretary DSA

Attendees are listed in the accompanying article by Jerrell Daigle.

The meeting was called to order by President George Harp.

By acclamation, the new President-Elect will be Rosser Garrison, with Jerrell Daigle continuing as Treasurer, and Sidney Dunkle continuing as Secretary. In a close vote from a slate of 5 candidates, Tim Cashatt, Steve Krotzer, and Clark Shiffer were elected as Regular Members.

Jerrell Daigle reported as Treasurer that the Society has a positive financial balance. However, Thomas Donnelly recommended as Editor of ARGIA and BAO that the Society raise its New World dues from a basic \$10 to \$15, while Old World memberships should be \$20. Sustaining Memberships in the USA could be \$15 + \$5 = \$20. Dr. Donnelly recommended that only Airmail postage be used because it is now the same as or not much more expensive than surface mail. He also noted that ARGIA has been including 20 - 28 pages per issue and is expected to grow in size. The increased dues will allow for expansion of ARGIA, use of airmail postage, provide free copies to odonatists in countries where US funds are difficult to negotiate, and allow for miscellaneous expenses and projects. The new dues structure was voted on and accepted. John Michalski rightly pointed out the accolades that DSA owes to Thomas and Ailsa Donnelly for their fine editing of the DSA publications.

Dennis Paulson gave a list of English names for North American Odonata to all present. The list is a preview of a list to be published in ARGIA. After alternative names submitted by the DSA membership are published in a later Argia, a vote will decide the final list of DSA-Approved names.

DSA Guidelines for odonate collecting were discussed, and after considerable debate, discussion was tabled until everyone was clear on what the guidelines already printed in ARGIA said, and on any changes that need to be made.

President Harp suggested that DSA membership could be boosted by producing a standard membership form. The form can be printed in ARGIA and copied by each present DSA member

With the completion of official DSA business, we got a "leg up" on the festivities by signing Ken Tennesen's leg cast with colorful markers, creating a real work of art! Then, Sid Dunkle presented a slide show covering New Mexico dragonflies and damselflies that we would expect to see at the Gila River the next day. After the show, Sid conducted a pop quiz by flashing slides of 10 species of *Argia*. Audience members not only had to identify the species but also if that specimen was wild or "posed" in that viewed slide. Most people did pretty well, although I must admit all those *Argias* look alike to me except that red-eyed one!

Dragonfly slide shows by Nick Donnelly, Rosser Garrison, George Harp, Dennis Paulson, and John Michalski took place either Monday night or in Dennis Paulsons' room in Douglas on Tuesday night [See John Michalski's story]. Also, Susan Schock of the local Gila Watch gave a slide presentation documenting the disturbing and serious effects of illegal cattle grazing inside the Gila National Forest by obstinate cattle ranchers.

After Sid's show, we adjourned for the night with visions of Aeschnids and Erpetogomphids in our heads!

Forty-five (45) people attended either the Silver City, New Mexico DSA meeting, the Douglas-Arizona expedition, or both. They were Steve and Mary Jane Krotzer plus Sandi and Ken Tennesen from Alabama. Phoebe and George Harp arrived from Arkansas. Rosser, Jo, Phillip, and Anna Garrison headed east from California followed later by David and James Fujita. Writer Richard Conniff and his son, Jamie, came from Connecticut. Florida sent Jerrell J. Daigle, Carol and Bill Mauffray. Tim Cashatt, Tim Vogt and Vern LaGessee came from Illinois. Roy and Patricia (Pat) Beckemeyer arrived from Kansas. Rhonda, Marietta, Nicholas Froggett, and Benjamin Lane made it from Kentucky. Janice Simpkin arrived from Nevada. New Jersey sent PNG pitchman, John Michalski plus Mike May and his son, James. Local New Mexico residents, Susan Shock and Mike Sauger of the Gila River Watch were present. Ailsa and Nick Donnelly made it from New York. Longtime North Carolina resident, Duncan Cuyler attended the meeting. From Ohio came Bob Glotzhober with his fantastic posters. Steve Valley drove down from Oregon in his newly outfitted camper van.

Clark Shiffer came down from Pennsylvania. Bob Honig and his wife; John Abbott, and Sid Dunkle trekked from Texas. Representing Washington, D.C. was the Smithsonian's Carol and Ollie Flint. Last but certainly not least, Dennis Paulson flew in from Seattle, Washington to complete the assemblage.

Sunday, much of the collecting was done on the Gila River at the Grapevine Campground at Hwy. 15 about 38 miles north of Silver City. Several people have reported their catches to me and most people collected *Erpetogomphus heterodon*, *E. lampropeltis natrix*, *Argia lugens*, *A. nahuana*, *Hetaerina americana*, and *Ischnura demorsa*. Other additional species collected at the campground or in the surrounding Gila National Forest were as follows:

Aeshna dugesi, *A. multicolor*, *A. palmata*, *A. persephone*, *Anax junius*, *Argia moesta*, *A. plana*, *A. tonto*, *Brechmorhoga mendax*, *Cordulegaster diadema*, *Enallagma cyathigerum*, *E. praevarum*, *Erpetogomphus compositus*, *Erythemis collocata*, *Hesperagrion heterodoxum*, *Hetaerina vulnerata*, *Ischnura damula*, *I. denticollis*, *I. hastata*, *Lestes congener*, *Libellula luctuosa*, *L. saturata*, *Ophiogomphus arizonicus*, *Oplonaeschna armata*, *Pachydiplax longipennis*, *Paltothemis lineatipes*, *Pantala flavescens*, *P. hymenaea*, *Plathemis lydia*, *Progomphus borealis*, *Sympetrum corruptum*, *S. pallipes*, *Telebasis salva*, and *Tramea lacerata*.

A species list and letter was sent to the proper authorities who granted DSA members a collecting permit.

Other groups went to Red Rock, Cherry Creek, Meadow Creek, the upper Gila River, and Lake Roberts. At Red Rock, Dennis Paulson collected *Ischnura cervula* and recorded *Argia pallens*, a new state record for New Mexico. At Cherry Creek, Ailsa and Nick Donnelly, Mike and James May, Bill Mauffray, John Michalski and others collected *Argia plana* and *tonto*, *Cordulegaster diadema*, and *Oplonaeschna armata*. I ran into Bob Honig and his wife photographing dragonflies and birds at Little Creek.

The following day, most people went to the Gila River at Cliff or nearby Bill Evans Lake. *Erpetogomphus compositus*, *E. lampropeltis natrix*, *Progomphus borealis*, *Argia lugens*,

Ischnura denticollis, and other species were collected at Cliff. Also, Nick Donnelly got one *Erpetogomphus heterodon* there. *Aeshna multicolor* was common at Bill Evans Lake as were many picnickers.

A smaller group consisting of John Abbott, Roy Beckmeyer, Sid Dunkle, Bob Glotzhofer, Dennis Paulson, Clark Shiffer, and myself drove north to the beautiful San Francisco Creek in the meadows at Luna, just past an archaeological dig, and collected the highlight species, *Ophiogomphus arizonicus*, *Amphiagrion abbreviatum*, and *Argia tonto*. Tim Cashatt, Vern LaGesse, and Tim Vogt collected here earlier in the week and informed us at the meeting that this would be a really good spot! Thanks, guys!

Downstream, Sid Dunkle corraled a spectacular male *Aeshna persephone*! When he showed it to the others, a photo shoot broke out! Everybody dropped their nets and began photographing the star attraction! No, not Sid....the dragonfly!!

Tuesday was a travel day and most of us headed south for the Mexican border! We said our goodbyes to those travelers heading west and east and we vowed to meet again next year in New Brunswick, Canada!

Additional collecting was done further south in the vicinity of Douglas, Arizona. Wednesday morning, the desert expedition motorcade, led by yours truly, left the Motel 6 and trekked east about 17 miles across the vast, seemingly dry scrub desert to our destination. About halfway there, I headed up a hill and took a look back at the dusty caravan behind me. Folks, it was glorious! It looked just like a Daktari African safari! I counted eleven vehicles filled with enthusiastic explorers ready for action! I will always remember and treasure that scene forever!

At the Slaughter Ranch oasis and the San Bernardino Wildlife Refuge, we collected the following species:

Aeshna dugesi, *A. multicolor*, *Anax junius*, *A. walshingami*, *Archilestes grandis*, *Argia alberta*, *A. nahuana*, *A. plana*, *A. violacea*, *Brachymesia furcata* (seen), *Brechmorhoga mendax*, *Coryphaeschna luteipennis florida*, *Dythemis fugax* (seen), *Enallagma basidens*, *E. civile*, *E. praevarum*, *Erythemis collocata*, *E.*

simplicicollis, *Erythrodiplax connata*, *Hesperagrion heterodoxum*, *Ischnura damula*, *I. demorsa*, *I. denticollis*, *I. hastata*, *I. ramburii*, *Lestes alacer*, *Libellula comanche*, *L. composita*, *L. nodistica*, *L. pulchella*, *L. saturata*, *L. subornata*, *Pachydiplax longipennis*, *Paltothemis lineatipes*, *Pantala flavescens*, *P. hymenaea*, *Perithemis intensa*, *P. mooma*, *P. tenera*, *Plathemis lydia*, *Pseudoleon superbus*, *Sympetrum corruptum*, *S. pallipes*, *Telebasis salva*, *Tramea lacerata*, and *T. onusta*.

Black Draw Canyon was dry, so we didn't see any gomphids, that I can recall. However, Roy Beckmeyer found *Anax walshingami*, *Pseudoleon superbus*, etc., in Cottonwood Canyon just north of the refuge. I mentioned the possible recolonization of Black Draw Canyon in the letter and DSA species inventory list I sent to the proper authorities who provided DSA with official collecting permits. All it would take is lots of rain and gullywashers!

Soon, it got hotter and hotter and things got slower and slower. George Harp and I even found a "tired" horned toad trying to do the backstroke in the middle of the ranch road. We contemplated its rate of speed and decided we could do a lot of collecting before that toad even moved an inch! Eventually, that afternoon we all headed back to the swimming pool at the motel.

For dinner, most of us ate at the Alamo restaurant [See John's story]. I had misread the sign as Adams when Clark and I drove by it earlier in the day while scouting the town! Many, many, many people informed me of this "faux pas"! By the way, did you know that "Alamo" means "cottonwoods" in Spanish? From now on, I'll remember the Alamo! We also attended some slide shows later that night and made separate trip plans for Thursday.

The next day, at the nearby forested San Pedro River, Bob Glotzhofer, Clark Shiffer, Dennis Paulson, Duncan Cuyler, Sid Dunkle, Steve Valley, and myself added *Aeshna dugesi*, *A. multicolor*, *Argia lugens*, *A. pallens*, *A. sedula*, *A. violacea*, *Erpetogomphus compositus*, *E. lampropeltis natrix*, *Progomphus borealis*, *Pseudoleon superbus*, and *Sympetrum corruptum*. We had shots at several monster *Anax walshingami* but we all missed!

For a unique birdwatching experience, we took a brief trip to the renowned Ramsey Canyon where we saw eight (8) species of colorful hummingbirds! For the record, the eight species were as follows: Anna's, Black-chinned, Broad-billed, Broad-tailed, Blue-throated, Magnificent, Rufous, and the White-eared. Other birds seen in the desert were the Chihuahuan Raven, the Western Kingbird, and the famous Roadrunners! Clark Shiffer found an *Argia tonto* female on the trash can at the visitor's center and I saw some *Hetaerina vulnerata* on Ramsey Creek. We also made a "pit stop" at a copper mine pit or a gigantic "hole in the ground". Film at eleven!

On our way back to El Paso Friday, some of us stopped at Silver Creek (14 miles north of Douglas on Hwy. 80) and found *Argia extranea*, *A. hinei*, *Aeshna dugesi*, *Anax walshinghami*, and *Pseudoleon superbus*. We saw a strange-looking *Orthemis* but we missed it! Further on, at an unnamed grassy creek and pond about 34 miles north of Douglas, we found *Argia alberta*, *A. nahuana*, and *Lestes alacer*.

Swinging catches of *Ophiomphus arizonicus*, *Erpetomphus heterodon*, and *Argia tonto* were the highlights for most people, although others may put Mary Jane's fantastic catch of that spectacular monster *Anax walshinghami* at the top of the list!

All in all, the 1995 DSA meeting was very enjoyable! We were all glad to see our friends again and meet many new ones! We hope to see everybody again in New Brunswick, Canada next year and don't forget to bring your mosquito repellent and fishing poles!

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THE SOUTHWESTERN MEETING, AUGUST 5-12, 1995

John Michalski

90 Western Ave., Morristown, NJ 07960

Well! It was a grand week, I think we're all agreed on that. I believe this was the largest annual meeting yet, and it looks as though all those attending had a great time. If you weren't able to join us, well we missed you too. Especially felt was the absence of Carl Cook and Minter Westfall. Carl, everybody hopes you'll be back on your feet real soon.

