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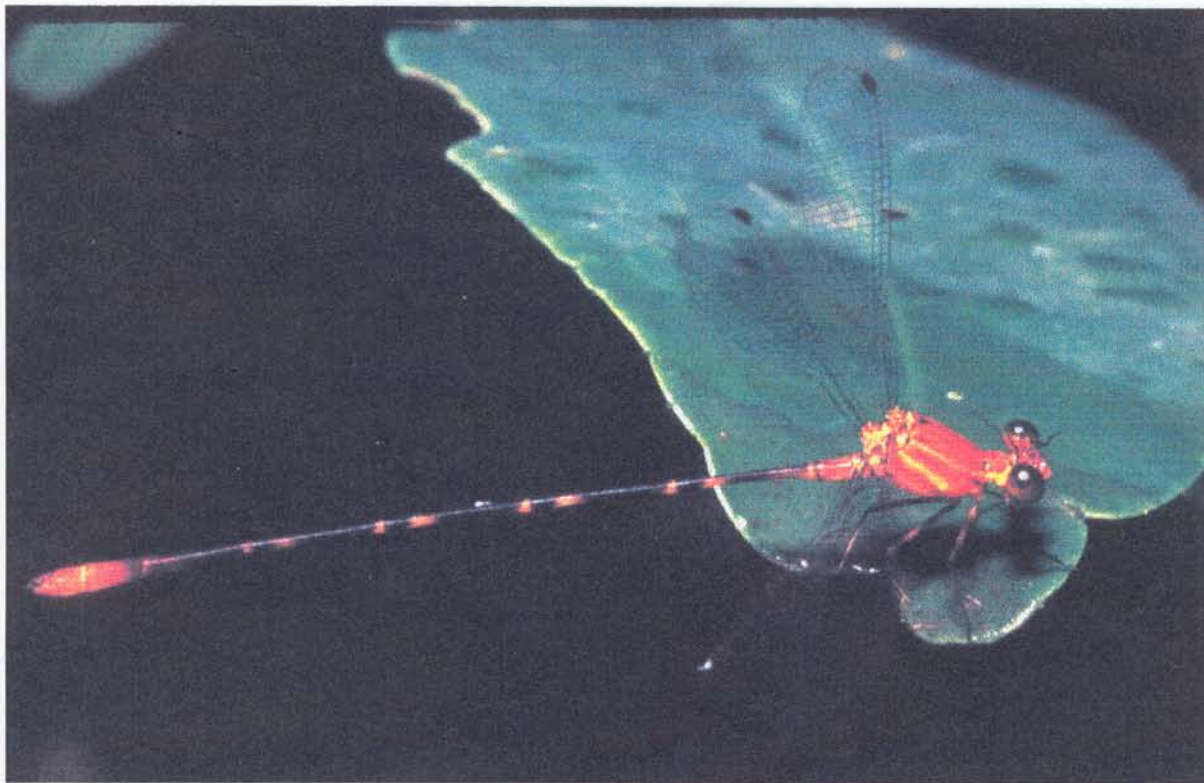
ARGIA

THE NEWS JOURNAL OF THE DRAGONFLY SOCIETY OF THE AMERICAS

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THE DRAGONFLY SOCIETY OF THE AMERICAS

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JOURNALS PUBLISHED BY THE SOCIETY

ARGIA, the quarterly news journal of the **DSA**, is devoted to non-technical papers and news items relating to nearly every aspect of the study of Odonata and the people who are interested in them. The editor especially welcomes reports of studies in progress, news of forthcoming meetings, commentaries on species, habitat conservation, noteworthy occurrences, personal news items, accounts of meetings and collecting trips, and reviews of technical and non-technical publications. Articles for publication in **ARGIA** should preferably be submitted as hard copy and (if over 500 words) also on floppy disk (3.5" or 5.25"). The editor prefers MS DOS based files, preferably written in **WORD**, **WORD** for **WINDOWS**, **WordPerfect**, or **WordStar**. Macintosh **WORD** disks can be handled. All files should be submitted **unformatted and without paragraph indents**. Each submission should be accompanied by a text (=ASCII) file. Other languages should be submitted only as text (=ASCII) files. Line drawings are acceptable as illustrations.

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

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

MEMBERSHIP IN THE DRAGONFLY SOCIETY OF THE AMERICAS

Membership in the **DSA** is open to any person in any country. Dues for individuals in the US, Canada, or Latin America are \$15 for regular membership and \$20 for institutions or contributing membership, payable annually on or before 1 March of membership year. Dues for members in the Old World are \$20.

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

Cover: *Heteragrion consors*, a Brazilian beauty, by Rosser Garrison. See his article in this issue.

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

IN THIS ISSUE

Normally I start off the Spring issue with the news of spring's arrival in Binghamton. This news is usually brought to us by immense wedges of geese flying north. Not this year. This year the geese were two weeks late and somewhat less enthusiastic than usual. Perhaps the complete snow cover dampened their spirits; it has certainly dampened mine. Many e-mail correspondents tell me of the cold winters they are experiencing. The only upbeat call was the cheery voice of Paul Miliotis telling me that damselflies were popping all over where he lives. Which is San Antonio.

However, this is the issue devoted to the plans for all our summer gatherings, and the announcements of these should start the blood pulsing. We have a full menu this year, and we hope that all of you will be able to attend at least one of these field gatherings. The DSA annual meeting will be in the Hill Country of central Texas in mid July. John Abbott has organized a very promising schedule, and we will all see some dragonflies that we have not seen previously. There are two post-meeting field trips: the first to nearby Dolan Falls and the second to southern New Mexico. It will be very hot, but it is dry heat. And there are lots of Dairy Queens in Texas. (and I know nearly every one of them.)

In late May another "Dragonfly Days" will be held in Weslaco. The gathering was highly successful last year, and we anticipate that many people will discover why we love these insects so. There will be a lot of attention to butterflies and other insects, and there will be a post-meeting group tour to Monterrey, Mexico.

The Northeastern DSA meeting will be held this year in southern New Jersey, led by Allen Barlow. This part of the northeast has been surveyed poorly, and there are some enticing habitats that need to be examined.

The first international regional meeting will be hosted by the Ontario group. The groups in Ontario, Michigan, and Ohio have been very active, and we are happy that these groups are getting together. The location will be in a park not far from northeastern Michigan, giving lots of Americans the chance to discover the beauty of this part of Ontario.

The very popular southeastern regional meeting will be held in the late summer, and in two parts. Breaking with the practice of meeting early in the

year, the participants feel that this season will best meet the needs of inventorying the biodiversity of the Smoky Mountain National Park. All of you are probably aware of the decade-long project to inventory the total biota of this park; you may not know that Ken Tennessen represents the Odonata team. The late summer date will maximize the probability of finding some less common odonates, such as species of *Stylurus* and *Sympetrum*. The first part of the meeting will be held about two hours' drive to the west - at Pickett State Park. This gem has always been one of my favorite places, and again we hope that many people will take advantage of these meetings.

The spring issue of **ARGIA** often contains accounts of the travels of our members, who flee the US winter in favor of odonates and other delights in warmer climes. Dennis Paulson spent December in Venezuela, where he traveled widely. Although he inveighs against the dry season, he seems to have done better than most of us do in the wet. Roy Beckemeyer tells of a trip to our old stomping ground, Thailand. But he went to some places we never reached, and we are envious! Rosser Garrison spent a month in Brazil, which is a country little known to non-Brazilian Odonatists. Rosser appears to have had a wonderful as well as a productive time. Finally, Ailsa and I made our first visit to Africa. We were overjoyed to see the large animals, but found the dragonflies (even in the dry season - take that, Dennis) very rewarding.

Dennis Holder and Andrea Kingsley contribute an account of last summer's survey of peatlands in Maritime Canada. They have added substantially to Paul Brunelle's list of Maritime Canada Odonata. Until fairly recently the dragonflies of the Maritimes were very much neglected.

Southern Arizona has been in the spotlight many times recently. Sandy Upson has found another *Argia lacrimans* occurrence. It appears that southern Arizona and New Mexico are becoming a new frontier for North American Odonatists.

Minnesota is a frontier of another sort. One of the less well surveyed states, it has now yielded a record (by Dennis Paulson) for the northwestern *Sympetrum madidum*.

Richard Orr contributes a list of the Odonata of Washington D.C. When I began my interest in dragonflies half a century ago, I lived there and was amazed at the richness of the odonate fauna in and around this major city. Richard has spent several years making it richer still (pun intended).

The recent vote on the modified by-laws of the DSA was overwhelming in favor of their adoption.

Mark O'Brien tells us of the discovery, and instant confiscation (from the Michigan Museum of Zoology), of E.B. Williamson's gun, which he used for collecting dragonflies. Déjà vu - I have used a 22 with dust shot for years. Its most notable record was an *Aeshna subarctica* that refused to approach closely (with good reason) at a bog in southern New York. I am happy to report that the species is still there and flourishing 25 years later.

Jill Silsby writes to report that the World Dragonfly Association, which is holding its second biennial convention in Sweden this summer, is prospering. Their journal **PANTALA** has already achieved an impressive reputation.

There are several books to report on in this issue: Defonseka's guide to Sri Lanka; Samways' guide to part of northeastern South Africa; and Forester's guide to Central America (available again. Act now; this one tends to sell out.) Rosser Garrison reviews two reference books that might or might not be useful. I used the Steinmann book just once - for a species that I had been studying and knew a little about. The citation in Steinmann was completely, utterly, and irretrievably incorrect. I didn't bother to look up any more species.

We have all seen dragonflies (almost always *Pantala flavescens*) laying eggs on polished cars. (Why they seek out spiffy limousines has always intrigued me.) What Mark O'Brien tells us is that the eggs are corrosive! Maybe we need an anti-*Pantala* wax...

Ellis Laudermilk sends in a quote from one of E.B. Williamson's papers. I have always enjoyed his papers, and I have quoted from many of them in this newsletter. He can make the description of a new species lyrical. Too bad that editors tend to edit out that sort of graceful writing from today's scientific literature.

Jerrell Daigle reminds us that we need to plan well ahead for future DSA meetings. The popularity of our meetings demands that we plan further in advance than has been our casual custom. The next annual meeting is in 2002, and we still do not have a venue.

Kay Glover contributes a lovely little poem. Apparently she observed her brother Sid Dunkle a little more thoroughly than he had realized.