What I'm talking about, of course, was this year's DSA meeting in Silver City, New Mexico. More than forty people participated in one way or another, and a good number of them continued with us westward to Douglas, Arizona, for a few more days of terrific collecting and spectacular sight-seeing.

Jerrell Daigle was our heroic organizer, who did a fine job of getting it all together and keeping it running smoothly. Those who have worked with Jerrell know that he's a no-nonsense collector, and generally wastes no time in bailing out of the car in hot pursuit of dragonflies -- the dragonflies don't usually have time to contemplate their fates before Jerrell has them all rounded-up. We therefore acknowledge not only Jerrell's efforts in organizing this year's meeting, but also his terrific restraint in taking the time to make sure that each and every participant was well-informed and getting the most out of the foray. Well done!

Perhaps our most noteworthy participants were Benjamin Lane, his older brother, his mom (Rhonda Froggett) and aunt (Marietta Froggett). Ben is our youngest DSA member, still a lad, and a good friend and neighbor of Carl Cook's. Ben, you're good company and a fine bug-hunter, and we welcome you to the Order! Rhonda, you're a good mother.

Also along for the ride was Richard Connif and his son James. Richard is a reporter and was writing an article on Dragonflies for SMITHSONIAN magazine, and joined us in order to get an insider's look at the science and workings of odonatology. Did everyone know that? Who among you said something that you now hope does not appear in print? I can just see it now: "*The walls were spattered in haemolymph,*" a grizzled collector recalled, smiling, "*Oh, it was wonderful...*"

I think that's everybody. If I left you out, I apologize most sincerely -- it was a genuine *mob* this time around!

Organizational issues that were tackled at the first night's meeting included the election of officers, the location of next year's meeting (New Brunswick, Canada), and the status of the DSA's "official" collecting policy. On this last issue, it was agreed that it was unwise to take the official vote at the meeting, since only a small portion of the membership was in attendance. You'll get at

least one more chance to read about, and contribute to, our options for a "DSA collecting policy" -- probably in this edition.

Slide presentations were given by Sid Dunkle (including various tropical odonates but also a ten-bug "quiz" on southwestern *Argia*); Nick Donnelly (the *Orthemis ferruginea* scramble); Rosser Garrison (swell bug-hunting in Patagonia); George Harp (odonates in Mexico); Dennis Paulson (the bewildering variety of bright red odonates found throughout the tropics); and John Michalski (he still won't shut up about New Guinea).

I personally flew in to Albuquerque on Friday and on Saturday drove my way to Silver City, with impromptu stops to collect on the Rio Grande just downstream of Elephant Butte Lake (not so hot), and later at Percha Creek in the former mining town of Hillsboro (a nice little stream with many of the species we later found around Silver City), then through the Black Mountains where I found *Oplonaeschna armata* flying in Gallinas Canyon. As I approached Gallinas, I spied a large white net bobbing its way downhill in a small creek. Naturally I veered off the road for a look. "Hello, Ollie", I said. It *had* to be one of us; there really aren't too many possibilities in such circumstances.

Passing the unspeakably immense copper mine on highway 152, I shortly arrived at the Copper Manor Motel where the gang was assembling in the parking lot. It was great to see everyone -- a lot of new faces, a lot of folks I'd heard about for years but never had the chance to meet in person, and a lot of folks I'd met but hadn't seen in years. Terrific!

Sunday's collecting had the group dividing into several factions, one of which headed for the Gila River at the Grapevine Campground, about 40 miles of twisty, turny road north of Silver City, in the Gila National Forest. Another group headed for a place called Red Rock, and a third group went to the Gila River where it crosses highway 180, near the town of Cliff. They also visited a cattail-filled seepage at a place called Mangas Springs.

The Gila River is a spectacular -- though apparently badly degraded by cattle grazing -- river with a bed of light grey rocks and boulders, winding its way through artfully sculpted red sedimentary rock. Here we saw and/or collected *Erythemis heterodon* and *natrix*,

Brechmorhoga mendax, *Libellula saturata*, *Paltothemis lineatipes*, *Argia lugens*, *Enallagma praevarum*, and what I guess was *Hetaerina americana* after all. In a tiny backwater upstream, along the heavily-sedimented branch of the river, Mike May and I collected *Ischnura demorsa* and *denticollis* as well as *Argia nahuana* and *plana*. We also saw *Erythemis collocata* and the ubiquitous *Pachydiplax longipennis*, which in these desert environs is bright pruinose-blue all over its body.

After the day's collecting, Mike, James and I headed the rest of the way to the Gila Cliff Dwellings, which was only four miles up the road from Grapevine but would have been well worth the entire 44-mile drive from Silver City. Other members of the DSA group visited the Cliff Dwellings the previous day.

On Monday, we three set off with several others for the Mangas Springs and lower Gila River (Cliff) collecting locales. At Mangas Springs we saw, photographed, and collected lots of *Aeshna multicolor*, *Libellula saturata*, *Ischnura denticollis* and the words-are-insufficient-to-describe-it *Hesperagrion heterodoxum*. *Hesperagrion* is a coenagrionid damselfly painted in blue and yellow, with a fiery orange tip and bright red eyes, and words are insufficient to describe it. Ailsa, James and I also spent a certain amount of time admiring a cuddly-looking and rather self-confident young skunk. Of course there was bird-watching aplenty, but of this I know very little. In the afternoon we drove back up highway 15 to Cherry Creek, where we collected *Oplonaeschna* and *Cordulegaster diadema*, which Nick admired so much that he returned the following day until he had collected a couple for himself. Only the dragonflies were losers.

One group made a special trip further north, to a place whose name I can't remember, where they photographed and collected a fair number of the extremely local *Ophiogomphus arizonicus*. Those folks returned to Silver City pleased all over with themselves.

On a personal note: One of the really important things that came out of this year's DSA Annual Meeting is that Nick and I agreed that Nick would become my Arch Nemesis. Everyone needs an Arch Nemesis; Sherlock Holmes had Professor

Moriariti. Batman had the Riddler. Frankie Lane had whoever he had. [And *Pachydiplax* had his *Hagenius*. I'm getting into the spirit of this. (ed.)] And I think it really helps if you're good friends with your prospective Arch Nemesis, because then you really know each other well enough to do it right. And basically I'm morally bankrupt and Nick is just a bad man. We think this arrangement is going to work out just fine. We got the ball rolling in Arizona when Nick insisted on taking my picture while I clambered over the U.S.-Mexican border, and I turned the tables and caught him at it instead. We look for further adventures in the future.

On Tuesday, a large number of us headed southwest to Douglas, Arizona. Mike and James May had to return to New Jersey, Ollie and Carol Flint were headed elsewhere, and several others had various commitments. For my part, I drove through the Chiricahua Mountains in order to the visit the amazing stone pillars at Chiricahua National Monument. Enroute I stopped at Cave Creek, just west of Portal, where Duncan Cuyler and I saw an endless stream of *Paltothemis lineatipes*, but very little else. Duncan and I parted ways and I continued up the mountains where I ran into Rosser and Jo Garrison at Herb Martyr dam that was previously a good spot for *Aeshna persephone* and many other things; on this occasion the river was nothing but a dry bed of boulders. We shot the breeze for a half-hour and then I continued on my way to Chiricahua.

Once at the spectacular overlook -- you just can't help thinking how nice it is that someone in our government had the forethought to put places like this aside as national parkland -- someone behind me shouted, "What are *you* doing here?!" It was Ollie and Carol Flint who, it turns out, had obtained permission to collect for a few days in Chiricahua. "Get off my mountain!" was the only reply I could come up with. At Shake Creek, which is the small forest stream that parallels the park road to the overlook, I saw *Archilestes grandis*, *Argia plana* and a large, robin's-egg-blue *Argia* that I think might be *pima*. I didn't collect any, but I got a good enough photo to identify it. Also, I flushed out a giant female *Aeshna* from under a grassy tussock, that is probably *persephone* (got away, of course). Ollie was there primarily to collect Caddisflies. All I can say is some people just can't be reasoned with.

Those who made this leg of the trip assembled at the Douglas Motel 6. I was running a little late, and was trying to locate the Mexican restaurant where the gang was meeting for dinner. Douglas is a small town, but somehow I just couldn't find the place Jerrell had told me about. His restaurant was called "Adam's", and I never did find a place called Adam's. After a prolonged search, a Mexican butcher's wife told me that the only restaurant in Douglas that fit the description was The Alamo, and sure enough everyone was there. "This place is *not* called Adam's," I informed the massed odonatists, a little louder than necessary. "We know!" they retorted. Turns out *everybody* was looking for Adam's. For some reason Jerrell could not Remember the Alamo (no Texan, he). I had heard that one of the main attractions in a good Mexican restaurant is the Mariachis. "You should go to the Casa Grande," someone might say, "the Mariachis there are wonderful." By the time I got to the Alamo restaurant, you didn't need to show *me* a menu -- I just wanted a bowl of those Mariachis. (A joke) At the Alamo we had good Mexican food, and a lot of laughs. And I mean *a lot* of laughs; we were wiping the tears from our eyes. Clark Shiffer told us this story about a farmer with a sick cow, who -- well, never mind.

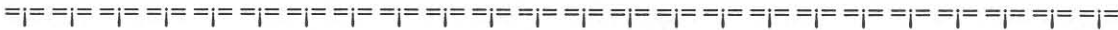
By now we were looking at Wednesday, and we all headed for the John Slaughter Ranch (which is part of the park system), where we hoped to find various goodies like *Coryphaeschna luteipennis* and *Anax walsinghami*. The Ranch is located in hot, rather desolate mesquite scrub country, with several artificial spring-fed ponds and sedgy trickles. Between us, I think Mary Jane Krotzer was the only one to catch a *walsinghami*, though I got a real good look at one before it took off for someplace else -- possibly Mary Jane's net in an oasis a half a mile away. In various ponds and springs we also took *Libellula subornata*, *Erythemis collocata*, *Argia nahuana*, *Libellula comanche*, *Aeshna multicolor* (which ran thick here), and some of us saw the red-faced *Dythemis fugax*. Man, was it hot as blazes out there! But it was a lovely place and the company was unbeatable -- Ailsa D. says the mix of personalities at our gatherings is "delicious." I think we all had a lot of fun.

Another site we had hoped to visit, Leslie Canyon, was apparently not available to us after all, so on Thursday some folks planned to go back to the

John Slaughter Ranch, some were heading further west, and the rest disbanded and headed in our separate directions. For my part, I headed northwest to Tucson, where I visited Sabino Canyon (hotter than hot as blazes), which was beautiful but which had dried up to nothing but a series of isolated, very warm, pools. I had arrived at 12:30, and very little could take the midday heat -- even the bugs have enough sense to stay out of the sun in Tucson -- but I managed to collect several *Argia pallens*, some *Enallagmas* and photograph *Pseudoleon superbus*, which is a rather impressive black-winged libellid that lands on streamside boulders and presses the tips of its wings down against the rock. On Friday I visited the Arizona-Sonoran Desert Museum and Saguaro National Monument, both well worth the effort, and then started my long drive back to Albuquerque. Enroute I collected awhile at the Rio Grande at Las Cruces, where I obtained *Ischnura*

barberi along with sundry and various other zygoptera.

I believe I speak for most of us when I say it was a splendid trip, and it wouldn't take a hard sell to get us to come back for more. Personally, this was my very first trip to the southwest, and I loved every minute of it. I actually shot almost half as much film in one week as I used in two months in New Guinea. I found Arizona and New Mexico absolutely breath-taking -- I'm not the first traveller to make that observation. It was great to see everyone there, and we hope that those of you who couldn't make this one will be able to attend the next one. Happy trails, yahoo, thanks again Jerrell, and yo-diddle-oh-hi-ho-heh. And, by the way, the Guidance Counselor says, *Don't worry, I'll straighten him out.*



ENGLISH NAMES, SCIENTIFIC NAMES, AND COMMON NAMES - THE CONTROVERSY SO FAR AND A REQUEST FOR *YOUR* PARTICIPATION.

Enclosed in the envelope with this issue of **ARGIA** is a proposed list of English names of North American Odonata prepared by Dennis Paulson and Sid Dunkle. Many of you have seen a previous list, or at least seen reference to these names. Dennis and Sid have sent this list to **DSA** in the hopes of obtaining comments from the members of **DSA** on the suitability or attractiveness of the names, so that a final list can be prepared that represents a consensus view.

English names than their scientific names. The English names, then, are also the common names and no enthusiast in one of these groups is unacquainted with the English names. The English names of dragonflies and damselflies are not common but they may well be so in the future.

Informal discussions about "English names" have shown that members of the **DSA** are deeply divided on the issue of "common names" and uncertain how to proceed. One group does not want to adopt or even recognize English names, and another wants to introduce, standardize, and endorse these names.

However, for Odonata, the names in common usage are the scientific names, which, then, are the common names by definition. In this sense our names are like those used by gardeners, who refer to their flowers by names like "Chrysanthemum". Odonatists communicate with each other using the scientific name (commonly only the species names, because there few possibilities of confusion) and find these names both precise and convenient. Many of us feel that beginners do not have difficulty with scientific names.

The main motive for introducing English names is that these names may be received more readily by beginners. The success of field guides which use these names suggest that English names help to overcome a barrier to acquaintance with these insects. Other animal groups popular with amateurs and enthusiasts (birds, butterflies, fish, snakes, etc.) are more commonly called by their

If English names are introduced, then it is likely that there will be two sets of names in usage, which is not the case with other groups, such as birds. A potential hazard in having two sets of names is that communications between a person using one set of names might be difficult with someone only familiar with the other set of names. The **DSA** has no wish to unwittingly create confusion and has

latter part of April. They were first observed in New York (Westchester County) on 3 May. This species was second in abundance in the flights witnessed by Sones (1995) on Cape Cod. Donnelly (1992) noted that *semifasciata* was sporadic in upstate New York: "In Broome County it was common in 1970 and 1983 but absent in other years during the period 1967 to 1990." In southern New York (Westchester, Rockland, and Orange Counties) it is apparently resident and has been recorded by Soltesz every year since 1983, but the appearance of mature individuals in early May had been noted only twice before this year.

Libellula vibrans presented a particularly striking example of migration this spring. In Cumberland County, New Jersey, Barber witnessed a sudden influx on 20 and 21 May, the earliest dates that he has recorded them. They were first seen in New York on 27 May (Steve Walter, pers. comm.). Soltesz, who has been surveying the Odonata of the West Point Military Reservation for the past two years, did not encounter *vibrans* last year (1994) despite considerable collecting effort in many sites with suitable habitat. This year, neither exuviae, teneral, nor adults were seen until 4 June, when two adult males were seen over a puddle on a dirt road. The following day, 5 June, *vibrans* was suddenly abundant and actively reproductive at nearly every site visited. Some vernal ponds had over a dozen males competing for space. One site, which had been visited six times in 1994 without encountering *vibrans*, had at least 20 males on 5 June. For the next week or so, competition was so fierce that the species was not uncommon at such atypical habitats as rivers and lakes. Barber noted large numbers in similar atypical habitats in Morris and Sussex Counties, New Jersey, on 11 and 12 June.

The inclusion of *Libellula axilena* in these observations is especially interesting and possibly solves a mystery concerning early records of this species in New York. *Axilena* is rare north of the New Jersey pine barrens and prior to this year had been reported as far north as New York only twice. One was an old 1908 record from Staten Island by Wm. T. Davis (1913), and the other was a pinned specimen found in an insect collection in the basement of a nature center (Butler Sanctuary, Mt. Kisco, Westchester County). The collection had been made by David O'Connor in 1983 as a summer intern project. Assuming that a population of *axilena* existed somewhere in Butler

Sanctuary, Soltesz spent a considerable amount of time searching for it to no avail. It is now apparent that such a population never existed, but that 1983 may have been another spring migration year. This is further supported by Donnelly's (1992) account of having found *L. semifasciata* near Binghamton in 1983. The resident/migrant status of *axilena* in southern New Jersey is unclear. Although first-sightings of adults usually occur in early to mid-June, Barber has not recorded teneral before mid-August. This year, *axilena* was first observed in New Jersey (two males) by Barber on 26 May, the earliest date on record in Cumberland County (previously 6 June). *Axilena* was first seen in New York on 4 June at Ward Pound Ridge Reservation in Westchester County (Steve Walter, pers. comm.). Steve Walter and Skip Blanchard saw it on 16 June at three sites on Long Island in the town of Southampton (Suffolk County). Soltesz saw a single male at West Point (Orange County) on 27 June. Jack Focht and Spider Barbour (pers. comm.) saw several individuals at a fen in the Arden Valley - Surebridge region of Harriman State Park (Orange County) on 13 July. The latest New York sighting was at Ward Pound Ridge Reservation on 29 July (Steve Walter, pers. comm.). Carpenter discovered *axilena* in Rhode Island on 4 August, apparently the northernmost record ever for the species (detailed elsewhere in this issue).

Libellula pulchella has been a suspected migrant by Barber, who has observed them from boats on Delaware Bay in early summer. Adults have been noted in Cumberland County, New Jersey, in early June with no previous sightings of teneral. This year, Barber found six adults (all males) at three sites on May 26, his earliest local record for the species. After this date, no more were recorded until 7 July.

Barber has also suspected spring migrations in *Pachydiplax longipennis*, having observed adults landing on boats in the middle of Delaware Bay in early June; as on 6 June 1992 when eight were observed on a boat about 12 km from shore. This year, Barber recorded them in Cumberland County, New Jersey, on 21 May, actively reproductive. Within the next two weeks they were abundant on pond and lake shores in Cumberland and Atlantic Counties (Jim Dowdell, pers. comm.). Barber had been monitoring odonate emergence at Cumberland County sites three to four days a week from mid-April to June and neither exuviae nor

tenerals were seen before the arrival of the adults. Likewise, Dowdell observed none during his Tiger Salamander surveys until large numbers of adults appeared in late May.

Epiaeschna heros was also involved in this spring movement, though more so near the coast than inland. Barber witnessed its movement through southern New Jersey on 19 April, when 17 adults were observed along sand roads in regions of pine barrens (Cumberland County). They remained abundant through mid-May and, by early June, south Jersey sightings became fewer and sporadic. Apparently this wave had continued to move north and eastward for on 2 and 6 June, *heros* was the most abundant species in the Cape Cod flights (Sones 1995). Carpenter reports a single *heros* from Block Island, 3 June, flying low to the ground, so weak that it was captured in flight with bare hands. Presumably it had exhausted itself in long distant flight over open water, Block Island being about 20 km off the eastern tip of Long Island. Dragonflies coming up the east coast, upon reaching Montauk or Orient Point at the east end of Long Island, would be faced with the choice of either making a transmarine flight past Block Island to Rhode Island or Cape Cod, or flying 160 km back to New York City and then proceeding up the south shore of Connecticut. The Block Island *Epiaeschna* (as well as Barber's observations on Delaware Bay) indicates that at least some of these dragonflies take the open-water route. We should point out, however, that observations on fall dragonfly migrations at Fort Tilden, N.Y. (Steve Walter, pers. comm.) and at Cape May Point, N.J., show a strong tendency for dragonflies to turn back at the tip of a peninsula. In New Jersey, southward migrating dragonflies turn northwest at Cape May Point and follow the north shore of Delaware Bay at least as far as Cumberland County before crossing the bay to Delaware. During these spring flights also, Sones' observations suggest that the dragonflies, after flying up the outer cape of Cape Cod, were changing direction near Provincetown to head back toward the base of the cape.

Epiaeschna was a less spectacular migrant at inland localities. It appeared at West Point on 5 June along with the *Libellula vibrans* invasion, but only a few individuals were observed.

To try to determine the possible cause of this migration, we examined weather records published by the National Oceanic and Atmospheric

Administration ("Daily Weather Maps, Weekly Series" from the Climate Analysis Center; "Weekly Climate Bulletin" from the Climate Prediction Center; and "Weekly Weather and Crop Bulletin" from the NOAA/USDA Joint Agricultural Weather Facility). Records were examined for the past six years (1990 to 1995) and also for the year 1983 for which there are records of southern species (*Libellula semifasciata* and *axilena*) occurring north of their normal range.

This year's migration seems to have been caused by two factors: (1) drought conditions in the southeastern states where presumably the migration originated, and (2) southerly winds along the east coast sufficient to transport the dragonflies into the northeastern states.

Drought conditions may be an important causative factor which initiates migrations such as this. It is probably no small coincidence that all of the dragonflies involved in these observations are vernal pond species. Should small, shallow, or otherwise impermanent aquatic habitats begin to dry up in the spring when early-season species are maturing and seeking out breeding territories, these four *Libellulas* and *Epiaeschna* would certainly be among the most affected and thus most likely to migrate away from the drought-affected region. *Pachydiplax*, though much broader in habitat, might be similarly affected by an increase in competition for remaining habitats, perhaps forcing a small part of the population into migration. It seems to us that for these species a selectively advantageous response to drought conditions would be to ride the currently prevailing winds as they are likely to carry them to regions of lower atmospheric pressure and greater rainfall.

The drought conditions in the southeastern states this spring were severe. Virginia, South Carolina, and Georgia each had one of the ten driest Aprils in 100 years. North Carolina had the driest April on record ever. Dry conditions continued through May leaving nine eastern states with one of their ten driest seasons (March to May) on record.

Concurrent with the drought conditions in the east was a pattern of severe storms in the midwest accompanied by heavy rains and flooding. Throughout the spring, a series of strong low-pressure systems developed over the central plains states and moved northeast toward the Canadian

Maritime Provinces. As they passed over the Great Lakes and eastern Canada, each of these systems created a day or two of fairly strong (5-20 knots) southerly winds along the Atlantic Coast. Between early April and early June of 1995, there were at least ten of these storm systems collectively generating seventeen days of predominantly southerly winds along the east coast.

The first large system developed over the Great Plains on 11 April, moved over the Great Lakes on 12 April, and over Quebec on the 13th. On that day southerly winds were recorded along the east coast from Massachusetts to the Carolinas. It was during the following days (15 and 16 April) that Barber witnessed the arrival of *Anax junius* and *Libellula semifasciata* in southern New Jersey.

The next system began developing over the southwestern states around 15 and 16 April and, by 18 April, was a powerful depression centered over Iowa. The next day, 19 April, the storm moved across the Great Lakes into Quebec setting up southerly winds from Maine to North Carolina. It was on this day that *Epiaeschna heros* arrived in Cumberland County, New Jersey.

Subsequent storm systems passed through the same Great Plains to Great Lakes pattern on 27 April and 9 to 11 May with no closely associated dragonfly movements observed. Then a powerful system rolled through on 17 to 19 May followed closely by a lesser system on 21 May. These four days of fairly strong southerly breezes were accompanied by the movement of *L. vibrans* and *P. longipennis* into southern New Jersey.

The next system, moving eastward along the Canadian border, passed through Quebec on 24 May, creating southerly winds from Nova Scotia to the Carolinas. This was shortly followed by the first observations of *L. axilena* and *pulchella* in southern New Jersey on 26 May, and the first observation of *L. vibrans* in New York on May 27.

Shortly thereafter, there came a change in the upper-air pattern, and the jet stream became temporarily situated farther north over Canada. A cold front stalled over southern Canada and, for two days in a row, 2 and 3 June, strong southerly winds predominated on the east coast. It was during this event that Sones observed her impressive dragonfly movement on Cape Cod, and that *E. heros* was found on Block Island. The

following days (4 and 5 June) brought large numbers of *L. vibrans* and at least one *L. axilena* into southern New York.

Since Barber has witnessed evidence for spring migration more frequently in southern New Jersey over the past years than we have in New York or New England, it seems possible that this may be a regular phenomenon which varies only in degree from year to year, 1995 being an extreme example. This raises the question of whether or not drought conditions are necessary to initiate a migration, or is there an annual dispersal-related migration which varies yearly according to the frequency or intensity of southerly winds. The number of days in which southerly winds predominated along the Atlantic coast between 10 April and 10 June for the years 1990 to 1995 were 15, 12, 9, 15, 17, and 17, respectively. Although 1995 is at the upper end of this range, it is nevertheless apparent that another factor, such as drought, must have contributed to the magnitude of this migration. However, we find it interesting that in the year 1983, when we suspect a migration might have occurred, there was no significant drought in the south. Though rainfall was below average in May 1983, excessive rains in April kept soil and crop moisture levels (and presumably aquatic habitats) at about average throughout the spring. But between 10 April and 10 June of that year, there were a remarkable 25 days of southerly winds. This would suggest that unusually frequent or prolonged southerly winds may draw southern species far northward through normal dispersal or vagrancy without the stimulus of a drought. Or there may be other causative factors involved, such as population increases, etc.

Clearly, this is a fascinating subject with many interesting questions to be answered. We feel that the evidence this spring demonstrates that spring migration is indeed a real phenomenon, occasionally of considerable dimension, involving many species, and deserving of much attention in the future. We also feel that the recent increase in "dragonfly watchers" in the northeast and their willingness to communicate their observations is what brought this whole phenomenon to light. As the network continues to grow, the many mysteries of dragonfly migration should gradually become clear.

[Food for thought: Do Zygoptera migrate? Donnelly (1992) found *Lestes disjunctus australis*

in Binghamton only in 1970 and 1983, the same two years he found *L. semifasciata*. May someone someday witness a swarm of *Lestes* flying over Block Island Sound?]