Dolly Gloyd's son Roger has left her Odonata library to the University of Michigan. It makes a substantial addition to their already impressive library, whose nucleus is the E.B. Williamson library. It is nice to see Ann Arbor reclaim its historical position as one of the world's most important centers for dragonfly study.

Last year José Ramos wrote an interesting account of bat predation on dragonflies in Cuba. A mystery was that they evidently were able to find many species which perch during the hours of darkness. An e-mail from Elizabeth Kalko, of Germany, tells us that they evidently use their sound system to accomplish this!

An account by David Bree on the popular Odonata list serve (listbot.com) of a mantis capturing a huge *Anax junius* elicited two additional accounts. As a New Yorker, I am conflicted over the capture and consumption of one of my favorite dragonflies by our official state insect. How did the mantis get to be our official insect? Presumably our diligent legislators, momentarily weary from levying taxes on the citizens, decided as a change of pace to select an official state insect, so that we might take our proper place among the peoples of the world. The mantis, like many New Yorkers is an undocumented alien. The notion that mantises could "clear the streets" of undesirables, was probably the deciding attribute. How appropriate can you get?

Every once in a while someone comes across a children's story featuring dragonflies. The one found by John Belshe seems to be the oldest one uncovered so far. The delight that children have always taken in these insects has made them metaphoric inspirations for a very long time.

Roy Beckemeyer gives an account of India's revised biodiversity protection law, which will make it essentially impossible to collect insects in India. Interestingly the law is not designed to protect the fauna, but to protect the rights of Indian citizens to exploit the fauna themselves. This is progress?

Dana Denson found an *Anax* frozen in ice. If there are any around here today, that is where they will be. Twenty five degrees is cold?

Enclosed with this issue is a ballot for new officers for the DSA. Please fill it in and return to Sid Dunkle.

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2001 ANNUAL MEETING - THE TEXAS HILL COUNTRY, JULY 12-15

John Abbott

The meeting place will be Junction, Texas located on the South Llano River in the central Texas Hill Country. Junction is a small town of 2,500 located at the confluence of the South and North forks of the Llano River. It is right off Interstate 10, approximately 120 miles northwest of San Antonio and 120 miles directly west of Austin (both with international airports).

The group will gather Thursday evening and spend all day both Friday and Saturday collecting in the field. On Sunday, those attending the post-meeting trip to Dolan Falls can spend half the day collecting in the area before leaving for about a three-hour drive.

We will have meetings on Friday and Saturday evening in the fellowship hall of the local Methodist church, which is very suitable for showing slides and talking about the past years collecting events.

ODONATA ACTIVITIES:

There are a number of diverse collecting sites in the Hill Country that we can get to fairly quickly from Junction. These include the South Llano River at the South Llano River State Park, the Nueces River, the Frio River (Garner State Park), San Saba River and varied habitats at Lost Maples State Natural Area.

The above collecting localities should provide a number of opportunities to find such goodies as: *Lestes sigma*, *Neoneura aaroni*, *Protoneura cara*, *Argia barretti*, *A. cuprea*, *Enallagma novaehispaniae*, *Ischnura barberi*, *Aphylla angustifolia*, *Phyllogomphoides albrighti*, *P. stigmatus*, *Progomphus borealis*, *Macromia annulata*, *Brachymesia furcata*, *Dythemis nigrescens*, *Orthemis ferruginea* and *discolor*, *Macrothemis imitans* and *M. inequiunguis*.

ACCOMMODATIONS:

The main congregating point for the meeting will be the Comfort Inn off I-10 (exit 456) in Junction. They have agreed to give us the rate of \$55.50 + tax for a room with two beds. We must have at least 10 rooms booked for the meeting to insure this rate, so please consider using this hotel when making your

accommodation arrangements. Just mention you are with the Dragonfly Society of the Americas to secure this rate. I have listed the other hotels and motels in town below.

Comfort Inn (915-446-3572; \$55.50)
Best Western River Valley Inn (915-446-3331; \$50-70)
Days Inn (915-446-3730; \$60-70)
The Hills Motel (915-446-2567)
Kimble Motel (915-446-2535)
La Vista Motel (915-446-2191)
Lazy T Motel (915-446-2565)
Sun Valley Motel (915-446-2505)
Legends Inn (915-446-8644)
Slumber Inn (915-446-4588)

For those wishing to camp the South Llano State Park is just outside of Junction and has a large number of campsites available. Reservations can be made by calling (512) 389-8900, or on-line at <http://www.tpwd.state.tx.us/park/parks.htm>. I would make reservations, as the park is quite popular especially this time of the year and often meets its capacity nightly. This is also a nice place to launch a canoe.

OTHER ACTIVITIES:

Other nearby activities or places to visit include: Enchanted Rock State Park; Fredericksburg which is an old German town with lots of attractions; San Antonio which offers numerous attractions including the famous river walk; and Sonora Caverns, often touted as the most beautiful caverns in Texas.

POST-MEETING FIELD TRIPS (July 15-21):

A) Dolan Falls Ranch - July 15-18

There will be a post-meeting field trip starting at Dolan Falls on the Devils River, which is Nature Conservancy property. This is a beautiful area at the intersection of three biomes where Dolan Creek flows into the Devils River north of Del Rio in Val Verde County. It is among the most diverse areas for aquatic insects in the state and is host to some 60 species of Odonata. Some of these include: *Acanthagrion quadratum*, *Protoneura cara*, *Neoneura aaroni*, *Phyllogomphoides albrighti*, *P. stigmatus*, *Macromia annulata*, *Libellula comanche*, *L. saturata*, *Macrothemis imitans*, *M. inequiunguis*, and *Pseudoleon superbus*. There are screened shelters with cots, but sleeping bags would be advisable as padding. Restrooms including showers as well as full kitchen facilities

are also available. You will want to bring whatever food you plan on eating, as the closest town with any kind of facilities is over an hour away. Refrigeration, stove, oven, microwave, pots, pans, etc... will all be available at the ranch. There is potable water on site. We will stay here from July 15 through the 18th. **FORDING THE RIVER WILL REQUIRE A VEHICLE WITH HIGH CLEARANCE.** People can be shuttled in; contact John if you are in doubt.

B) Roswell, NM area - July 18-21

We will leave Dolan Falls on the 18th and head for Roswell, New Mexico, where we will stay until the 21st. Robert Larsen has been doing a lot of work in this area and has arranged for the group to visit a number of neat localities, including Bitter Lake National Wildlife Refuge and Bottomless Lakes State Park. Robert has made a number of interesting discoveries in this area and it should be a good time of the year. We would depart in our different directions then on the morning of July 21st. I would encourage everyone to make reservations at the Budget Inn below, but there are several options for you to choose from.

Accommodations in Roswell.

- Budget Inn North (505 623-6050, 800-752-INNS) - \$40.95 + tax
- Best Western Sally Port Inn (505 622-6430) - \$62.95 corp. rate (mention DSA meetings) + tax
- Comfort Inn (800 228-5150) - \$75.99 + tax
- Days Inn (505 623-4021) - \$57 + tax (w/full breakfast)

Details will be posted and updated both at my web site, <http://www.esb.utexas.edu/jcabbott/odonata> and at the IORI site, <http://www.afn.org/~iori/>. You can email, jcabbott@mail.utexas.edu or call (512) 471-5467, me if you have any questions as you make your plans for next summer.

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DRAGONFLY DAYS 2001, WESLACO, TEXAS, MAY 18 - 20

Ray Biebe, McAllen, Texas

A festival of Dragonflies and "bugs" celebrated by the Valley Nature Center and dedicated to the colorful and fascinating odonates found in the Lower Rio Grande Valley. Seminars and field trips will also have a look at insects and arachnids as a whole and festival organizers expect that the program will appeal to all ages!

FIELD TRIPS will be conducted each day and will visit locations in the Weslaco area including Santa Ana NWR and the Mercedes Tract of the Lower Rio Grande NWR. There will also be a special field trip (additional charge) on Friday to explore the Rio Grande by Canoe.

CHILDREN'S PROGRAM. The festival includes a special children's program on Saturday.

VENDORS. Vendors will be available on each of the three days and this part of the festival will focus on Nature and Art.

CALENDAR OF EVENTS

- Fri. May 18, 11 AM: Field Trips depart VNC
- 7:00 PM: Welcome Social and Registration at the VNC (Free to registrants)
- 9 PM: "Black Light Magic", Carrie Cate at the Valley Nature Center
- Sat. May 19, 8:30 AM: Seminar: "LRGV Odonates", Dr. John C. Abbott, University of Texas, Austin
- 10:30 AM: Seminar: "Butterflies and More", Paul Miliotis, San Antonio, TX
- 1 PM: Field Trips depart VNC
- 7 PM: Banquet
- 8:30 PM: Keynote Address: "An Overview of the dragonflies and damselflies of the Americas", Dr. Sid Dunkle, Collin County Community College, Plano, TX
- Sun. May 20, 8:30AM: Seminar "Odonate Folklore", James Lasswell, Texas A&M
- 10:30 AM: Seminar: "Araneology 101 or, "What are spiders?" Carrie Cate, Alamo, TX
- 1:00 PM: Field Trips depart VNC
- Mon - Wed, May 21 - 23, 8:30 AM Post-Event trip to Chipinque, Mexico. This guided trip will visit beautiful Parque Chipinque and nearby areas located in the Sierra Madre Oriental south of Monterrey. Transportation, 2 nights accommodation, meals, and all admission and Tourist Visa charges in Mexico are included in the price. Note: Minimum of 8 participants required. Maximum 10.

For more information, contact the Valley Nature Center at (956) 969-2475 or the Weslaco Chamber of Commerce at (888) 968-2102

valleync@juno.com or raybieber@msn.com
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NORTHEASTERN DSA MEETING IN SOUTHERN NEW JERSEY

The Northeastern DSA meeting will be held in Gloucester Co NJ on 9 – 10 June 2001. This is one of the more poorly known counties in this state, and the Winslow Wildlife Management Area promises to be a very attractive site. Allen Barlow, working now of the state Heritage office, will lead the trip. The group will stay in one of the many motels along the Blackhorse Pike in nearby Williamstown. (Wouldn't it be fun to find a new genus and name it Williamstownia?) The area is also not far from other very interesting sites in southern New Jersey.

Contact Allen Barlow <tramea@optonline.net>
973-426-0074

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GREAT LAKES ODONATA MEETING: July 3-6, 2001

Colin Jones
<naturalist@algonquinpark.on.ca>

LOCATION: Laurentian Lodge, Algoma District, Ontario - <www.laurentianlodge.com> The lodge is located about 30km (19 miles) north of Elliot Lake. There is a map on the Laurentian Lodge website.

The area around the lodge and nearby Mississagi Provincial Park has a great variety of sites that should be excellent for odonate collecting and observation. These include: the Boland River (a sandy bottomed river), the Little White River (nice rapids), the Stag Lake peatlands, and numerous lakes, ponds and creeks.

ACCOMMODATION: Accommodation costs (including all three meals a day) are as follows (in Canadian dollars):\$74/person/night - double occupancy (approx. US\$53)\$89/person/night - single occupancy (approx. US\$64)

Camping is also available at the lodge at \$15/night/campsite for an unserviced site (i.e, no electrical or sewage hook-up). Meals are available in the restaurant for campers if desired.

Camping is also available at Mississagi Provincial Park a few kilometers down the road.

For those interested in attending, it is recommended that a reservation be made as soon as possible as the lodge seems to be very popular. To make reservations for either a room or camping at Laurentian Lodge, give them a call at 1-705-848-

0423 and tell them that you are attending the Dragonfly Meeting.

AGENDA: This will be a very informal meeting concentrating on meeting each other, sharing ideas about provincial/state surveys and inventories, and mostly getting out to survey the local area which has received very little activity in the past - so there should be lots of exciting discoveries.

If anyone would like to present a short slide presentation in the evening, suggestions are welcome.

A little about the Odonate fauna of the area: The area has both northern and southern elements and a combination of both northern and southern species will be flying here. The entire district of Algoma has been very poorly surveyed in the past. Currently, the Algoma list consists of only 66 species and the vast majority of these records are historical records. The most recent records that we are aware of are from 1989! There are therefore many possibilities for additions to the list, and many exciting discoveries to be made. Some particularly interesting species that are expected include:

Coenagrion interrogatum (Subarctic Bluet)
Nehalennia gracilis (Sphagnum Sprite)
Gomphus adelphus (Mustached Clubtail)
Ophiogomphus carolus (Riffle Snaketail)
Helocordulia uhler (Uhler's Sundragon)
Somatochlora cingulata (Lake Emerald)
Somatochlora franklini (Delicate Emerald)
Somatochlora kennedyi (Kennedy's Emerald)

For more information or if you plan to attend contact:

Colin Jones, Natural Heritage Information Centre, Ministry of Natural Resources, 300 Water St., 2nd Floor, North Tower, P.O. Box 7000, Peterborough, ON, K9J 8M5Tel: (705) 755-2166Fax: (705) 755-2168

naturalist@algonquinpark.on.ca

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THE 2001 SOUTHEASTERN DSA REGIONAL MEETING, PHASE ONE

Carl Cook <bugman@scrtc.com>
502-565-3795

At the Cades Cove southeast meeting last year it was decided to add a little variety to this year's meeting by dividing it into two parts. It was suggested that phase one be held in the Jamestown

Some groups are really scarce during the dry season, including a number of damselfly families, gomphids, and aeshnids. We saw surprisingly few aeshnids everywhere we went, none (except one *Gynacantha nervosa*!) in the rainforest area. Yet on one evening boat ride along a slough in the llanos, lots of huge *Staurophebia* (sp.?) came out of the forest and hawked around the boat, and I was heartbroken that I hadn't brought a net on this birdwatching jaunt. We saw enough *Coryphaeschna adnexa* in Venezuela and in Mexico last year (it is also in Florida) to convince me that this species is intimately associated with floating vegetation, especially water lettuce (*Pistia stratiotes*). Some *Erythemis* (particularly *E. mithroides*) and *Telebasis* (*T. filiola* was the most common species) also seem to be especially fond of water covered by floating plants.

We did see some interesting odonates on several "caños," nonflowing tributaries of the Ventuari River, and managed to catch all species seen except an odd *Orthemis*-sized libellulid, all bluish-gray except the extreme abdomen tip, which was bright red. This was the only odonate I saw for which I couldn't hazard a guess of its generic identity. We developed a technique of watching for dragonflies on twig tips (our Indian boat driver had incredibly sharp eyes for both birds and dragonflies) and running the boat toward them with me kneeling like a figurehead in the bow, then cutting the engine at the last moment as I swung. This seemed to catch many dragonflies off guard, and I caught a huge gomphid by this method that turned out to be *Phyllogomphoides major*, the largest species in this diverse genus.

I've had great luck in Peru and Ecuador by walking along forest trails, where the diverse aquatic habitats furnished many odonates, especially females away from the water. But the trail at Junglaven - with bone-dry forest along it - had relatively little diversity, only the common coenagrionid *Aeolagrion flammeum* (where does it breed?) and a few *Hetaerina laesa* and *Mecistogaster linearis* among the damselflies; and two common libellulids, *Anatya guttata* and *Uracis oviposatrix*, with a very few of an additional 5 species. That's a very low diversity for a rainforest site! At one lengthy caño, we spent 2 hours in a boat and never saw a zygopteran of any sort, and I decided this was probably because there was no aquatic vegetation and swarms of hungry fish. I've never seen higher freshwater fish diversity than I did in those caños.

Elsewhere in the country, we found large numbers of *Erythemis* and *Erythrodiplax* species apparently breeding, and these two genera dominated most still water. Quite a diversity of species, but most wide-ranging and common (Jürg De Marmels called these "duck food"). I finally saw *Erythemis credula* in the field, a long-held wish, and noted how much it looks and acts like an *Erythrodiplax*. *Erythrodiplax clitella* and *fulva*, both Venezuelan specialties, were locally common and very beautiful. Other than these genera, the marshy ponds had a few *Ischnura* and *Telebasis*, the streams a very few *Argia* (nothing like the diversity in Central America), *Hetaerina*, and protoneturids.

Neoneura was especially interesting, and we found *N. cristina* (blue and black), *luzmarina* (red and black), and *sylvatica* (spectacular, with sky-blue thorax and red-orange abdomen) all together at one stream. We also found two species of *Epipleoneura* (*metallica* and probably *spatulata*) near Puerto Ayacucho, but never found them on the same stream. *Perithemis lais* and *thais* were also common on small forest streams, quite lovely little amberwing dragonflies with dark wing markings.

In the wide-open spaces of the llanos, feeding swarms of *Miathyria marcella* (the water hyacinth/water lettuce breeder) were everywhere, with lots of *Pantala flavescens* and *Tauriphila australis* and fewer *Tramea calverti*. Dense grassy marshes were full of the tiny *Erythrodiplax paraguayensis* and much tinier *Ischnura capreolus*, and very little else.

I learned a bit more about the puzzling red *Orthemis* species that look so similar as specimens. *Orthemis discolor* is colored the same in Venezuela as it is in Mexico, with bright red face and abdomen, and it contrasted nicely with *Orthemis aequilibris* (we found them together at several places), in which males have darker faces and darker, more purplish abdomens - the same difference as between *O. discolor* and *O. ferruginea* farther north. I'll claim again that some of these *Orthemis* are in fact recognizable in the field. However, we also found the "Antillean" *Orthemis* on the north coast, which looks exactly like *O. discolor* in the field.

We found very few dragonflies in the Andes, unfortunately, but among them was a striking *Sympetrum* that Jürg De Marmels had only discovered last year--black with a vivid white stripe on either side of the thorax and yellow spots on the

abdomen. If I hadn't just seen Jürg's specimens, that would have been the most exciting find on the trip. It's amazing how many *Sympetrum* species are scattered through the South American mountains; quite a few have turned up in Venezuela, and I have an undescribed one from Ecuador.

The genus *Oligoclada* is a good example of the need for collection of specimens from every location when you are surveying an area. These are small libellulids that typically rest on the tops of leaves at the forest edge, all dark but with bluish pruinosity on the thorax. We found them at a number of localities, and I always tried to get specimens. Most of them are indistinguishable in the field, but we ended up with 4 species, including *O. sylvia*, which is recognizable in the field by its small size.

I had not had much experience with *Diastatops* before this trip, but we saw two species, one of them (probably *D. estherae*) several times on our boat trips on the caños and the other at small streams. These small dragonflies, related to *Perithemis*, have red abdomens and black wings. They are spectacular creatures, to say the least, and the caño species, with bright red on the wing bases, had an interesting habit of landing on a shrub and then moving gradually into the center of it, where it was less conspicuous and much less at risk of predation. When we approached the shrub, there was no way to catch one, as they were too well protected, and when flushed, they moved rapidly out the other side, looking much like a butterfly in flight. Interestingly, I had collected a series of the very similar *D. intensa* in Ecuador years ago and hadn't noted this elusive behavior. The smaller *D. obscura* belies its name by bright red abdomen and metallic blue-black wings, and it was catchable, thank goodness!

We brought back 500+ specimens of 102 species and saw another half-dozen that we couldn't collect, and I have finally identified them all, except for apparently undescribed species. It's really exciting to look at the specimens under the microscope that you brought from the field and realize you encountered more species of *Hetaerina* or *Oligoclada* or *Epipleoneura* than you thought you had found. The opposite was true in *Argia*; I assiduously sampled them at every small stream we crossed in Amazonas (a day and a half around Puerto Ayacucho provided our best collecting of the trip) and found only *A. pulla* and *A. translata*, two of the most common species of the genus!

After working over the specimens for weeks, I'm considerably more pleased than I was at times standing at a pond with nothing but the most common Neotropical species flying around in front of me. As well as the undescribed *Sympetrum* in the Andes, we found an undescribed *Micrathyria*, a very small member of the *didyma* group; and a presumed undescribed blue *Telebasis*. We also found 4 new species for the country, all in Amazonas: *Phyllocycla bartica*, *Idiataphe cubensis*, *Micrathyria dunklei*, and *M. occipita*.

This pleased me greatly, as I hadn't realized that we had done that well in one of the best-known South American countries for odonates. Venezuela has had resident active collectors for the last half-century, Juan Rácenis and then Jürg De Marmels, and between them they discovered and named a large number of species. De Marmels still has a fair number of undescribed species from the country, and he's the first to admit that large parts of Venezuela remain poorly surveyed. The collection he maintains at the Universidad Central in Maracay is the most complete one for Venezuela, and I'll be sending him specimens to augment it.

Anyway, although it didn't seem especially thrilling while we were there, it turns out that we did fairly well, especially in Amazonas state. I'm sure we would have done better in the rainy season, but many areas actually become inaccessible during that season. We got lots of photos, and I hope to get time to scan some of the more interesting species to put them on the web.