Literature Cited:

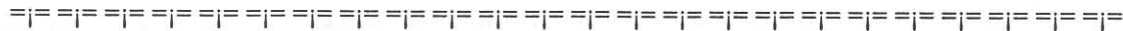
Davis, Wm. T. 1913. Dragonflies of the vicinity of New York City, with a description of a new species. J. New York Ent. Soc. 21(1):9-29

Donnelly, T. W. 1992. The Odonata of New York. Bull. Amer. Odonatology 1(1):1-27

May, M. L. 1992. Migrating dragonflies in North America. ARGIA 4(2):4-8

May, M. L. 1993. Interim report on DSA dragonfly migration project. ARGIA 5(1):12-13

Sones, J. 1995. Dragonfly flights on Cape Cod, Massachusetts. ARGIA 7(2):8-10



ODONATES AROUND THE COUNTRY - IT'S BEEN A REWARDING SEASON

Nick Donnelly

So numerous have been the communications announcing recent significant odonate finds and successful meetings that I have placed them in a regional framework. The New Mexico - Arizona meeting appears separately, but some interesting odonate occurrences found by persons traveling to or from this meeting appear below.

MARITIME PROVINCES (New Brunswick Prince Edward Island, and Nova Scotia): Paul-Michael Brunelle has written telling of some of his own finds and of the activities of ADIP (Atlantic Dragonfly Inventory Project), which is devoted to the Maritime provinces, Labrador, Newfoundland, and Maine. Paul himself made one of the most interesting finds of the year recently -- a new species of *Neurocordulia* on a tributary of the St. Croix River near St. Stephen NB. He and Nick Donnelly are studying the new species and will describe it. It is a small dark species apparently not very closely related to either *obsoleta* and *yamaskanensis*, the two other northern species.

Paul also says that ADIP has compiled a substantial odonate list for the maritimes. At their June meeting in southern New Brunswick, and at other times, they have added many provincial records. Karl Dexter leads the collectors in terms of number of records: in New Brunswick he has added *Lestes vigilax*, *L. inaequalis*, *Enallagma geminatum*, *Anax longipes*, *Aeshna constricta*, *A. tuberculifera*, *Ophiogomphus colubrinus*, *Stylurus scudderi*, *Dromogomphus spinosus*, *Epithecina princeps*, *Somatochlora williamsoni*,

Pachydiplax longipennis, *Libellula incesta*, and *Leucorrhinia frigida* to the provincial list.

In Nova Scotia Paul-Michael Brunelle has added *Coenagrion resolutum*, *Ophiogomphus rupinsulensis*, *Enallagma aspersum*, *Nasiaeschna pentacantha*, *Ophiogomphus anomalus*, and *Somatochlora albicincta* to the provincial list. Also in this province Nancy House added *Lestes eurinus* and *Enallagma aspersum* and Nelson Watson added *Tramea carolina*.

In Prince Edward Island The Harding dynasty seems to be setting records of their own. Jacob Harding (age 9) has added *Calopteryx aequabilis*, *Aeshna eremita*, *Gomphus spicatus*, *Libellula julia*, *Sympetrum semicinctum*, and *S. vicinum*. Jordan Harding (7 years), not to be outdone by his big brother, added *Enallagma minusculum*, *Boyeria vinosa*, *Cordulia shurtleffi*, and *Leucorrhinia glacialis*. Robert Harding (the dad) found *Aeshna constricta*. Jim Harding (the grandad) added *Williamsonia fletcheri* and *Somatochlora kennedyi* to the Nova Scotia list. Clearly he is a bog man.

The ADIP members also include Tom Herman and Joseph Purcell of Nova Scotia. Perhaps the most cheering news about the ADIP is the number of young members. In addition to the Harding sons, enthusiastic collectors include Caitlin Parlee (9 years), a Harding relative, and her sister Hilary (6 years)

ONTARIO: Recently **Raymond Hutchinson** sent me a male and female *Enallagma* for identification. These were from the Pinery Provincial Park, near Sarnia, on Lake Huron. The specimens were *E. traviatum westfalli*, which is both a provincial and national record for this species.

Paul Pratt wrote that he had taken *Anax longipes* at the Nature Center at LaSalle.

Peter Burke's account of *Ophiogomphus anomalus* at Algonquin Provincial Park is given elsewhere.

MASSACHUSETTS: A recent issue of **ODE NEWS** (ed. **Blair Nikula**, 2 Gilbert Lane, Harwich Port MA 02646) tells of the rising interest in dragonflies among the southeast Massachusetts naturalist population. This latest issue tells us of two new and remarkable records for Massachusetts: *Somatochlora incurvata* at Petersham (during a large field trip led by **Dick Foster** and **Dick Walton** on 22 July), and *Aeshna subarctica* at Ashburnham by **Dick Foster** on 9 August. *S. incurvata* has within the last two years been added to the lists of Quebec and New York and has been found at several additional widely separated sites in Pennsylvania. Is this species expanding its range, or has it simply been overlooked? *A. subarctica* has been known in the east from Maine and New York, and perhaps we should search more diligently for it.

NEW YORK: Following **Paul Novak's** find of *Ophiogomphus colubrinus* on the Ausable River near Lake Placid, both **Bob Barber** and **Nick Donnelly** added several more exuvial records on that river. This species appears to be well established upstream on both the east and west branches of the river and downstream on the combined river below Ausable Forks. **Dave Wagner** recently found additional adults of the species.

Also in the Adirondacks **Dave Wagner** found a female of *Somatochlora incurvata* at Bloomingdale Bog, providing a second state record.

Bob Barber also found a remarkably northern occurrence of *Progomphus obscurus* on the Schroon River at Severance, in the eastern

Adirondacks. He topped this by finding another county record for *Somatochlora cingulata*: at the Boreas River in Essex County. Bob returned to the site of his earlier *Ophiogomphus anomalus* exuvia find and found an adult near Warrensburg in early July. He also found a population of *Nasiaeschna pentacantha* on the Boquet River (Essex Co.).

On the Delaware River **Ken Soltesz** and **Paul Novak** found numerous exuviae of *Ophiogomphus anomalus* near Hancock, heightening our interest in the habits of the elusive adults of this lovely river species. In Albany County **Paul Novak** has been taking *Anax longipes* repeatedly at a friend's pond, where it appears to be well established.

Ken Soltesz has been doing a survey of the West Point Military Reservation, which includes some good wetlands. His project is still in progress, but this summer he found *Gomphus rogersi* (a northeastern record), *Libellula auripennis*, and *Enallagma laterale*. This seems to be another dramatic case of habitat and faunal preservation on military reservations.

Edward Stanton, while collecting lepidoptera for a Nature Conservancy Survey, found a *Gomphus fraternus* in a swamp near Rome, Oneida Co. NY. This is the second recent record for the state (**Ralph Charlton** found it near Rochester a few years ago.).

NEW JERSEY: **Bob Barker** tells me that **Steve Walter** found *Brachymesia gravida* at Cape May on 23 August. This is a state and northernmost record for this southern species. Bob also reported an unusual mis-mated pair of libellulids: a male *Erythrodiplax berenice* and a female *Celithemis elisa*.

Allen Barlow says by e-mail that he is finding *Cordulegaster erronea* in the hilly areas south of Morristown. He says it is very habitat specific and hopes to have more details for us later. According to **John Michalski**, Allen has earned the title "Mr. Cordulegaster".

PENNSYLVANIA: **Clark Shiffer** manages to keep Pennsylvania in the news with new finds, and this was the summer for *Libellula*. He found several *L. axilena* near Whipple Dam, Huntingdon Co., between 5 and 15 June; this appears to be a

part of the remarkable "explosion" of this southern species in the northeast this year. Clark's note tells us that the species was first taken in the State by George Beatty in Centre Co, in 1946. Clark found it at the famous Ten Acre Pond in 1990 and this year on 1 June. Also, Clark found *L. auripennis* at the Huntingdon Co. locality this year (5 June). This normally coastal species has a few inland localities, of which some near State College seem to provide the most records. To round out this genus, Clark took *L. vibrans* near Whipple Dam (3 and 4 June) and near Ten Acre Pond (31 May), and also, more distantly, in Cumberland County (19 July). *Sympetrum obtrusum* was also taken for the first time in Huntingdon Co. (12 and 30 July).

Clark's note tells of the finds of **Robert W. Criswell**, of the Pennsylvania Game Commission, who found *Aeshna mutata* in Sulphur Springs Bog and Toplovich Bog (17 June), both in Warren Co., and Conneaut Marsh (19 June) near Geneva, Crawford Co. Criswell also took *Anax longipes* at Sulphur Springs Bog on 17 June.

DELAWARE: Hal White sent the following e-mail: "I collected 2 male *L. axilena* on 4 June 1995 at a vegetation-choked, woodland drainage ditch that crossed a power line right of way in Lums Pond State Park, New Castle Co., DE. There were several other males there and a mating pair was seen. This was the first time I had observed *L. axilena* in the Park, a place that I have visited almost every year for over two decades. Interestingly, on the same day at another location in the Park, I collected 2 male *L. vibrans* and observed others at a cove of Lums Pond. Although I have seen this species before at other places, usually flood plain ponds in the area, this was the first time I had observed it at the Park. My impression was that both species were more common this spring than in past years. That seems to correlate with Clark Shiffer's observations in central PA and the note on swarms of Odonata on Cape Cod that included *L. vibrans*, a species I never have seen in Massachusetts and had questioned historic records of it."

Hal also e-mails that a friend at a USDA lab is studying *Calosoma* beetles, which rove tree trunks searching for larvae. His friend put out traps to catch *Calosoma* on tree trunks and caught several

Epiaeschna heros. Hal asks if any people have had a similar experience.

MARYLAND: Richard Orr provided some additional information about Odonata from the Potomac River near Washington. He states that *Gomphaeschna furcillata* numbers fluctuate greatly from year to year. He says that during April 1994 the species was the most common odonate at Great Falls. He wonders why I missed it in my 1961 list, and the answer might well be that I missed the early flight season entirely. Richard also says that *Gomphus vastus* is the dominant *Gomphurus* along the C&O Canal above Great Falls (specifically Violet's Lock). I had found *vastus* to be fairly common in 1949 and 1950, when I collected there. When I returned in 1983 I found several *fraternus* and no *vastus*. Richard has found only one *fraternus* and nearly a hundred *vastus*. My 1961 list (Odonata of Washington DC and vicinity, Proc. Ent. Soc. Wash., 63:1-13) also notes in the early years of the century occurrences on two successive years of *G. ventricosus* at Great Falls. Populations of several *Gomphurus* of the eastern United States seem fluctuate far more than in the mid West.

Richard has been studying the Odonata just upstream of Washington for a few years (see his report on Plummer's Island; **ARGIA** 7:1). He has enlarged the 1961 list considerably, adding the following species for this area: *Cordulegaster obliqua*, *Arigomphus villosipes*, *Gomphus lividus*, *Anax longipes*, *Gomphaeschna furcillata*, *Nasiaeschna pentacantha*, *Didymops transversa*, *Macromia taeniolata*, *Neurocordulia virginianensis*, *N. yamaskanensis*, *Celithemis eponina*, *Libellula axilena*, *Ladona deplanata*, *L. semifasciata*, *L. vibrans*, *Pantala flavescens*, *Tramea carolina*, *Lestes disjunctus*, *Enallagma basidens*, *Ischnura hastata*, and *I. kellicotti*.

VIRGINIA: Steve Roble recently found a small population of *Celithemis martha* in the George Washington National Forest, in Augusta Co. A record so far from the coast is notable for this species. Steve also cautions that his previous record of this species from Caroline Co. VA is the southernmost for the state, but that the species, of course, occurs in North Carolina.

Steve also reports finding *Ischnura prognata* at Fort Belvoir, near Washington. Is this another case of military reservation refugia?

TEXAS: John Abbott recently sent along a *Micrathyria hageni* for confirmation of identification. It was found on the Devil's River in Val Verde Co., near the Rio Grande River, on 14 Aug. 1993 by C.R. Nelson. This species has been taken infrequently in south Texas.

On the way to the New Mexico meeting Ailsa and Nick Donnelly stopped briefly in Texas. Balmorhea State Park (Reeves Co.) had been one of my favorite places in 1954, but we found the park severely modified. The main spring-fed channel had been cleaned up, with all emergent vegetation removed, and the odonate fauna correspondingly depleted. However, because of two endangered fish, the park authorities had built a special side channel. This channel now has a small population of *Macrodiplax balteata*, which is a significant addition to the fauna of the park. Mating pairs of this species are one of the strangest sights in the world of dragonflies. They oviposit in tandem, with a black male grasping a very pale yellow female. If ever a species appears to be mis-mated, this one certainly does!

We were also surprised to find at Balmorhea a substantial population of *Gomphus militaris*, including freshly emerged specimens, as late as the 3rd of August. This late date may reflect the shift in seasons seen in many desert stream species, for whom the "spring" season actually occurs in the late summer when the monsoonal rains begin. Other gomphids of interest here included *Phyllogomphoides stigmatus* and *Erpetogomphus heterodon*. A lone *Macromia annulata* patrolled the bare and desolate canal, perhaps remembering the good old days when there once was abundant emergent vegetation. . .