Our trip was great for birds and other vertebrates, I should add, and it was thoroughly enjoyable to be in tropical latitudes for a while in midwinter. But next time we'll go in the rainy season!

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PHOP GAN MAI IK KHRAP, THAILAND!

Roy Beckemeyer

My wife, Pat, and I had decided that our next birdwatching trip would be to Asia, and after seeing Nick Donnelly's exotic slides of Thai and Malaysian Odonata, it was easy for me to opt for Thailand when a birding trip there came to our attention. (Not to mention the fact that we have loved Thai food for many years, and wanted to experience the real thing.) Since we were primarily after birds, the trip was in the dry season, mid January through the first week of February of 2000,

a total of about three and a half weeks. That seriously impacts the number and range of odonates one can see, with very few Aeshnidae, and no Gomphidae, Chlorogomphidae, or Corduliidae likely to be around, and limited numbers of even the more common species (I ended up seeing or collecting a total of about 30+ species by the end of the trip.)

We went with a group of twelve other birders and two tour leaders, a Thai interpreter/guide, and three Thai drivers, and traveled in three vans, two full of people and the third full of bags. The birders ranged from enthusiasts like Pat and me to very serious hard-core twitchers. Then there were two very avid entomologists, a lady from Chicago who went after butterflies, and me, the dragonfly nut. I learned early on in my attempts to combine birding and dragonflying that swinging a net in the company of birders usually engenders little in the way of friendly feelings, so I try to either stay back behind the group or go off on my own. Either approach means missing some birds, but I am able to accept that, even though I sometimes miss some incredible avian specialties, the new dragonflies more than make up for it.

I will include odonate names as I go along in this narrative, even though I did not know most of them by name at the time. Thanks to Nick Donnelly for identifying specimens and photos for me. We began our trip in the vicinity of Bangkok (we spent only three nights there on the whole trip, so did not see much of the city). At Kamphaeng Saen University just northwest of Bangkok, I saw my first Thai odonates, a damselfly, *Ceriagrion aurantiacum*, and a libellulid, *Diplacodes trivialis*. Accompanying birds were as exotic as Ruddy-breasted Crake, Black Bittern, and Javan Pond Heron, and common as Black-crowned Night Heron (also found around the U.S.). Later that day we visited the famous Buddhist monastery at Wat Pai Lom, where there were thousands of Asian Open-Billed Storks nesting - a very impressive sight. This was a place where it was best to walk with a watchful eye to avoid being bombed - one of our birding companions was splattered very effectively by a particularly accurate stork bombardier.

We headed west and south the next day, along the Gulf of Siam to the coastal town of Hua Hin, near Kao Sam Roi Yat National Park. This is on the east coast of peninsular Thailand near the head of the Gulf. It is characterized by two types of terrain, limestone karst pinnacles and open reed beds. Lots

of shorebirds to be seen, including the tiny but quite pretty Malaysian Plover. The woodlands on the karst hillsides yielded our first primates of the trip, Dusky Langurs, and Crab-eating Macaques, and the first aeshnid of the trip, a brown colored darner that was probably a *Gynacantha*; in any event, it eluded both camera and net. Common as dirt, but heavenly to look at were the fluorescent-feathered birds that made us gasp in surprise: Indian Rollers, Common, White-throated, Black-capped, and Collared Kingfishers and Green Bee-eaters (among others). Also we saw our first Common Hoopoes, those extraordinary-looking creatures with the funny headdresses.

The reed beds were great places for wintering Eurasian LGB's and LBB's (little gray birds and little brown birds), such as Pallas' Grasshopper Warbler, the Reed warblers (*Acrocephalus* warblers), and a couple species of *Phylloscopus* warblers, including the Arctic Warbler. As a sparrow aficionado, I found the intricacies of separating the not-very-distinctive Eurasian warblers difficult but interesting, and one of our leaders, Peter Kennerley, a Brit who has lived in Hong Kong and Singapore since 1984, knows these birds well, so he was able to help us decipher them. (He is in the midst of preparing an identification guide to some of the Old World warblers.) The reed beds were also good for common Asian odonates, including: *Ischnura senegalensis*, *Agriocnemis femina*, *Brachythemis contaminata*, and *Orthetrum sabina*. Interestingly, I met a Thai fisherman while I was collecting some libellulid exuviae from the reeds, and even though neither of us spoke the other's language, I was able to determine that he knew that "malaeng po" (Thai for "dragonflies") emerged from them, which I thought was quite unusual, as I haven't encountered many fishermen in the U.S. who knew what dragonfly exuviae were.

After a few days we moved north and west to within sight of the Myanmar (formerly Burma) border and within hearing of exploding mortar rounds that were being fired across the border on a daily basis (we think by Thai soldiers trying to keep the Myanmar rebels out of Thailand). Kaeng Krachan National Park comprises over 1,800 square miles and is Thailand's largest and least-studied conservation area. Here we saw the Black-thighed Falconet, which looks exactly like a Disney stuffed-toy version of a falcon. Cutest bird of prey we ever saw. Also got great views of Grey Peacock Pheasant, and Asian Barred-Owlet, and saw our first Hornbills (Oriental Pied and Great). What

marvelous birds. Their wing beats sound exactly like the sound you would expect pteranodons' wing beats to make. One particularly large group of Oriental Pied Hornbills that flew over a clearing in the forest looked like a squadron of Stuka bombers flying in on London.

It was here at Kaeng Krachan that I saw my first *Neurobasis chinensis*. This calopterygid, one of the first Asian odonates described (by Linnaeus in 1758) has wonderfully green hind wings that it flashes when it flies. I did not catch any specimens of this beautiful damselfly, but I will never forget seeing it fly. I stayed behind at our resort one day to work on dragonflies. That day, the rest of the group (Pat included) saw more *Neurobasis* together with a large mixed-species group of butterflies that were puddling on the mud alongside the stream. Of course, I missed the butterfly extravaganza (although I saw almost all of the species at other times on the trip - just never together in one place). Pat took a couple of rolls of slides of it, however, and of perhaps two dozen species visible in her pictures, I was able to identify 19 to species. They included some real gems: the pierid *Hebomia galucippe* (Great Orangetip), *Prioneris philonome* (Red Sawtooth), *Cepora judith* (Orange Gull), and *Ixias pyrene verna*, the danaid *Danaus chrysippus* (Plain Tiger), and the papilionid *Papilio demoleus* (Lime Butterfly), *Graphium eurypylus* (Great Jay), *G. sarpedon* (Common Bluebottle), and *Pathysa antiphates* (Firebar Swordtail). I should mention that not only has Brother Amnuay Pinratana published several books on Thai dragonflies and damselflies, but he has published a series of six books that cover Thai butterflies, and one book each on the Sphingiidae (Sphinx moths) and Saturniidae (Silk moths) as well. I regretted missing the butterfly extravaganza, but I would not have wanted to miss what I did get to do, namely admire the intensely red libellulids *Trithemis aurora* and *Neurothemis fulvia* that were common on the little pond near our accommodations - now I know what Dennis Paulson and Nick Donnelly mean when they comment on the red dragonflies of the tropics. Wow! Even some of the hardest core birders actually got excited at their first look through binoculars at *Trithemis aurora*. Other libellulids met with here were *Crocothemis servilia*, *Diplacodes trivialis* (seen almost everywhere on the trip), *Pseudothemis jorina*, and *Trithemis pallidinervis*.

We next traveled to Khao Yai National Park and vicinity, which is north and east of Bangkok. Here we picked up another hornbill, the Wreathed, two

more bee-eaters, Blue-billed and Chestnut-headed, and feasted our eyes on the wondrous barbets: Green-eared, Blue-eared, and Moustached. This was the place for more primates as well, the Pig-tailed macaque and the fantastic White-handed Gibbon, which has a wonderful plaintive howl that sends shivers down one's spine. This was my best place for odonates. I again went off on my own and collected and photographed a number of damselflies and a couple of dragonflies one afternoon along a shady forest trail. Here I saw my first and only chlorocyphid, which I decided to photograph first and catch afterwards. Unfortunately, I didn't even get a chance for a second photo, because it flew off immediately upon the flash discharging, a response quite unlike that of the calopterygid *Mnais* damselflies I later photographed in the mountains in the north of Thailand, which seemed to be "hypnotized" by the flash. The bugs here at Khao Yai included the lovely large green calopterygid *Vestalis gracilis*, a *Lestes* species, the coenagrionids *Aciagrion borneense*, *Argiocnemis rubescens rubeola*, *Mortonagrion aborense* and another *Mortonagrion* species, and my first playcnemidid, *Copera vittata* and *Coelliccia kazukoae* (a really rare species compared to most odonates of the trip which were generally fairly common southeast Asian species). Libellulids here included *Neurothemis tullia* and the "very exotic" *Pantala flavescens*! This afternoon off by myself on a forest trail pursuing odonates was quite exciting - near the end of the day, as the *Vestalis* were beginning to settle onto tree limbs beside the trail, and I was intently stalking them, I looked down and noticed something BIG moving near my feet. I took off running up the trail, and when I had gone 20 feet or so, looked back. There was a twelve-foot long reticulated python coming along after me. I ran on ten feet further, and it gave up the chase. This beast was the diameter of my thigh, and I am really not sure how it missed latching on to me as I went by. I must have initially surprised it as much as it surprised me.

Another feature of the Khao Yai area was a large roost of Wrinkle-lipped bats which we went out one evening to see. It took almost 18 minutes for the entire group to fly out of the caves, and we estimated there were around 1.8 million of them. Also watched a Peregrine Falcon and a Besra (an accipiter) fly around trying to catch a bat for dinner - neither had any luck at it. Quite a spectacle! Also, at our resort we had an open air dining room where we grabbed breakfast early in the morning before departing for the field, and there were some

lovely silk moths hanging from the lights in the cold morning air. They were *Caligula cachara*, pretty cinnamon brown and sand colored with pale bluish eye spots on the hind wings. (Identified thanks to Brother Pinratana's book, which was on the small "library" shelf of the resort at which we stayed.)

On January 27th we drove back to Bangkok and flew north to Chiang Mai. From Chiang Mai we motored up to Thailand's northwest border with Myanmar (Burma). Here we spent a lot of time working the mountains for such rare species of birds as Red-faced Liocichla, White-browed Laughing thrush, Giant Nuthatch, and many others. The weather was generally cool and cloudy, so I saw very few odonates. We also traveled to a Thai town almost on the border with Burma, Tha Ton, and took the delightful Thai riverboats, which are powered by auto engines driving long drive shafts with a propeller on the end, on a trip on the river. Got to see Thai troops going up river to the border with big machine guns mounted on their river boats. Ours just held birders with binoculars. Saw *Neurobasis chinensis* again, and wished that I had a net in the boat with me, but didn't. We did spend time in the rice paddies near this village, where I caught more *Diplacodes trivialis*, along with *Orthetrum sabina*, *Potamarcha congener*, and, believe it or not, another *Pantala flavescens*.