At Davis Mountains State Park there is almost no surface water, and odonates are correspondingly scarce. Ailsa and Nick found many *Argia hinei* at a tiny spring with a concrete trough. In nearby Limpia Creek they found *Hesperagion heterodoxum*. John Abbott also sent along a specimen of *Sympetrum illotum*, which had been taken in the Davis Mountains at Limpia Spring, Jeff Davis County on 20 May 1993 by C.R. Nelson.

At the Colorado River near Bend, San Saba Co., Ailsa and Nick found females of *Gomphus vastus*, which is not a widespread species in Texas and

which flies there much later (2 August) than further north.

Following the New Mexico - Arizona excursion we visited Garner State Park on the Rio Frio in Uvalde Co. The park has changed drastically since my 1954 (ARGIA 7:2) and brief 1956 and 1961 visits. Trash was everywhere - especially in the still beautiful, clear river. Odonates were very scarce. However, we found a substantial population of *Protonевра cara* along a shaded bank. Imagine tandem pairs trying to find a suitable place to oviposit among a mass of floating, mainly plastic, trash! We also saw a *Libellula croceipennis*, which is at least new for me in this part of Texas.

Sid Dunkle has added another interesting odonate record from the desert country of west Texas: *Tramea insularis* at Big Bend National Park, Brewster Co., on 23 May 1995. It is a long way from the Bahamas. Speaking of which, I have a record from June, 1956 of an *Anax amazili* from Balmorhea State Park, Reeves Co. How do these tropical species make it to west Texas?

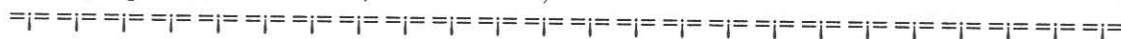
NEW MEXICO: Prior to the DSA meeting Dennis Paulson and Bill Mauffray visited Red Rock (Grant Co.) and found several interesting species at a shallow marsh in a "Wildlife Area". They found *Lestes alacer*, *Ischnura cervula* (southeastern range record?), *Libellula nodisticta*, and *Erythrodiplax connata* (state record?)

The San Francisco River a few miles west of Luna, Catron Co., proved to be so much fun that many groups visited it separately. The major feature here was *Ophiogomphus arizonicus*. When Ailsa and I arrived several days after everyone else they were still quite common and I took many very good photos. The best find here was an *Aeshna persephone*, caught by Sid Dunkle on 7 August. In the woods along the highway was a magnificent group of elk browsing casually.

ARIZONA: The DSA post-meeting trip to Douglas, and to the Slaughter Ranch - San Bernardino Wildlife Refuge produced some records that may be overlooked in the accompanying articles. The *Argia alberta* and *Ischnura ramburii* that were found here represented considerable range extensions.

A flurry of e-mail messages has just brought the news that the *Perithemis* Sid Dunkle and Dennis Paulson caught at the Slaughter Ranch and San Bernardino NWR are the species *domitia*, a possible new record for Arizona. Dennis goes on to say that he caught *intensa* at the San Pedro River. Sid and Dennis advise the participants on the DSA trips this summer to check their *Perithemis* carefully. I would add that *tenera* seems variable along the southern US border and seems to grade into *mooma*. Clearly there is a lot to learn in this genus.

Following the DSA trip, Dennis Paulson and several others visited Silver Creen NE of Douglas (11 Aug.) - a place he recommends. "At one point a pair of peregrines soared low overhead just as a *walsinghami* flew by, a real conflict of interest." [A few weeks earlier I had had a similar conflict when I interrupted a search for *Ophiogomphus colubrinus* exuviae on the Ausable River to watch a peregrine try for several minutes to catch a tree swallow.] Among odonates found by the group were *Argia pallens*, *A. extranea*, and *A. hinei*,



ARE YOU PACKING A NET, PILGRIM? or A SODBUSTER LEARNS THE FAST DRAW!

Roy Beckemeyer

My first thought as I approached a group of folks in the parking lot of the Copper Manor Motel in Silver City, New Mexico to begin my first DSA meeting was "Wow! I've never seen so many cool dragonfly tee-shirts!". My initial greetings were from John Michalski, Bill Mauffray, Clark Shiffer, Ailsa Donnelly, and Rosser Garrison, followed shortly thereafter by other DSA luminaries. The rest of the evening, which included a great Mexican buffet and a short business meeting followed by an *Argia* slide show and quiz put on by Sid Dunkle, was not only interesting, but warm and welcoming. I guess I'd say that I never felt excluded even though there were many present who were old friends - their conversations were always open to the "strangers" like me who felt like strangers for a few minutes at most.

The collecting trips were also very instructive, with expert net slingers whacking away right and left, churning the Gila River to a froth and smashing rocks like veteran chain gang members. The DSA folks must all be former baseball sluggers or tennis

Anax walsinghami (Sid caught a female with his bare hand as it flew by - now that's cooooo!), and *Aeshna dugesi*. At a small marsh along highway 80 6 km SW of Apache that same day they found more *Argia alberta* and *Lestes alacer*.

After this trip, Ailsa and Nick Donnelly visited Garden Canyon in Fort Huachuca, a favorite birding spot. We found several odonates, though none of surpassing interest. Our best find was a seemingly tame goshawk that haunted the picnic grounds. We then went to the Apache - Sitgreaves National Forest in Greenlea Co. At a high elevation lake (Acre Lake near Hannagan Meadow), in a forest that seemed too humid to belong to Arizona, we found *Aeshna interrupta interna*.

Rosser and Jo Garrison visited his parents at Cave Creek, north of Scottsdale, after the DSA meeting. Rosser reports *Argia oenea* "more abundant than I had ever seen it before".

pros, or at least look as if they are in training! I had the opportunity to have no less an expert than Oliver Flint inform me that a *Brechmorhoga mendax* was flying behind me, "No, on the other side!", and to just miss striking out as my third wild swing somehow caught the female aerobatics star as she flew around me. My first Brech! ("Whew! I didn't fail in front of one of the pro's!") [You haven't lived until you have seen one of the "pro's" fall on their face! ed.] Other specimens were tougher, and John Abbott, my collecting partner for the day, and I tried to net a stream-smart *Paltothemis lineatipes* for half an hour while it flew from one side of the river to the other with impunity.

Other collecting highlights of the week included: collecting my first female Gomphidae, an *Erpetogomphus lampropeltis*, that was lazily ovipositing in a shaded, shallow area of the Gila River by pancaking her as she flew nonchalantly under my poised and ready net; succeeding at Ken Tennessen's trick of holding out a white net bag

highest concentration of the Carolina Satyr (a southern species of butterfly) in Maryland and is home to a number of state listed plants such as the Virginia heartleaf (*Hexastylis virginicum*), Twisted Spikerush (*Eleocharis tortillalis*), and the Delicate Sedge (*Carex leptalea*). Because of the sensitive habitat and the impact visitors would have on the nesting herons the preserve is only open to scientific research or special guided trips by the Maryland Nature Conservancy.

So when I was approached by the state of Maryland and asked if I would be interested in Surveying the Upper Nanjemoy Creek Watershed for Odonates, I answered in as calm of a voice as I could muster -- "YES OF COURSE -- ABSOLUTELY YES -- WHEN CAN I START?"

Armed with a Maryland Natural Resource Permit, binoculars, insect net, and an assortment of field gear, I shared upper Nanjemoy Creek with the Great Blue Herons, Dwarf Wedge Mussels, and my favorite bugs from April, 1994 to April of 1995.

I focused on three kilometers of Nanjemoy Creek and Beaverdam Creek (a major tributary) between Hancock Run road and Route 6. I tried to visit all of the various wetland habitats that existed along the stream corridor. These basically included the stream proper, swamps, oxbow ponds, and seepage springs.

During mid-April, 1994 on my first visit, I had no more than parked my car along Hancock Run Road next to Beaverdam Creek, when I was immediately inundated (even before I could get the net out of the back of the car) with numerous dragonflies hawking over the road. What a wonderful way to start a dragonfly season with *Gomphaeschna furcillata* and *Epitheca spinosa* in healthy numbers within arm's reach. It also did not take long to discover that both *Helocordulia selysi* and *H. uhleri* were patrolling small portions of the nearby Beaverdam Creek. It was obvious to me that the upcoming year was going to be productive.

I visited Nanjemoy 6 more times before the permit expired. These excursions resulted in identifying forty-eight (48) species of dragonflies and damselflies. Both the adult and larval habitats were sampled. The following is the complete list of odonates observed in the 3 km corridor of Upper Nanjemoy Creek and Beaverdam Creek:

PETALURIDAE -- *Tachopteryx thoreyi*
GOMPHIDAE -- *Gomphus exilis*, *G. lividus*, *Hagenius brevistylus*, *Stylogomphus albistylus*
AESHNIDAE -- *Anax junius*, *Basiaeschna janata*, *Boyeria vinosa*, *Epiaeschna heros*, *Gomphaeschna furcillata*, *Nasiaeschna pentacantha*
CORDULEGASTRIDAE -- *Cordulegaster maculata*
MACROMIINAE -- *Didymops transversa*, *Macromia illinoiensis georgina*
CORDULIINAE -- *Epitheca cynosura*, *E. princeps*, *E. spinosa*, *Helocordulia selysi*, *H. uhleri*, *Somatochlora linearis*, *S. tenebrosa*
LIBELLULIDAE -- *Erythemis simplicicollis*, *Libellula cyanea*, *L. incesta*, *L. luctuosa*, *L. lydia*, *L. needhami*, *L. semifasciata*, *L. vibrans*, *Pachydiplax longipennis*, *Pantala flavescens*, *P. hymenaea*, *Sympetrum vicinum*, *Tramea carolina*, *T. lacerata*
CALOPTERYGIDAE -- *Calopteryx maculata*
LESTIDAE -- *Lestes disjunctus australis*
COENAGRIONIDAE -- *Argia fumipennis violacea*, *A. tibialis*, *Chromagrion conditum*, *Enallagma civile*, *E. divagans*, *E. durum*, *E. exsulans*, *E. signatum*, *Ischnura hastata*, *I. posita*, *I. ramburi*, *I. verticalis*

Of these *Libellula needhami*, *Enallagma durum*, and *Ischnura ramburi* were probably strays from downstream Nanjemoy Creek where it becomes wider and mixes with brackish water from the Potomac River. These species are very common downstream but only a few were sighted up stream. It is unlikely that their larvae reside in the surveyed area. However, the migratory species, *Anax junius* and the two species of *Pantala* and *Tramea*, were all observed ovipositing in the oxbow pools and probably do maintain larvae populations along the corridor of upper Nanjemoy Creek.

On May 31, 1995 I was lucky enough to witness one of the most spectacular gomphid emergences that I had ever seen. Nanjemoy Creek was alive with teneral *Stylogomphus albistylus*. These tiny gomphids were fairy-like in their teneral state. Their transparent wings and bodies glistened whenever they touched sunlight. One spot along the stream was truly magical. At this unique location a single narrow shaft of intense sunlight broke through the otherwise deeply shaded stream, creating a white spot in a dark forest. The

emerging dragonflies making their maiden flight towards the protection of the forest would pass through this column of sunlight. The illusion was created that the black stream was spontaneously producing dozens of tiny, ephemeral, tinkler-bell like apparitions that would exist for only a second or two before disappearing as quickly as they were created.

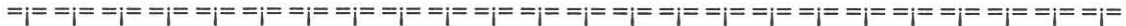
If *Stylogomphus albistylus* were the fairies of Nanjemoy Creek then *Tachopteryx thoreyi* were the dragons. Although few in number, the large size and distinctive behavior placed the Gray Petaltails into a class by themselves.

These conspicuous giants stayed along the open sunlit portions of the stream which were close to their larval seeps. Feeding and chasing each other, and resting vertically on tree trunks occupied most

of their time. *Stylogomphus albistylus* avoided the open areas where the petaltails were residing so they never appeared in be in danger of being eaten by their larger relatives.

However, crane flies did not have it so lucky. They were often snatched in mid air by hungry *T. thoreyi* and carried to sunlit perches to be devoured. One particularly voracious Gray Petaltail was often seen eating crane flies on a branch directly above an eddy at the stream s edge. Beneath the Nanjemoy dragon, spinning slowly in lifeless circles on the water surface were the numerous, thin, black legs of previously devoured crane flies.

Nanjemoy Creek Great Blue Heron Sanctuary was, and is, a wonderful place to do science. Magical places always are.