The first week of February saw us tackling the mountain Doi Chiang Dao in Range Rovers. Minivets, Scimitar-babblers, Shrike-babblers, prinias, all beautiful, strange, and exotic birds from completely unfamiliar families were our reward. We also spent two marvelous days at Doi Inthanon National Park, which contains the highest mountain in Thailand (2,590 meters) as well as fantastic pine forests and great birds. We saw another species of Falconlet - the Collared - in fact there were three in one tree! Also such exotica as Pygmy Wren Babbler, a tiny bird that flitted around on the ground at our feet in the deep forest as a small group of us stood perfectly still and marveled at the experience. And here, on a marvelous crisp clear day on a wide trail in the forest, there appeared the last odonate I was to see in Thailand, the calopterygid *Mnais yonosukei*, which obliged me by posing for pictures quite nicely. That species and a number of others are pictured at a page on my web site:

http://www2.southwind.net/~royb/thai_od.html

Thailand has wonderful animals, plants, and scenery; the people are friendly, the food is

wonderful. We plan to go back some day, ergo the title of this article: "Phop gan mai iik khrap, Thailand!" (See you again, Thailand!)

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BRAZIL 2000, OR LIVING IT UP (AND COLLECTING) IN RIO

Rosser Garrison

The last time I had been in Brazil was in 1989 when I participated in the Holbrook Travel excursion to Rancho Grande, Rondonia State (see ARGIA, Season summary supplement - 1989). I had corresponded with Doctora Janira Costa of the Museu Nacional do Rio de Janeiro. Early in 2000, I asked Janira about the possibility of visiting the Museu and working with her on the Odonata. Part of my decision was based on my correspondence with Janira and with Frederico Lencioni of Jacaré, São Paulo. Fred, who is interested in neotropical Zygotera, and his wife, Angela, visited us in Azusa a few years ago and extended an invitation to visit Brazil. Realizing that obtaining the necessary documentation and permits would be necessary to satisfy the governments of Brazil and the United States, I hoped that Janira might facilitate these procedures.

In October, Janira informed me happily that proper documentation was in place that would allow me to work and collect in Brazil. In addition, their scientific research organization, Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), would fund the trip while I was there for a month. Before leaving I made sure I had some gifts for Janira and Frederico: a copy each of Bridges' Catalog, Kathy Biggs' "Common dragonflies of California", and, for Janira, a BioQuip net. On November 20, I took the 30-plus hour flight from Los Angeles to São Paulo then to Rio de Janeiro. Being over six feet tall, I (naturally) got only an hour or two sleep on the airplane as it winged its way south. I arrived in Antonio Carlos Jobim airport and was greeted by Janira and her student Angélica Lourenço. When asked whether I wanted to go to her house in Recreio (a suburb along the coast east of the city) to rest or go to the Museu Nacional and work on Odonata, the decision was obvious. (Yes, I went to the museum).

Janira kindly invited me to stay at their house, where I met Janira's husband, Jalmos. One great benefit for me was to access Jalmos' computer so that I could e-mail my family almost every night I

was there. The 6000-mile distance seemed a lot shorter using this feature!

Most of my work in the Museu was examining hundreds of specimens of *Hetaerina* and *Argia*, two genera on which I am working. Although Janira had used my *Hetaerina* paper to identify males, the females are harder and I identified females mostly from the state of Rio de Janeiro. It was during these sessions that I began to realize that Janira is completely, and I do mean completely, absorbed in her work. She had told me that she loved collecting Odonata and that she could spend hours working on museum specimens. It became a long-standing joke to ask her if she was tired. Her answer would invariably be, "No! I am never tired!" The odonate collection comprises some 1 million specimens, of which about 30,000 are from the state of Rio. The collection boasts the rich legacy of the late Prof. Newton dos Santos, the father of Brazilian Odonatology. His library was given to Janira before his death. About half the days I was in Brazil, we would work diligently in the Museu--both of us discussing problems in the Odonata. I began to realize that Janira has worked on many projects and she seemed to have more papers in preparation than I could begin to count.

On 25 November, Janira took me to Parque Ecológico Chico Mendes near her home. About the only species that Janira and I saw was an occasional *Telebasis filiola*. I was able to shoot a few pictures of this beautiful species.

On 26 November, a group consisting of our driver Hobson, Janira, her students Angélica and Ludamilla, and myself, embarked on our first five-day outing, to Parque Nacional do Itatiaia. The park, located at the far northwestern border of Rio, is the oldest national park in Brazil. It will be celebrating its 60th birthday this June. The Parque is famous as the type locality of the large protoneurid, *Forcepsioneura itatiaiae* (Santos). Perhaps we would be fortunate to see this species. While there, Janira informed me that we would need to produce some published results of our trip as a condition to receiving permission to collect. The small book on California dragonflies was especially intriguing to Janira. After noticing that I photographed dragonflies, she suggested that we produce a similar volume on the common dragonflies and damselflies of Parque Nacional do Itatiaia. I thought this an excellent idea and decided to make photography of the more common species of the park one of my top priorities.

Janira first took us to the magnificent Cachoeira Veu da Noiva at 1,150 m. Here the large *Hetaerina brightwelli* immediately came to our attention. This magnificent species is also one of the most difficult to approach. The males sat on large rocks in streams but sallied back and forth when other conspecifics approached. I often became discouraged when a male would perch on a rock and at my first step of approach, it would fly off to another spot difficult of access. I found that I had more luck over small walkways over narrow stream accesses. *Progomphus gracilis* was common when the sun was out. Males allowed for easy approach and I photographed a male as it perched on a large rock in the stream. A large *Hetaerina* sat on a boulder almost underneath the walkway and I slowly inched my way toward it. I could see through my lens that this male was busily cleaning its wings. "Click," went the shutter (several times for several pictures) and I believed I had succeeded in snapping a picture of the common but elusive *brightwelli*. When I returned to California, I realized that I had photographed a large male *H. longipes*! Janira and I captured a few specimens of a *Brechmorhoga* which both Janira and I believe is undescribed.

Some of the most beautiful damselflies in the neotropical region are members of the large genus *Heteragrion*. Their beauty belies the numerous pitfalls waiting the student who wishes to study them. First, there seems to be a new species behind every bush. Some resemble one another superficially (color patterns) and others have similar appendages. Despite Williamson's valiant attempt to monograph the genus, no serious student seems satisfied with the results. Another serious problem is associating names with types—IF the types can be located! Selys was unsure of what some of his species were and type material is scattered over several museums, or damaged, or, worse still, lost. Bearing these difficulties in mind, it would seem impossible to settle just what species are what. I agree with Frederico Lencioni, who told me while I was in Brazil that he would be inclined to accept identifications only when the types have been studied. Good advice!

I can illustrate the difficulties with our experience of this genus at Itatiaia. We encountered the first specimens of what we thought were *Heteragrion dorsale* along the trail to the falls. This is a large and beautifully colored species with a large, brilliant canary yellow spot on the mesepisterna. I tried to collect every one I could find. I also photographed it on three occasions. Later, when I

began to determine my series in California, I realized that I had collected about equal numbers of *two* species! One species was *dorsale* (a species not treated in Williamson's paper) but the other one is probably undescribed—at least I cannot associate it with any species or species description. This was the first of two occasions on which I was later rewarded for collecting a series.

On 27 Novemeber, we hiked to another falls, the Cachoeira Itaporani at 1,100 m. Not finding much of interest at the falls, I decided to head back to the trail. I stopped at a small vertical seepage on the trail and noticed a large, almost invisible protoneurid. Here was the magnificent *Forcepsioneura itatiaiae* at last! It is almost invisible: one must look closely as they hover in front of a leaf tip before perching. I had captured a pair and another male was perched on a leaf tip. As I began shooting pictures, Frederico Lencioni walked up the trail. He was able to collect a pair in tandem. This fantastic species would seem to occur throughout the area but not in numbers. After I returned home, I checked the original description and realized that I had collected this species at the type locality. Had I collected it at the same exact spot where Santos collected it some 32 years earlier?

We visited another famous locality, Rio Campo Belo, a large river below the Parque entrance. Several species occur here including *Hetaerina proxima*, *Argia modesta*, *A. tamoyo* (these last two species have almost exactly the same color and pattern), and *Elasmothemis constricta*. At a marshy seep we collected and photographed *Acanthagrion gracile*, *Argia lilacina*, *Oxyagrion terminale*, and *Erythrodiplax juliana*.

The facilities at Itatiaia were great. Janira arranged for meals to be prepared at a small open-air restaurant. We enjoyed the camaraderie at the end of a hot collecting day. Angélica and Ludimilla love to work with the Odonata. Angélica wants to work with the systematics of *Hetaerina* and *Argia* and Ludimilla is working with Anisoptera. We stayed at a large dorm-like house and evening would find us around a table acetoneing the day's catch and swapping stories of past odonatological adventures.

After our return to Rio and a few more days at the Museu, it was time for our second sojourn. Janira had secured permission for us to travel by military boat to Iha de Marambaia. The long narrow island that lies west of Rio de Janeiro is restricted. Our

trip out was inauspicious; it was raining very hard and we arrived in the evening. We settled down in our bunks in guesthouses near the beach. The next couple of days were spent collecting along the Gruta da Santa, a trail that led up through a mountainous forest habitat at the island's west end. The Odonata were not abundant but what species we did see were fantastic. I hiked up a forested creek and was greeted with my first specimen of *Heteragrion consors* (see cover). As I headed back down I saw a male of *Perilestes fragilis* hanging under a shrub. I took a few photos and inserted a new roll of film. I would take a few more pictures and then capture it. But after loading the camera, I saw, to my horror, that the specimen was gone. I searched in vain for it. I cursed myself for not capturing the thing first. Rule number one: capture your first one and THEN photograph the next you see. For an hour or so I saw more *Heteragrions* but not another *Perilestes*! Then on the way down to the main stream, I saw another (or the same?) male! This one was in my net the next instant. I also photographed and collected *Epigomphus paludosus* as the blue-green males sat on leaves in the forest.

On the trail leading back to the guesthouse, I stopped at a shaded sandy seepage. Here seemed to be a good habitat for a protoneurid of some kind. I was not disappointed. I collected several specimens of what later we identified as *Forcepsioneura sancta*. When in California, I came across surprise number two. Under the microscope, I detected small but consistent morphological differences between the males; there were two species! I corresponded with Frederico Lencioni and he will be examining some of these to see if a fifth species is known for this genus. Again, a happy surprise and I was pleased that I collected every specimen I could find.

On 3 December, all of us went on a small boat with outboard motor to an isolated area on the other side of the island. Here Janira collected a series of *Leptagrion elongatum*. It breeds in the axils and adults occur around the bromeliad *Neoregalia cruenta*. I had taken a different route on the island. At a shallow rain filled pond, I collected *Tramea binotata*, *T. calverti*, and *T. cophysa*. Along a meandering stream in the forest, the beautiful *Perithemis icteroptera* was abundant.

Our third and final trip was to the Cachoeira de Macucu, a wonderful locality some 20-30 km NE of Rio. We stayed at the house of Ludimilla's parents for the five days we collected. We

collected at several areas and elevations and photographed several species in that area. *Hetaerina hebe* and *H. rosea* were present there, although *H. rosea* was far more common. *Argia modesta* was also common in certain areas. I was able to get photos of both sexes of this largely violaceous species. At different areas of the stream at mostly at higher elevations, we collected the violaceous *Argia sordida*. Both species are well-known throughout Rio de Janeiro state.

One common species, *Macrothemis imitans*, was easy to catch but almost impossible to photograph. It was common over riffles and would sit on leaves and, momentarily, on sand banks. Within a minute or two, it would fly off only to land elsewhere. There seemed to be so many times that my knees became soaked and that I would have to rise again (cursing under my breath) in order to follow the darn thing to another spot. At last, just before we had to leave, I was able to see the brilliant aquamarine eyes focus in my camera. Click went the shutter and in an instant, it was gone. The photograph, fortunately, did come out.

At certain spots, Angélica and I came across males of *Heteragrion*, most likely *aurantiacum*. I collected several and also photographed perching males. This is another species that should probably be compared with the type to verify its identity.

Near the end of a trip, one always hopes for a surprise for a good ending. I was so rewarded. I had followed a trail into the forest near the Rio San João. I saw and collected a few interesting species: *Dasythemis venosa*, *Erythrodiplax juliana*, *Orthemis cultriformis*, and *Triacanthagyna satyrus*. On the grass near my feet I saw a miraculous sight, a large blue damselfly with an incredibly long abdomen. "*Leptagrion*", I thought to myself, one similar, but not the same as the magnificent *L. perlongum*. I watched carefully and was deciding whether to photograph it first (again ignoring rule number one!). But it flew to a new location—not far away—under some brush and it was not going to be easy to net! It moved again and this time to a well exposed place. "Perfect", I thought. Nothing to it...a gentle net clap and the prize would be mine. "Oh boy!" I mused, "Wait until Janira see *this!*" I easily clapped the net over the large damselfly, knelt down to see it moving under my net and . . . "Wait...I can't see it! The [expletive deleted] thing is gone! No fair! I had it, I REALLY had it! There was absolutely no way that thing could have escaped!"

I was depressed. I searched for it. No luck. It was *Perilestes fragilis* all over again. Who knows if I would ever see it or another one again. But perseverance pays off. I did see it again and this time . . . I looked at it as I removed it from my net and saw the excessively long abdomen. My hand was probably shaking a little and I think my heart was pounding. It looked like a miniature *Mecistogaster* (hint as to what this was . . . read on!). Later, Angélica came with me to the same spot and we each collected a pair. The females do not have nearly as long an abdomen as the males.

Back at the Museu, I showed it to Frederico, who visited us for a couple of days near the end of my trip. Upon seeing it, he exclaimed: "That's *Minagrion mecistogastrum!* That's fantastic!". Sure enough, it was. The venter of abdominal segment one has a prominent longitudinal tubercle that uniquely characterizes the genus. Fred told me that he had over the years collected some of these but that sightings were very infrequent. Here, Selys did a great job with the specific epithet "*mecistogastrum*", for it does look like a *Mecistogaster*.

At the end, I had managed to collect some 350 plus specimens representing 66 species; not a bad lot when considering that I was actively photographing various species. The results are well worth it. However, even better than the localities and the specimens were my hosts, Janira, Jalmos, Janice (their daughter), Angélica, Ludimilla, Hobson, Frederico and others who made my stay so pleasurable. I had not dreamed that I would be doing something like this anytime soon. Thanks to the Janira's hard work in obtaining not only the permission, but the funding, I was able to experience a fantastic month of delight.

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WATCH OUT FOR WARTHOGS!

Nick Donnelly

Actually, Wart hogs are pussy cats. In fact, they are really cute – especially the babies who run off with their tiny tails held vertically. What we had to watch out for were the cape buffalo.

We flew to Uganda from Cairo in mid January and settled in at the University Guest House, which is not noted for its cuisine. Our first two days consisted of day trips to small forest remnants near Kampala where we found gorgeous damselflies: the beautiful brilliant green *Umma saphirina* (like a

Calopteryx angustipennis on steroids) and the brilliant red (with a bright blue face) *Chlorocypha trifaria*. What a way to begin one's year! We also visited the source of the Nile at Jinja, where Ailsa watched an otter frolicking in the river.

Our main destination was the Murchison Falls National Park, in the northwestern part of the county. We booked a reservation at the Simbaya River Lodge, which we had found in the Lonely Planet Travel Guide. The lodge was a five-hour drive from Kampala, and the dryness of the countryside was worrying. Would we find many dragonflies? Any at all? Actually, we left Uganda with 42 species. (Read Paulson's comment on visiting the tropics during the dry season.) Birds, especially hawks and eagles, and also spectacular cranes, were numerous and took the edge off our concerns.

We reached the lodge at about 3 o'clock, and I immediately set off to examine a small stream just below our bungalow. When I returned an hour later (having caught a lovely orange *Anax speratus*, and a few *Pseudagrion*) I mentioned to the manager that there were some of the biggest cow hoof prints I had ever seen in the sand. His eyebrows shot up. "Those are cape buffalo!" It turned out that my collecting place along the stream was an interchange on the cape buffalo expressway.

Last year I told of a trip to arctic Canada in which I discovered that collecting could be hazardous to my health. But polar bears only kill you if they are hungry. Cape buffalo will kill you just because they are mean. They are huge, they skulk, and they have an attitude. They are the most serious threat to dragonfly collectors or anybody else wandering in the African bush.

I was told that a few days previously the local buffaloes had "treed the staff" for half a day. Lucky for me the buffaloes were even then resting in the shade on the other side of the lodge. The manager quickly made an executive decision: if I was going to wander around looking for dragonflies, I couldn't be trusted to watch out for the local hazards. So he summoned a park ranger named George, who, with his AK-47, accompanied me for the next week. George was a delightful companion – and a super bird spotter. He would remind me from time to time, "That croc out there is looking at you and figuring out the range." Of course I was too engaged looking at damselflies to have even noticed those beady eyes in the water right in front of me. But crocs and cape buffalo are

no joke, and dragonfly hunting must be done with care in deepest Africa.

Later in the week we would watch from our lodge wart hogs and, yes, cape buffalo, grazing in my collecting place. We especially enjoyed watching a troop of baboons passing through. A few youngsters paused to play "king of the castle" until an impatient adult returned and gave them a good cuffing.

During the next week Ailsa and I saw more large animals than we had expected. During the days of Idi Amin, the Ugandan army had slaughtered everything that they could shoot, but in the intervening years the various gazelles, elephants, giraffes, hippos, baboons, etc., have recovered very well. We spent a week alternately photographing lions and netting odonates, while George protected us from rampaging hippos and stealthy crocs, as well as those nasty buffalo. On one drive I wanted to walk down to the shore of Lake Albert (a lake in the Nile). The shore was lined with reeds that were about 2 meters high, effectively screening out any access to the lake. Finally I spotted a place where there was a narrow gap, and I decided to go to the water's edge to see what was flying. This open place was a "lek" for crested cranes, and 36 of these birds were doing mating dances on the bare soil of the shore. When I walked through, they flew about 50 feet away and patiently waited for me to leave. I regretted disturbing the birds for even ten minutes, but I was rewarded with a tiny red libellulid, *Aethriamanta rezia*, and a lovely red damselfly, *Ceriagrion kordofanicum*. As soon as I left, the cranes returned and resumed their dancing as though I had never been there. Meanwhile a couple of young lions waited patiently nearby for Kobs (large gazelles) to come to the water, as they did every day. This was a great place to kill your dinner. I hardly knew whether to catch dragonflies, take pictures, look at birds, or flee for my life.

Murchison Falls is on the Nile, and the entire flow of the river is compressed into a cleft about 6 meters wide. Pratincoles and thick knees (large plover-like birds) live near the waterfall, and in a quiet backwater I found several species of *Pseudagrion* (a coenagrionid like a big *Argia*), *Mesocnemis* (a platynemidid damselfly that looks like a large *Argia moesta*), a dark *Elatoneura* (small protoneurid damselfly) that I can't identify (and totally unlike those brilliantly colored east Asian *Elatoneura*), and several species of purple and red *Trithemis* (libellulids). It is a strange feeling to wade on a sandy bottom and realize that

those odd impressions in the sand are hippo hoof prints. The hippos waited patiently just off shore for me to depart so they could move back into their shallow water.

Are you curious about other hazards? Snakes, you ask? George jumped sideways on one of our walks because of a black forest cobra, but by and large we were not bothered. Tsetse flies? Yes, they were abundant and pesky, but were not currently carrying sleeping sickness. Ebola virus? Yes, in a nearby village (where we filled up with gas), but again we were in no peril from that. We were well fed, well looked after, and George assured us that if he fired the AK-47 in the air, it would scare away the buffalo and the lions – usually. This was comforting.

The first day driving out of the lodge we saw a secretary bird, which absolutely made our day. From then on it was birding heaven. The starlings are brilliant iridescent blue, and several sorts of kingfishers and bee eaters flashed around in the sun. There was not enough time to see it all. The ground hornbills were the biggest surprise – we were used to the arboreal variety (there were plenty of them, also).