A 2.5 LITER 4WD COLLECTING NET FOR INSECTS AND PEDESTRIANS

Paul-Michael Brunelle

I started using Mark I of this device (a "bownet ") at the end of July (having heard rumors of similar gear used to catch beetles in Ontario) because I had taken some good specimens off my radiator (somewhat crenate but certainly needing no further drying). The net has worked well, I have gotten several male *Somatochlora walshii* (confirming that they like to tear down the middle of dirt roads a short distance up), an *S. incurvata* (rather rare, I found a male roadkill a short time after taking the female out of the net) a number of *Aeshna* spp., many *Sympetrum* sp. but few *Zygoptera*. Other species would be taken earlier in the year, particularly *Epitheca* spp. but also *Gomphids* (I took a rather nice female *G. borealis* off my radiator in June) the bownet might be an effective way to get the wandering females of many species. The net material I'm using is coarse, harmless to larger species (many will fly once they've recovered from the impact, I've had *Aeshna* spp. fly away after hitting my previous vehicle, a van with a slanted front, at 100km/hr but the almost vertical front of the Jeep gives a more formidable thwack) but tends to damage *Sympetrum*-sized specimens. Mark II will be reconsidered with that in mind but the current mesh does not seem to cost in gas mileage, a powerful argument as my Jeep (a vehicle my Father tells me was designed to tow a

2" field gun) has the aerodynamics of a brick. Also the headlights, direction indicators and even the license plate can be clearly seen through the coarse mesh, which might placate a uniformed stickler for the letter of the law. I'm sure it breaks some law somewhere, of course, but if I ask the police if its illegal I will no longer be able to plead ignorance if it is. If it isn't they will probably make it illegal as soon as they can, and that kind of legislation is expensive -- it would be irresponsible in these times of fiscal restraint to raise the issue. Getting across the border next summer might be interesting however, but they can hardly accuse me of trying to smuggle it, can they? The structure is a crudely-made frame of 1/4" threaded rod (5/16" would be better I think), cold-bent with the netting roughly sew in place. It cost perhaps \$50 and took me about 4 hours to make the thing and elegance is the least of its attributes. The pocket may not be necessary as most specimens seem to stay where they "land", but the female *S. incurvata* would have escaped without it. The only damage the net has sustained so far (although it has been in use at speeds I won't state in writing) occurred when the occupant of a van stopped before me at an intersection; gallantly and implacably backed up six feet (three of which by any moral standard properly belonged to me) to give ample room for

the crossing of a young lady. He was contrite and since I had initially been distracted by the same innocent causal phenomenon, I accepted his apologies gracefully although in truth I would have discussed the matter with him more enthusiastically but for the presence of my young son, who is prone to asking questions like "What does &*\$#@!!! mean, Daddy?" A small operation with a hacksaw left the net with a rakish and somewhat appealing slant which does not seem to impair its operation. I stop right away when I see a dragonfly apparently enter the net, otherwise at intersections, towns or county lines to narrow the catch locations down. When stopping I first check my mirror (presuming that following vehicles won't be so soft in the front as mine now is), pull over and brake fairly quickly but not so as to leave skid marks (too great a deceleration might launch the specimen). Out I hop and rush around to the front to check the net, filled in equal measure with anticipation and feelings of incongruity. One samaritan passing by stopped to find out if I had hit a moose, but that was in New Brunswick where attack by large mammals is not unusual. When taking specimens from the net I also take particular care not to be myself collected by any of the large number of wasps, bees and horseflies invariably included (I wonder if anyone has calculated the mortality for these groups by roadkill, it must be astronomical). On several occasions I have seen a dragonfly fly away before I got to it, but usually after being taken at slow speed, so now if I see one go in as I am speeding up I continue at speed for a while before stopping. I am considering an auto-close system but a mechanism for that is intimidating to a person who has yet to figure out how to set the timer on his VCR. Also the prospect of a net which gulps tries even my sense of propriety. The richest sites are dirt roads (possibly because there is more prey for the dragonflies there than over asphalt, possibly because the corridor of travel is generally so much narrower) and I have found that aiming for the critters is useless and may be hazardous to your health and to that of oncoming traffic. Aiming also confers a maniacal flavor to the proceedings which does not go over well with other occupants of your car. I have also taken many specimens off the roads which were hit earlier (filed in my database as "roadkill"), notable among them the only specimen I have of *Aeshna interrupta* with solid, thin, bars (a female) and an *Epitheca (Epicordulia) princeps* female in southeastern Maine which is distinctly larger and with larger wing spots than specimens

from New Brunswick and Nova Scotia, not to mention a number of first county records. Roadkilled specimens are usually in fairly good shape (amazingly enough) and sometimes show no sign of impact although usually the thorax is "sprung" along the sutures. It is, perhaps, a comment on the human condition that several times as I walked back to pick up a roadkill, passing motorists have stopped to inquire if I have broken down or run out of gas, whereas on those occasions when I have in fact run out of gas nobody has ever stopped. In future when I have trouble with my vehicle I will immediately begin looking for dragonflies. Using this rig is probably a capital offense in Germany, but I have found it effective and it provides what seems like hours of innocent amusement to my acquaintances and great delight to my son who relishes having the weirdest parental vehicle at his daycare. It has enlivened the long trips I make in the Maritime Provinces, about 15,000km in 1995, so its cheap entertainment. To critics of its inhumanity (and I have encountered several) I can only point out that everyone who drives collects insects with their car; only the owner of a vehicle equipped like mine can live-catch and release.

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PATAGONIAN ODONATA IN MALAISE TRAPS

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During November and December of 1994 we had the opportunity to make a collecting trip to the Nothofagus forest of Patagonia, granted by the National Geographic Society, for the project "Biogeography of the subantarctic entomofauna" (grant # 5265-94). We were accompanied by Drs. Larry Quate (Los Angeles County Museum) and Hari Bhat (National Institute of Virology, Pune, India), who were interested in the study of Psychodidae (Diptera). They joined us in Buenos Aires a couple of days before the departure, which took place on November 9th.

We intensively collected for almost three weeks in the area located between the cities of San Rafael (Mendoza Province of Argentina) and San Martín de Los Andes (Neuquén Province), and the four

malaise traps that Larry set off in several localities for collecting small Diptera were unsuccessful for Odonata.

After that period we returned to La Plata, while Larry and Hari continued the trip for three more weeks south to the area surrounding the cities of Bariloche and Esquel in Argentina, as well as its neighboring areas in Chile. When they come back to Buenos Aires, and joined us for dinner before returning to the US, Larry and Hari showed us several envelopes (that we left them "just in case") containing Odonata from malaise traps.

When we realized that the specimens mainly belonged to Phyllopetalia and Neopetalia (highly valuable for our studies), and after we read the note entitled "Dragonflies in malaise traps" published in ARGIA (vol. 7, n 1) by Johnson et al., we decided to report here Larry and Hari's findings, as a new good evidence of effectiveness of this collecting method for Odonata.

As Larry and Hari said, the traps were only successful for dragonflies when they were set off 50

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COLLECTING DOWN AT THE OTHER "DOWN UNDER"

Rosser Garrison and Javier Muzon

After missed letters from Javier to me, we finally connected via E-mail. This would cut our mail time to days instead of weeks, and there was no time to lose. Javier had obtained a National Geographic Society grant ("Biogeography of the subarctic entomofauna") to study the Odonata of the Patagonian region of South America. No, we're not talking of Patagonia, Arizona, but Patagonia, South America. You know, that region encompassing the southern parts of Argentina and Chile? The area Darwin visited during his famous voyage in the Beagle? I had suggested in mid-summer 1994, when Javier wrote that I was to be invited on a trip to this fascinating region, that the best time to go for me would be in January, 1995. Now it was December, and I had not heard from him. I had been very busy with "killer bees" and other insect pest problems, and, besides, I was wrapped up in completing the *Argia* and *Erpetogomphus* papers (I did survive these papers...happily, I can report that both appeared in print last December). I received a post-haste letter

cm over the grass, in small corridors of the deeper *Nothofagus* forests. In each occasion the traps worked for three days, and the specimens were founded into the collecting jars.

Material collected in malaise traps:

Antiagrion grinbergi Jurzitza: Chile, Llanquihue, Yervas Buenas, 13 km N Ensenada, 150 m, 4-XII-1994, 1 male.

Cyanallagma interruptum (Selys): Argentina, Neuquén Prov., "Nahuel Huapi" National Park, 25 km N La Angostura, 1000 m, 25-XI-1994, 1 female.

Neopetalia punctata (Hagen in Selys): Chile, Llanquihue, Yervas Buenas, 13 km N Ensenada, 150 m, 4-XII-1994, 1 female.

Phyllopetalia pudu Dunkle: Argentina, Río Negro Prov., "Nahuel Huapi" National Park, Los Notros stream, 20 km W Bariloche, 915 m, 28-XI-1994, 2 males. Argentina, Río Negro Prov., "Nahuel Huapi" National Park, Manso river, 800 m, 14/16-XII-1994, 1 male (first record for Argentina).

from Javier stating that he had not heard from me since his last letter and urging me to contact him at his new E-mail address to plan for my arrival in Buenos Aires! So, I planned to arrive in Buenos Aires on 14 January. Javier also had a shopping list: collecting envelopes, dragonfly envelopes, nets, and a good metal thermos. Thermos??? Why on earth a good thermos? I bought all the entomological equipment at BioQuip (which is near my residence), and found a top-notch metal thermos at REI. I was to learn later why Javier wanted it.

After a round of introductions and a night at a hotel in downtown Buenos Aires, we were to leave bright and early the next morning. We drove to the house of third member of our expedition, Dr. Nestor Basso, a herpetologist and lifelong friend of Javier. He hoped to document new records for frogs in Patagonia. When we arrived at his house in La Plata, we saw our means of transportation, a 1950's green Ford station wagon. Javier told me

that this car had logged over 500,000 km. We were expecting to travel 5000 on this trip. The first day, we traveled south, finally crossing the Rio Colorado in Rio Negro Province. The Rio Colorado, just above 40° S latitude, is the official dividing line between Patagonia and the rest of Argentina.

The next morning, we traveled south, then west on route 25 across the wide, arid landscape, paralleling the Rio Chubut. Our first collecting site was at Las Plumas on the Rio Chubut. The country here is not unlike the southwestern U.S. I was surprised to see an old friend from the Los Angeles region, the umbelliferous fennel plant (*Foeniculum vulgare*), growing along the Rio Chubut. This country has spectacular escarpments, and several exciting fossils, such as one of the earliest known dinosaurs, *Herrerasaurus* have been found here. Our present day flying predators were limited to a few *Oxyagrion rubium* and one young female *Cyanallagma interruptum*, the only damselfly found in lower Patagonia.

By the end of the day, we were well into the foothills of the Andes, where we stopped at a pond and stream near Tecka, at 680 m. Here we found *C. interruptum* abundant. Adults were found all over the grassy area near the pond. One could literally sweep hundreds with a few swings of the net. Surprisingly, the sun was still up at 8:30 p.m., due to the latitude. Here we also found our first specimens of *Aeshna diffinis*, but they were difficult to net. The next day, we saw our first specimens of *Erythrodiplax connata*. It was hard for me to believe that this was the same dragonfly found just north of my parents' house in the small town of Cave Creek, Arizona, north of Phoenix. But there they were, a few individuals flying around cattle ponds. At this latitude, they were easy to catch, in contrast with most *Erythrodiplax* encountered in more torrid zones.

The next day, we approached the Chilean-Argentine border, and waited for an hour while the border guards finished their lunch. That gave us time to scout for dragonflies. The pond and huge lake seem to be a picture right out of the European Alps or the Rocky Mountains of North America. I saw my first *Sympetrum villosum*, a young male perched atop a snag, and took several photographs. At another pond, we saw our first specimens of the later ubiquitously found *Aeshna variegata*. The

species thus far mentioned were almost constant companions at every stop from then on.

The diversity of Odonata in Patagonia is low. Muzon, in his just published paper (Los Odonata de la Patagonia Argentina. Revista de la Sociedad Entomologia Argentina. 54(1-4):1-14, 1995), lists just 27 species from Argentinean Patagonia. In fact, we had reached a southerly limit below which only one Zygopteran (*Cyanallagma interruptum*) is found. This small damselfly behaves like our familiar *Enallagma*, but is much easier to collect. Almost any body of still water harbored specimens. Like *Enallagma*, the males are blue, and the females are either tan or blue. The pale antehumeral stripe is normally divided, forming an exclamation point, but is variable within and between populations. Javier wanted to document the frequency of antehumeral stripe markings, so we tried to collect at least 25 individuals at each site. In some populations, the entire mesepimeron is black. In others, only faint pale marks occur.

Later that day, we descended into the green forests of coastal Chile. Here, at the little town of Puerto Ramirez, we were to collect some of the most interesting species over the next three days. A little hostel allowed us to set up a home base so we could sample various local aquatic habitats. The facilities were great, and the home-cooked food was even better. Unfortunately, it was cloudy during the three days we stayed there, so we did not expect to find many dragonflies.

"What do you think, Javier; could we find *Phenes raptor*, or even a *Phyllopetalia* here?", I asked. He told me that none of these species had ever been collected so far south (about 43° S), nor so late in the season (mid-January). So I was not optimistic. One of my wishes was to see the enigmatic *Gomphomacromia paradoxa* in life. Javier found the first specimen near a pond near Puerto Ramirez. It was the only one seen. Later, when Javier told me of his capture, I rushed over to examine it. I became excited as he pulled out the specimen. It is such a small and delicate Corduliid, a slender, black species with bright yellow markings and beautiful blue eyes. He asked if I wished to have it (I think I would have gone into servitude for a year to have it!), and graciously gave it to me. On 18 Jan., we drove 5 km W of Puerto Ramirez. I saw what appeared to be a marshy area (mallin) to the side of the road and asked that we stop and collect.

At the mallin, we found *Erythrodiplax connata* abundant. I photographed several of both sexes. It was incredibly easy to approach, collect, and photograph. A rivulet fed the mallin on the opposite side of the road. Javier found a couple of *Gomphomacromia paradoxa*. I very much wanted to not only see but also photograph this beautiful insect in its natural habitat. Nestor was turning over rocks hoping to find frogs. I soon joined the party on the other side of the road. Javier had gone up the creek and was behind some *Nothofagus* trees. Suddenly, without warning, a giant dragonfly flew by. Instinctively, I swung my net and caught my first *Phenes raptor*. It was a very worn male, but my hands trembled as I slowly and carefully pulled it out of the net. Excitedly, I shouted to Javier what I had captured. We searched for more, and I think I saw another one, but was unable to find it again. Javier had disappeared behind the *Nothofagus* trees, and some time later I heard excited shouts of "Rosser, *Phenes raptor*!!". But upon reaching the site, I found Javier on the ground searching among moist, loose debris which was under loose pieces of wood. Javier had found live larvae of *Phenes raptor*. The giant larvae were all but invisible. They did not dig burrows but were found in certain places on the damp earth. Javier had found about a half dozen, and I documented the find with many photographs. Although the larva of *Phenes* had been described, we do not think that it had been found or recorded in its natural microhabitat.

The capture of a male *Rialla villosa* marked the end of a successful day. We went back to same site the next day (19 Jan.) hoping to find more adult *Phenes*. The day was mostly cloudy with occasional glimpses of sunshine. Circumstances almost repeated themselves, but this time Javier and Nestor were at my side. A large dragonfly had flown past me and instinctively I swung. Unfortunately, I connected with the then unknown dragon on the back side of my net. I hurriedly swished the net to the ground in hopes that I had trapped the prize. My heart raced as I heard a rustling of dragonfly wings under the net. Very carefully, almost imperceptibly, I used my hand to search for it. Because the day was overcast, and the net fabric was white, I couldn't see the creature. I did finally grasp it and, to my astonishment, I was holding a perfect female *Phyllopetalia pudu*! Both captures of these primitive dragonflies represent new late season and the most southerly

known captures. Javier found larvae of *Phyllopetalia* under stones in the rivulet, where I photographed them clinging to rocks. Their habits mirror those of larvae of *Oplonaeschna armata*, which I collected in Oak Creek Canyon, Arizona (see also the paper by Cliff Johnson: Seasonal ecology of the dragonfly *Oplonaeschna armata* Hagen (Odonata: Aeshnidae). Amer. Midland Nat. 80(2):449-457).

Near Lago Riesco, south of Puerto Aisen (45.27S, 72.58W) on 20 Jan., we found *Gomphomacromia paradoxa* in relative abundance for the first time. Although the larva of this species had been described (Theischinger, G. and J. A. L. Watson. Larvae of Australian Gomphomacromiinae, and their bearing on the of the *Synthemis* group of genera (Odonata: Corduliidae. Aust. J. Zool. 32:67-95), little has been recorded of its habits, and the egg-laying behavior of the female has not been described. These corduliids were found near small mallins at this locality. After photographing some males, I saw a female begin to lay eggs. She oviposited just like a *Cordulegaster*, except that she dabbed her ovipositor into the shallow muck...an unlikely place to find dragonfly larvae! After I pointed this out to Javier, he found one or two larvae in the quagmire, but the work was hard and the reward, in number of specimens, was slight. We collected another male *Rialla villosa*, a new southerly range extension.

Although it is not an odonate, we must mention our find of the Chilean stag beetle, *Chiasognathus granti*. This creature, whose males reach a length of about 3 inches, are common in the *Nothofagus* forests in Chile. Javier collected several as they hovered near *Nothofagus* foliage. I saw my first male at Laguna Pedro Aguirre Cerda near the turnoff to Mina El Toqui on 23 Jan. Most entomologists have seen specimens or illustrations of this amazing metallic insect. It can rightly be considered Chile's national insect, and it is a favorite with insect collectors the world over. The male has curved mandibles longer than the body. When flying, it hovers at a 45° position and resembles a miniature elephant. When captured, the forelegs seem much too long for the body and one wonders how natural selection ever produced such an insect.

All of us on the trip have concluded that Patagonia corners the market on Tabanidae. We felt that every horsefly on God's earth personally visited (=

annoyed) us during our trip. The biomass of dead, partially crushed bodies inflicted by us could probably fill Dodger Stadium! They continually buzzed our heads in search of a sanguinary meal. At one stop, as we both waited for Nestor to search for frogs, we had had finally had enough. We collected several in our nets as they tried to land and Javier proceeded (as I photographed) to light one captive with his Bic lighter!

From the first day of the trip, I had also found what the thermos was for. At each restaurant, road stop, or gas station, Javier or Nestor always filled it with nearly boiling water. They then showed me a small metal cup which they filled about 2/3 full with a bunch of dried, leafy material (*Ilex paraguayensis*). A small, metal straw with a metal filter (bombilla) at its tip was then placed in the cup, which was filled with very hot, nearly boiling water. Each of us in turn would sip the liquid from the bombilla. This is the national drink of Argentina, *mate*. Even in 1832, Darwin had written to his sister Caroline, "I am become quite a gaucho, drink my Mattee & smoke my cigar & lie down & sleep as comfortably with the Heavens for Canopy as on a feather bed, eating nothing but meat—sleeping in a bracing air, one awakes as fresh as a lark." I found that I enjoyed this drink more and more as time went on. It is not addictive, but the bitter taste grows on you, and I found myself looking forward to the time of *mate* after riding in the dusty vehicle for hours.

The main route we traveled in Chile was gravel, and, unfortunately, the floorboard of our car had several holes. While we were able to drive up to 60 or 70 mph on some stretches, everything in the car was layered with a fine, powdery dust. After driving for several hours, we looked like Bedouins emerging from a sandstorm. After trying several times to read one of Clive Cussler's Dirk Pitt novels in the car, I abandoned further effort, because my reading glasses became opaque with dust.

Back to the Odonata. One of the more beautiful places we stopped was a mallin and laguna at the south end of Parque Nacional Quelet. Here *Cyanallagma interruptum*, *Aeshna variegata*, and *Gomphomacromia paradoxa* were common. We found *A. variegata* transforming, and Javier told me that, as far as he knew, the larva had never been described. Getting down on my knees and

elbows, I clicked a series of pictures during about one half hour, of a male, from eclosion from the skin, to adult with its wings fully expanded. It was here that I also saw a few females of *G. paradoxa*. With camera in hand, I photographed a pair in copula as they sat on the marshy edge. Suddenly the male let go, and the female began to hover. With a series of quick movements, she oviposited in the muck as I shot several close-up photos.

Finally it was time to return to Buenos Aires. On 29 Jan., we stopped briefly at the Sierra de la Ventana, a small, isolated mountain range in southern Buenos Aires Province. Here we saw *Cyanallagma bonariense*, *Andinagrion petersoni*, and *Oxyagrion hempeli*. All three were common along the exposed creek. *C. bonariense* stayed on vegetation near the stream, but the other two were often found on rocks near the stream's edge. After photographing males of *O. hempeli*, I turned to the small *Andinagrion*. At first I thought it was simply a small *Oxyagrion*. They were the most difficult of all the damselflies to catch.

We arrived in Buenos Aires that evening and collected at only one more site before I left for the United States. At a gallery forest at Punta Lara (34.47S 58.01W), we found several species which are more characteristic of the northern tropics of Argentina. These included *Acanthagrion lancea*, *Ichnura capreolus*, *Oxyagrion terminale*, *Telebasis willinki*, *Aeshna confusa*, *Aphylla distinguenda*, *Erythemis attala*, *Micrathyria hypodidyma*, and *Perithemis mooma*.

One day was spent at the Natural History Museum in La Plata. It is the repository for many early mammal fossils, including a wide array of the well-known glyptodonts. One of the more famous fossils is the weird, flamingo-like pterosaur, *Pterodaustro guinazul*, (discovered only in 1970). I had been gone nearly three weeks. I had gone to Argentina, but, unknown to my wife, had entered Chile, from where my first telephone call to her was placed. I had also collected almost 400 dragonflies, and had seen the lush south temperate rain forests, including the famous *Nothofagus* trees. The recollections of *Phenes*, *Phyllopetalia*, *Rialla*, and especially *Gomphomacromia* are still fresh in my mind. But the greatest parts of the trip were meeting Javier Muzon and Nestor Basso from a hemisphere away, becoming close friends, and enjoying *mate* with them in the far reaches of fabled Patagonia.

The habitat requirements of the two *Lanthus* species are imperfectly known, but they seem to need small, pristine, spring-fed forest streams of moderate gradient. Nymphs are found emerging from the deeper pools (approximately 0.3-1.0 meters deep) which have a thin silty layer over a gravel substrate.

Adults perch on sunlit stream side vegetation and rocks above these pools. There seems to be a period of about two hours during midday when adults are most active. At other times they may be high in the forest canopy and undetectable. The short adult flight period, of perhaps only a few weeks, also hinders finding new populations. In the Steep Creek drainage, no adults or exuviae were found farther downstream where the pools lacked the silt covered gravel and had less stream side vegetation, due to the more ravine-like nature of the stream.

Frank Carle (1991) considered *L. parvulus* as threatened for Virginia. He also noted that *Lanthus* are typically found in streams capable of supporting native brook trout and are vulnerable to the pollution or disturbance of those streams. All four known sites of *Lanthus* species in Maryland are located in watersheds that are mostly or completely forested. It is expected that more sites will be found for *L. vernalis* from Frederick County west, and that more sites for *L. parvulus* will be found in Garrett County. The relative distribution of these two species in Garrett County should prove to be of interest in determining the ecology of these two closely related species.

References:

Carle, F.C. 1982. A contribution to the knowledge of the Odonata of Virginia. PhD Dissertation. Ann Arbor: UMI Dissertation Services

Carle, F.C. 1991. Dragonflies, in Virginia's Endangered Species; Proceedings of a Symposium. K. Terwilliger editor. Blacksburg: McDonald and Woodward Publishing Company.

Needham, J.G., and Westfall, M.J. 1954. A Manual of the Dragonflies of North America. Berkeley: University of California Press.

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SOME COUNTY RECORDS FOR KANSAS AND OKLAHOMA

Roy Beckemeyer

I have been researching the literature on Kansas Odonata records to build a data base for Nick Donnelly's Dot Map Project, and doing some collecting across the state as well. In the process, I have documented a few new county occurrence records for Kansas. I am depositing all new county records as voucher specimens with the Kansas Biological Survey collection at the University of Kansas. Where species distribution is limited, I have indicated other counties of occurrence.

Cowley County. *Calopteryx maculata*, *Ischnura verticalis*.

Labette County. *Lestes rectangularis*, *Enallagma aspersum* (Previously collected only from Woodson County - both counties in southeast KS), *Libellula cyanea* (Cherokee, Labette, Linn, Neosho), *Libellula vibrans* (Cherokee), *Pachydiplax longipennis*.

McPherson County. *Pantala flavescens*, *P. hymenea*, *Tramea lacerata*.

Sedgwick County. Although one of the most heavily populated counties in the state, this one has been poorly collected, and my additions to the records include such common and widespread species as: *Calopteryx maculata*, *Aeshna multicolor*, *Erpetogomphus designatus*, *Celithemis eponina*, *Dythemis fugax* (Crawford, Morton), *Tramea onusta*. My most recent addition was more significant; I took *Macromia illinoiensis* on the North Fork of the Ninnescah River below the dam at Cheney Reservoir. This is on the western border of the county, and is the west-most collection of this species in the state to date. Other counties of record are: Allen, Chautauqua, Cherokee, Douglas, Franklin, Labette, Linn, and Sumner.

Stafford County. *Aeshna multicolor*, *Libellula luctuosa*, *Sympetrum obtrusum*.

Woodson County. *Dromogomphus spinosus*. (Bourbon, Chautauqua, Cherokee, Elk, Franklin, Labette) This record is from Woodson County State Lake, a very interesting spot which, although

"indiscriminate" or broad species techniques. Having established a good line of communication with the Ohio Division of Wildlife (who funded their survey, and is funding the Ohio Odonata Survey) they had lengthy discussions with the Division regarding the impact of listing, and the differences of biology between insects and vertebrates. As a result, the Ohio Division of Wildlife took a very bold step forward - setting what we hope will become a precedent for other insect groups, and for other states. In May of 1994 new rules governing state listed species became effective. Naturally, these rules do not replace any Federal restrictions on federally endangered species. For other state endangered butterflies and moths, however, it is now legal to collect and possess them for scientific and personal use. The law specifically bans commercial collecting, selling, etc. of these species. The Ohio Division of Wildlife is credited with this innovative move which recognizes the reproductive potential of these insects and the value of legitimate collecting to provide knowledge about the species. The Ohio Odonata Survey will be making recommendations this next winter to the Division of Wildlife for state endangered Odonates, and we anticipate a similar rule covering them. Anyone wishing a copy of the state rule can contact me, or Dave Ross, Ohio Division of Wildlife, 1840 Belcher Road, Columbus, Ohio 43224.