One day we set out to explore a forest near the lodge. We almost didn't reach this place we encountered a large bull elephant guarding the road and challenging our car with flapping ears. He snorted and pulled branches off trees in an effort to persuade us to turn around. For a while there was a strong possibility he would charge our van, which was smaller than he was. He finally decided to leave, and we were able to continue without trouble.

In the forest we contented ourselves with many species of *Pseudagrion* and *Trithemis*, and a few forest *Gynacantha*. The jewel-like chlorocyphid damselflies (*Platycypha caligata* and *Chlorocypha curta*) were wonderful surprises. Unlike their counterparts in southeast Asia, these African species seem to tolerate the hot muddy pools along the nearly dry river. I can't imagine their dainty Asian cousins living in such a place. One interesting discovery was an old friend, or so I thought. *Copera* is a small, cryptic, forest damselfly with orange legs. However, there are not supposed to be any *Copera* in Africa, only *Platycnemis* (at least that is what Pinhey's catalog says). I found later that I was not the only one now calling this bug by its Asiatic name.

But the best surprises were again the animals. Chimpanzees made terrifying noises (apparently in the hopes of scaring us off), troops of colobus monkeys frolicked in the trees, and bush bucks snorted in the forest.

It was fascinating to visit Africa after many trips to India and southeast Asia. Some Asian odonates that are really not very interesting (*Trithemis* and *Pseudagrion*) are highly varied and challenging in Africa. We took ten species of *Pseuagrion* and six *Trithemis* – including some species not regarded as part of the Uganda fauna. We learned the local rules about wandering in the bush. I found out the hard way on the last night that one does not leave things to dry outside the door of one's bungalow – somewhere out there a spotted hyena is even now chomping on one of my precious rubber boots.

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SUMMER 2000 PEATLAND ODONATE SURVEYS IN NEW BRUNSWICK AND NOVA SCOTIA, CANADA

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In the Spring of 2000, the Atlantic Canada Conservation Data Centre (AC CDC) initiated a project examining the rare flora and fauna of peatlands in New Brunswick and Nova Scotia, Canada. Acknowledging the threat to which peatlands in the region are exposed, such as peat extraction and cranberry farming, the AC CDC acquired funding from the Canada Trust Friends of the Environment Foundation that allowed for inventories in approximately five selected peatlands in each province. Survey time was restricted and concentrated on two main groups, namely vascular plants and insects. Our objective was to discover occurrences of rare or seldom-encountered species of insects, targeting odonates especially, but also including Lepidoptera, tabanid flies and grasshoppers and allies. This note presents information on our two most significant records and provides new county records for other species. Much of the peatland visited was ombrogenous bog, receiving water only from precipitation, and soligenous fen, influenced by flowing surface water. Typically, peatlands in the study were composed of solid peat dominated on the surface by Sphagnum spp., variably in association with rushes, sedges, grasses and other herbs. Discrete pools, with steep or overhanging banks and muddy bottoms, and shallow depressions filled with

saturated Sphagnum were generally scattered throughout the open peatland. For odonates, effort was concentrated around these pools. The amount of time we could spend at each peatland was restricted, and we had to maximize our efficiency of inventories. As a result, we chose to do our first surveys in mid June onwards to "capture" the greatest diversity of odonates and other insects, with a second visit in late July. In total, we found 59 species in the peatlands, 12 of which we considered to be species of note. We discovered 30 new county records for the provinces and one species was recorded from Nova Scotia for the first time.

Leucorrhinia patricia (Canada Whiteface). Considered the most northern species of *Leucorrhinia*, it has a very restricted range in Maritime Canada, found in only three places in northern New Brunswick (Brunelle, 2000). We expected its occurrence in Cape Breton Island, Nova Scotia, and were pleased to confirm an occurrence in the Cape Breton Highlands.

Big Barren Bog, Inverness Co. (46°33'N, 60°45'W), is a raised ombrotrophic bog at 1550m (5038') above sea level, at an elevation higher than all other bogs surveyed. Low shrubby growth of black spruce and balsam fir surrounds the open bog, which is dominated by dry *Sphagnum* spp., *Eriophorum* spp. and *Scirpus cespitosus*. Small patches of stunted black spruce and leatherleaf, rhodora and laurel are scattered throughout. Both deep and shallow pools are numerous and are surrounded by purple pitcherplant and round-leaved sundew. In this bog, we collected a male *L. patricia* of a copulating pair perched on a stunted spruce approximately 10m from the nearest bog pool on July 4, 2000. Other individuals that appeared to be this species, but were not captured for confirmation, were seen patrolling at a nearby bog pool. All other *Leucorrhinia* captured for identification were *hudsonica* and *glacialis*. This collection of *L. patricia* represents the first record for Nova Scotia.

Somatochlora kennedyi (Kennedy's Emerald) This species is widespread but uncommon in the Maritimes, previously known from one location in southwestern Nova Scotia and fifteen in New Brunswick (Elderkin 1999, Brunelle 2000). We found single individuals in two bogs during the first round of visits: at Hell's Gate Plain, Northumberland Co., New Brunswick (46°54'N 65°06'W) and Round Lake Bog, Cumberland Co., Nova Scotia (45°39'N 64°20'W). The male

collected at the latter bog on June 24, 2000, represents the first modern record of *S. kennedyi* in Nova Scotia.

Other species of note, seldom encountered in Maritime Canada, include *Lestes eurinus* (four bogs), *Coenagrion resolutum* (two bogs), *Enallagma minusculum* (two locations), *Nehalennia gracilis* (six bogs), *Aeshna sitchensis* (one bog), *Gomphus borealis* (wandering, in two bogs), *Somatochlora forcipata* (one bog), *Somatochlora franklini* (one bog), *Nannothemis bella* (two bogs) and *Sympetrum danae* (one bog). Many of these records represented new county records, as listed below.

New county records:

New Brunswick, Northumberland Co. - *Nehalennia gracilis*, *Gomphus borealis*, *Epitheca canis*, *Epitheca spinigera*, *Leucorrhinia frigida*, *Libellula Lydia*

Westmorland Co. - *Lestes disjunctus*, *Chromagrion conditum*, *Enallagma boreale*, *Enallagma ebrium*, *Enallagma hageni*, *Leucorrhinia glacialis*

York Co. - *Chromagrion conditum*, *Enallagma aspersum*, *Enallagma cyathigerum*, *Enallagma ebrium*, *Gomphus spicatus*

Nova Scotia, Cumberland Co. - *Lestes eurinus*, *Gomphus borealis*, *Somatochlora kennedyi*
Guysborough Co. - *Argia fumipennis*, *Enallagma ebrium*, *Ischnura posita*, *Ischnura verticalis*, *Nehalennia gracilis*, *Nehalennia irene*, *Anax junius*, *Pantala flavescens*, *Sympetrum danae*
Inverness Co. - *Leucorrhinia patricia*

The limits of the project, and personal restrictions, prevented more extensive surveying. Due to the timing of visits, the flight period of *Williamsonia* spp. was missed, although only one bog appeared to our eyes to be suitable for this species. Hopefully, in 2001, we'll be able to expand our surveys, visiting more peatlands with greater frequency, to learn more about some of our peatland odonates. Especially in southwestern New Brunswick, there is great potential to add to Canada's fauna, as has been illustrated by the description of *Neurocordulia michaeli*. Indeed, although the work of Paul-Michael Brunelle and the Atlantic Dragonfly Inventory Program has significantly increased our knowledge of odonates in Atlantic Canada, there are too few people searching such a large, diverse area. For providing help and information, we thank Paul Brunelle and Kate Bredin at the AC CDC.

Sources cited

- Elderkin, M. 1999. Dragonflies and damselflies of Nova Scotia, General Status Colour Ranks. Draft unpublished list, 5pp.
 Brunelle, P.M. 2000. Distribution of damselflies and dragonflies (Odonata) of Cape Breton Island, Nova Scotia, Canada. Parks Canada Technical Reports in Ecosystem Science No. 24. Pp iv + 52.

A FURTHER *ARGIA LACRIMANS* POPULATION IN SOUTHEAST ARIZONA

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In the summer of 1999, while doing butterfly work for the Leslie Canyon National Wildlife Refuge 16 miles north of Douglas, Arizona, I chanced upon a large (47mm), electric blue damselfly. The species accounts, the caudal appendage photographs and Rosser Garrison's drawings in Westfall and May's Damselflies of North America (1) suggested it was *Argia lacrimans* and that the species was neither widespread nor common. Therefore, I was hopeful but not confident of seeing them again during the following season.

In early July, 2000, however, they reappeared in Leslie Canyon, remaining present in small numbers, never more than a dozen at a time, through mid-October. The males clearly favored obvious sun-dappled perches 2 to 3 feet in the air near cress-dominated shallows within the lush, closed-canopy, riparian area between the old dam and the weir. They shared these areas with *Hetaerina vulnerata*, *Archilestes californica*, *A. grandis*, *Apanisagrion lais*, *Argia plana*, *Enallagma praevarum*, *Hesperagrion heterodoxum* and *Telebasis salva*. Now and then, they utilized perches bordering the deeper pools frequented by *Anax junius*, *Aeschna dugesi* and *Sympetrum signiferum*. Meanwhile, solitary females were far less commonly observed as they tended to prefer shaded, rocky outcroppings at some distance from the stream.

Observations of *A. lacrimans* at Leslie Canyon over the course of nearly four months also yielded some helpful phenotypic information. References in the literature state that it can be reliably differentiated from its nearest congener, *A. pima*, by the presence of an unforked humeral stripe (2). Immediately, however, individuals appeared contradicting this distinction. In fact, through the end of *A. lacrimans*' flight period in mid-October,

the Leslie Canyon population of divided roughly into thirds: those with the expected unforked humeral stripe (32%), those with a pronounced fork (39%) and those with a broken or incipient fork (29%).

Comparison of more than thirty Leslie Canyon specimens of *A. lacrimans*, males and females alike, suggests a further useful field mark. In 85% of the specimens, the epicranial black bar is indented, almost interrupted, by a thin, pale projection forward from the occipital bar toward the median ocellus. In most of the remaining specimens, the projection is at its base discontinuous from the occipital bar and might best be said to constitute an elongated median spot. In a single specimen, neither a projection nor a spot is present.

For the moment, both the sheer numbers of individuals present at Leslie Canyon and the existence of specimen pairs taken in tandem are suggestive of breeding, although as yet I have encountered no larvae, no exuviae and no obviously teneral individuals any of which would be clear and certain evidence of successful breeding. Hopefully, this will change during the coming year.