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SUPREME COURT RULING ON HABITAT DESTRUCTION

Jerrell Daigle [adapted from e-mail (ed.)]

The U.S. Supreme Court has ruled that the habitat of threatened and endangered species cannot be destroyed, even if the habitat is on private property. The decision is a blow to the timber industry and property-rights proponents and potentially has major implications for Florida developers. The ruling Thursday on a suit brought to ease protection of the spotted owl in the Pacific Northwest and the red-cockaded woodpecker in the Southeast was a surprise for environmentalists, who had expected the conservative court to rule the other way. "It's a major victory," said John Fitzpatrick of the Archbold Biological Station near Sebring. "Protection of endangered species had ground to a

standstill while this case wound its way through the courts."

Last year, a Federal Appeals court ruled as too broad the government's 20-year-old interpretation of one key word in the **Threatened and Endangered Species Act**. The word is "take," and it is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect." The appeals court concluded that "harm" referred narrowly to direct action against one or more individuals within a species.

Getting back to basic research, the Supreme Court turned to its Webster's Dictionary and found this definition of "harm": to cause hurt or damage; to injure. There was no reference to direct action. And since habitat loss causes damage, the justices voted 6-3 to overturn the lower court decision. The court also said the rules don't change when the habitat is on private land. More than 90 percent of the 781 species listed as threatened or endangered are found on private property. David Guest of the Sierra Club Legal Defense Fund predicted the court ruling would not burden the vast majority of private property owners.

"It means people are going to have to consider the foreseeable consequences of their land uses and activities," Guest said. "Even the parties who sued couldn't point to any harm done to their interests by the Endangered Species Act. They argued that in the abstract the ESA is a bad thing. They view this law as an insult to their private property rights, when in reality it has a very moderate impact. The hysteria that we're going to stop people from walking around on their land is just that --- hysteria."

The Supreme Court's decision could be overturned if Congress amends the Endangered Species Act in the process of reauthorizing it this year. Sen. Bob Packwood, R-Ore., has already said the high court ruling has renewed his resolve to see the law significantly changed. [How things change. (ed)]

"My prediction is that the legislators will be pressed hard on this," said Fitzpatrick. "But I see some reasons for cautious optimism. (House Speaker) Newt Gingrich, of all people, has talked about the need to keep the teeth in the law, so its demise is far from certain."

ODONATA AS CUISINE

An intriguing article in the American Entomologist (summer, 1995) was sent in by one of the DSA members (whoever you are, thank you). Roger Pemberton wrote feelingly ("Catching and Eating Dragonflies in Bali and Elsewhere in Asia") of the practice of catching and eating large dragonflies. Starting with the observations of Miguel Covarrubias (remember those colorful paintings of this talented Mexican?) in Bali in 1937, Pemberton takes the reader through southeast Asia, not quite with knife, fork, and spoon, but with latex-tipped bamboo stick and other lures.

Native people in many areas catch these insects either by tapping them with latex tipped sticks or placing these sticks where odonates will perch on them. They are then cooked by a variety of methods, but Pemberton describes only two: a wet-cooking method with ginger, garlic, shallots, and chili pepper in coconut milk (boil for 5-10 minutes), and a dry-cooking method (combine with above ingredients but with coconut meat rather than milk, place in a banana leaf and steam or roast on charcoal. Larvae are used far less frequently but are supposed to be more tender.

The preferred species are not well recorded but appear to be mainly the larger bodied ones, such as *Anax*, *Crocotothemis*, and *Neurothemis*.

It seems to me that there may be numerous recipes out there that readers will want to share with us. In the last issue John Michalski mentioned but did not elaborate on Allen Barlow's Stonefly *tartar*. How about Snaketail *au jus*? Giant Darner flank steaks? Ruby Spot fingers?

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STATUS OF CERTAIN AVAILABLE REPRINTS

Rosser Garrison

I want to inform readers of *ARGIA* of the availability of certain long (>80 pages) papers written by me as follows:

1984, R. W. Garrison. Revision of the genus *Enallagma* of the United States west of the Rocky Mountains and identification of certain larvae by

discriminant analysis (Odonata: Coenagrionidae). Univ. Calif. Publ. Entomol., Berkeley, 105:1-129. (ISBN. 0-520-09954-0). **This paper is now out of print.** The University of California Press sent me the last ten copies; all but two of which are gone. HOWEVER, BioQuip Products (17803 LaSalle Ave., Gardena, CA, 90248-3602; telephone: 310-324-0620; fax: 310-324-7931; e-mail: bioquip@aol.com) has about 20 copies for sale in their used book section. Cost is about \$25, I believe.

1990, R. W. Garrison. A synopsis of the genus *Hetaerina* with descriptions of four new species (Odonata: Calopterygidae). Trans. Amer. Entomol. Soc., 116(1):175-259. **I have 25 copies left**

1994a, R. W. Garrison A synopsis of the genus *Argia* of the United States with keys and descriptions of new species, *Argia sabino*, *A. leonorae*, and *A. pima* (Odonata: Coenagrionidae). Trans. Amer. Entomol. Soc. 120(4):287-368. I originally ordered 150 copies of this paper but it has proven to be a popular one. It appeared on 1 December, and I sent out about 40-50 copies to fellow Odonatists. **I now have only 15 copies left.**

1994b, R. W. Garrison. A revision of the New World genus *Erpetogomphus* Hagen in Selys (Odonata: Gomphidae). Tijdschrift voor Entomol. 137: 173-269. This paper also appeared on 15 December 1994, and **I have 50 copies left for distribution.**

Because of their length, I do not plan to make copies of any of these to those who may want them once they are gone. For those who would still like copies of any of the above papers, they should request them from me now. Those requesting copies would make my life easier if they would include \$3.00 for postage.

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MAPPING SOFTWARE FOR THE PENURIOUS OR "PECUNIARY-DISADVANTAGED"

Roy Beckemeyer

While building a data base for Nick Donnelly's dot-map project, I decided that it would be nice to use the same data to construct county dot maps for my own use as well as that of other Kansas naturalists.

Unfortunately, the cost of GIS mapping software is generally out of range for amateurs like me, so I looked around for lower-cost alternatives. The package I settled on is called "MapLinx" (5720 LBJ Freeway, Suite 180, Dalla, TX 75240-6328, (214) 231-1400) and is often advertised for \$99.95. It is billed as a marketing tool, and locates places by postal zip-code. But it is fairly easy to use your mouse to point at a county and click to quickly build a matrix cross-referencing county names and zips. (A dot can be placed on the map in the center of the county no matter where the zip area is within the county.)

MapLinx is certainly not the answer to all needs, and is obviously of most value for states with lots of small counties. Despite its limitations, I can recommend this software as a useful package and would be glad to answer any questions you might have on how I have built up my databases and maps. Contact me by E-mail @royb@southwind.net or by snail-mail at 957 Perry St., Wichita, KS 67203-3141.

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EFFECTS OF WATER POLLUTION ON ODONATES IN COTO BRUS, COSTA RICA

Collection Adventures in Las Selvas de Costa Rica

Jessica Logan, Biological Sciences U.C. Davis

On May 18, 1995 the bubbling waters of Gamboa seemed to be saying something as Alonso Ramírez launched our thin rubber raft into the lagoon. It wasn't until I had returned to solid land three hours later that I realized the bubbles were telling me "not to leave the shore." The water got deeper as we floated further into murky water and the fog sneaked in around us as we focused on netting dragonflies.

When we reached the other side of the lagoon I spotted a large dragonfly flying over some grass at the edge of the water. We maneuvered the raft closer to the shore and I stepped out onto the tall grass. Before going after the dragonfly, I turned around to make a quick search for my red nylon jacket which I had left to mark the location of our launch site. I began to feel dizzy with isolation as my eyes searched through the heavy wet air. The longer my eyes searched, the dizzier I felt. Then I

realized the ground under me was waving; I wasn't standing on a solid piece land but rather a big floating patch of grass. I began walking through the waist high grass stalking the dragonfly I had spotted from the raft while hoping there were no alligators stalking me. After an hour had passed I decided my luck was running out and I had better get back in the raft and after Alonso blew up the deflating raft he paddled us through the fog back to shore where my red jacket waited.

This is one of the first collection trips I went on during a trip to Costa Rica and although I've obviously over dramatized the experience in an effort to entertain the reader, it was definitely an unusual collection trip. During my three month stay in the tropics I became interested in dragonflies and by the time I left, I had completed a brief study looking at the effects of deforestation and subsequent water pollution on diversity of the order Odonata.

For this study I chose three lagoons of relatively the same altitude in the Coto Brus area; Lynn Carpenter's laguna in Campo Dos y Medio, San Joaquin in San Vito, and Gamboa in Santa Rita. Each lagoon was classified as having high, intermediate, or low disturbance. These classifications were based on the history of chemical use and grazing on the land surrounding the lagoon. At each site, water quality tests (T-alkalinity, phenolphthalein alkalinity, total hardness, calcium hardness, and turbidity) were done and specimens were collected for one hour and forty minutes. Using a Spanish-language key and the help of Alonso, I classified the specimens to genus and differentiated between species as "A," "B," "C," etc..

The results of the water quality tests indicate that the three lagoons are chemically different. These differences can be explained by looking at the history of deforestation, chemical use and grazing on the land surrounding the lagoon. At the low disturbance site, there are large patches of trees on the surrounding land which filter almost all of the runoff into the lagoon. At the intermediate site runoff is received from partially cleared and intermediately grazed land. The highly disturbed site receives runoff from land that has been completely cleared and been treated with large amounts of chemicals.

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New **BAO** issue: **THE DISTRIBUTION OF ODONATA IN ALABAMA**, Kenneth J. Tennessen, James D. Harper, R. Stephen Krotzer, *BAO*, Vol. 3, No. 3, 26 pages

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Vol. 7, No. 3, 15 October 1995

IN THIS ISSUE		1
1996 ANNUAL MEETING IN NEW BRUNSWICK		2
DSA ANNUAL MEETING MINUTES	Sid Dunkle	2
SILVER CITY NM, 5 AUGUST 1995		
THE 1995 DSA MEETING AT SILVER CITY, NEW MEXICO	Jerrell Daigle	3
THE SOUTHWESTERN MEETING, AUGUST 5-12, 1995	John Michalski	6
ENGLISH NAMES, SCIENTIFIC NAMES, AND COMMON NAMES - THE CONTROVERSY SO FAR AND A REQUEST FOR <i>YOUR</i> PARTICIPATION		9
A SPRING DRAGONFLY MIGRATION IN THE NORTHEAST	Ken Soltesz, Bob Barber, and Ginger Carpenter	10
ODONATES AROUND THE COUNTRY - IT'S BEEN A REWARDING SEASON	Nick Donnelly	14
ARE YOU PACKING A NET, PILGRIM? or A SODBUSTER LEARNS THE FAST DRAW!	Roy Beckemeyer	18
GREAT BLUE HERONS, DWARF WEDGE MUSSELS, AND GRAY PETALTAILS	Richard Orr	19
A 2.5 LITER 4WD COLLECTING NET FOR INSECTS AND PEDESTRIANS	Paul-Michael Brunelle	21
PATAGONIAN ODONATA IN MALAISE TRAPS	Javier Muzón and Gustavo R. Spinelli	22
COLLECTING DOWN AT THE OTHER "DOWN UNDER"	Rosser Garrison and Javier Muzon	23
BEHAVIOR OF <i>OPHIOGOMPHUS ANOMALUS</i> AT ALGONQUIN PARK	Peter Burke	27
<i>LANTHUS VERNALIS</i> AND <i>PARVULUS</i> : NEW SPECIES RECORDS FOR MARYLAND	Dave Czaplak	27
SOME COUNTY RECORDS FOR KANSAS AND OKLAHOMA ENDANGERED SPECIES	Roy Beckemeyer	28
SCIENTIFIC COLLECTING AND ENDANGERED SPECIES LAWS	Jerrell Daigle	29
SUPREME COURT RULING ON HABITAT DESTRUCTION	Bob Glotzhofer	29
ODONATA AS CUISINE	Jerrell Daigle	30
STATUS OF CERTAIN AVAILABLE REPRINTS		31
MAPPING SOFTWARE FOR THE PENURIOUS OR "PECUNIARY- DISADVANTAGED"	Rosser Garrison	31
EFFECTS OF WATER POLLUTION ON ODONATES IN COTO BRUS, COSTA RICA	Roy Beckemeyer	31
METAMORPHOSIS (poem)	Jessica Logan	32
E-MAIL DIRECTORY	Beverly Shepard	33
New BAO issue: ODONATA OF ALABAMA		33
		34