Notes: (1) Minter J. Westfall, Jr. and Michael L. May. 1996. "Damselflies of North America" Gainesville, Florida, Scientific Publishers. (2) Ibid. p. 197. See also Rosser W. Garrison. 1994, "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)". Transactions of the American Entomological Society. P. 326.

SYMPETRUM MADIDUM IN MINNESOTA

Dennis Paulson

As I enter specimens in my collection database, I have been checking for new county records, but I was surprised to find a new state record as I proceeded through one species.

I have two male *Sympetrum madidum* collected 6 mi. west of Karlstad, Kittson Co., Minnesota, on 11 July 1966, by Orley R. Taylor. This is apparently the first record for the state and is the easternmost record for the species. Needham, Westfall, and May (2000) list *madidum* for both Iowa and Missouri, but a recent posting on the list of Anisopteran state records by George Bick and Bill

Mauffray (<http://www.afn.org/~iori/nalist.html>) indicate that neither of those records is substantiated. Karlstad is located at 96° 31' W, and the easternmost published record is apparently from Portage la Prairie, Manitoba (Walker and Corbet 1975), at 98° 17' W.

Interestingly, the species is scarcely known from the next tier of states west. It is recorded from South Dakota, which has been moderately well sampled; and recorded from Dawes County, Nebraska (in a 1967 list by Dwight Moody), in the far northwest corner of that state. Thus the Minnesota population may stem from populations in southern Manitoba rather than from the adjacent U.S.

[Data for the dot-map project includes 10 counties from North Dakota. The easternmost is about 100 miles west of Minnesota. Ed.]

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PRELIMINARY LIST OF THE DRAGONFLIES AND DAMSELFLIES OF WASHINGTON D.C.

Richard Orr

The Washington Monument dominates the view from my office window. Around this giant monolith revolves the city of Washington D.C. At this time in human existence, if the world was to have a center, this is where it would be, for it is here that the political power of the most powerful nation on earth resides.

It is too dangerous to allow any one state to run the ultimate seat of power. And therefore the District of Columbia is independent of all fifty states. To live and work in Washington D.C. is the goal of many politicians and lawyers. But for me, a biologist from Oregon, the city is just not in my bones.

Please don't misunderstand, there is no other place like Washington D.C.; it holds my interest. I enjoy working in the heart of the city, shaping and supporting environmental policy surrounding non-native species that have become, or may become, problems. But on my days off I get the itch to chase dragonflies, the District of Columbia is generally not where I head.

A number of local naturalists have pointed out to me that Washington D.C. still has a number of rich natural history treasures to be protected and

enjoyed. The city sits on the crossroads of two major rivers, the Potomac and the Anacostia. In addition, Rock Creek Park has maintained much of its original biological structure. The locals are right, the 68 square miles of the District does deserve more "odonate" time that I have been giving it.

Although Washington D.C. is mainly urban it does have an impressive list of known odonate species. Trying to determine an exact list of what species are, or have been, reported from the District has proved challenging. The list below is preliminary. I hope that many of you are sitting on your own Washington D.C. records and can help me fill in the gaps or make corrections to the list.

I have also listed where the information came from. When the only source was my personal records, I have provided the time and location of that find. In addition, I have marked those species as historical which I believe may no longer exist in the District and have provided the last known find that I am aware of. If you are aware of later finds or, better yet, current locations of these species please let me know.

Key:

- (1) My personal records from Washington D.C. from 1990 through 2000
- (2) USNM collection data base (Thanks Nancy Adams)
- (3) Damselflies of North America, Westfall & May (1996)
- (4) Dragonflies of North America, Needham, Westfall, & May (2000)
- (5) The Odonata of Washington, D.C. and Vicinity, Donnelly (1961)
- (H) historical -- probably not longer exists in District

Petaluridae

Tachopteryx thoreyi (H - 1898 specimen from Rock Creek Park -- Maryland/D.C. Heritage)

Gomphidae

Arigomphus villosipes (1) (Aquatic Gardens 30 June 2000)

Dromogomphus spinosus (1) (Chain Bridge Flats 31 May 1997)

Erpetogomphus designatus (2)(4)(5)

Gomphus exilis (1) (Little Falls Zone 31 May 1997)

Gomphus vastus (2)(4)(5)

Hagenius brevistylus (2)(4)(5)

Stylogomphus albistylus (1) (Chain Bridge Flats 31 May 1997)
Stylurus plagiatus (2)(4)(5)

Aeshnidae

Aeshna umbrosa (1)(4)(5)
Anax junius (1)(2)(4)(5)
Anax longipes (2)(4)(5)
Boyeria vinosa (1)(2)(4)(5)
Epiaeschna heros (1)(2)(4)(5)
Gomphaeschna antilope (H - 1920)(2)(4)(5)

Cordulegasteridae

Cordulegaster bilineata/diastatops (recorded as *C. diastatops*)(2)
Cordulegaster erronea (H - 6 June 1922)(4)(5)
Cordulegaster maculata (2)(4)(5)
Cordulegaster obliqua (H - pre1921)(4)(5)

Macromiidae

Didymops transversa (4)
Macromia taeniolata (H - 10 July 1907)(2)(4)(5)

Corduliidae

Epicordulia princeps (1)(2)(4)(5)
Neurocordulia obsoleta (2)(4)(5)
Somatochlora filosa (H - 1921)(2)(4)
Somatochlora linearis (1) (Aquatic Gardens 6 Sept 2000)
Somatochlora tenebrosa (1) (National Arboretum 1 July 98 and 30 June 2000)
Tetragoneuria cynosura (1) (Aquatic Gardens and National Arboretum 5 May 2000)

Libellulidae

Celithemis eponina (1)(2)(4)(5)
Erythemis simplicicollis (1)(2)(4)(5)
Erythrodiplax berenice (H 8 July 1899)(2)(4)(5)
Libellula auripennis (2)
Libellula cyanea (1)(2)(4)(5)
Libellula flavida (H - 16 July 1899)(4)(5)
Libellula incesta (1)(Aquatic Gardens and National Arboretum June-September 2000)
Libellula luctuosa (1)(2)(4)(5)
Libellula needhami (1)(2)(4)(5)
Libellula pulchella (1)(2)(4)(5)
Libellula semifasciata (1)(2)(4)(5)
Libellula vibrans (1)(2)
Orthemis ferruginea (4)
Pachydiplax longipennis (1)(2)(4)(5)
Pantala flavescens (1)(2)(4)(5)
Pantala hymenaea (1)(2)
Perithemis tenera (1)(2)(4)(5)
Plathemis lydia (1)(2)(4)(5)
Sympetrum internum (2)
Sympetrum rubicundulum (1)(2)(4)(5)

Sympetrum semicinctorum (2)(4)(5)

Sympetrum vicinum (1)(2)(4)(5)

Tramea carolina (1)(2)

Tramea lacerata (1)(Chain Bridge Flats 31 May 1997; Aquatic Gardens and National Arboretum June-September 2000)

Calopterygidae

Calopteryx dimidiata (H -- date ?)(3)
Calopteryx maculata (1)(2)(3)(5)
Hetaerina americana (2)(3)(5)
Hetaerina titia (H - pre 1990)(2)(3)(5)

Lestidae

Achilestes grandis (1)(National Arboretum 1 September 2000)
Lestes dryas (H -- date ?)(3)
Lestes forcipatus (2)(3)(5)
Lestes inaequalis (1)(Chain Bridge Flats 31 May 1997)
Lestes rectangularis (1)(2)(3)(5)
Lestes unguiculatus (H - 31 July 1899)(2)(3)(5)

Coenagrionidae

Amphiagrion saucium (2)(5)
Argia apicalis (1)(2)(3)(5)
Argia bipunctulata (H - two records from 1899)(2)(3)(5)
Argia fumipennis violacea (1)(2)(3)(5)
Argia moesta (1)(2)(3)(5)
Argia sedula (2)(3)
Argia tibialis (1)(2)(3)
Argia translata (2)(3)(5)
Chromagrion conditum (3)
Enallagma civile (1)(2)(3)(5)
Enallagma divagans (1)(Chain Bridge Flats 31 May 1997)
Enallagma durum (1)(2)(3)(5)
Enallagma exsulans (1)(2)(3)(5)
Enallagma geminatum (1)(Aquatic Gardens 5 May 2000; National Arboretum 1 September 2000)
Enallagma signatum (1)(2)(3)(5)
Enallagma traviatum (3)(5)
Ischnura hastata (1)(2)(5)
Ischnura kellicotti (1)(Aquatic Gardens from May-September, 2000 (the most numerous odonate species at the Gardens)
Ischnura posita (1)(2)(3)(5)
Ischnura ramburii (2)(3)(5)
Ischnura verticalis (1)(2)(3)(5)
Nehalennia gracilis (H -- date ?)(2)

Please send additions, comments, corrections, changes to Richard Orr, 5215 Durham Rd. East,

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VOTE ON DSA BY-LAWS

The votes are in on approving the DSA by-laws. It seems like voting fever spread after the close US Presidential election! There were 99 votes to approve the by-laws in their entirety, and 6 people had 11 objections to the wording or content of 7 sections of the by-laws. So, the by-laws in their entirety are accepted by the DSA membership by a landslide.

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WILLIAMSON DRAGONFLY GUN CONFISCATED!

Mark O'Brien

In early February, Univ. of Michigan Dept. of Public Safety and Security conducted an inventory of firearms being stored in the Museum of Zoology. While most of the attention was on the Bird, Mammal and Herpetology Divisions, it turned out that the only illegal weapon being stored here was in the Insect Division. Yes, you guessed it - the 22-cal. pistol with a soldered on 26" barrel that E.B. Williamson used to shoot down high-flying Odonata. He used 22 - cal. dust-shot rounds, which were only potent enough to bag small creatures. I suspect that E.B. subscribed to "walking softly and carrying a big stick" and certainly the weapon in question looks somewhat impressive. Officer Tim Shannon was very apologetic about confiscating the pistol, as it was illegally modified under State law and also illegal under campus policy. However, since the weapon has not been fired in probably 75 years, it will not be a loss in terms of its use. At my suggestion, they'll make the pistol inoperable and return it so we can mount it on a plaque for display. Okay, so you thought dragonflies were harmless. They used to be bigger and a lot meaner, which was why EBW carried the weapon in the field. I don't know if they ever used dynamite for catching larvae.

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WDA: PRESENT STATUS REPORT

Jill Silsby, Secretary/Treasurer, Worldwide Dragonfly Association

I would like to put members of DSA into the picture regarding the current state of WDA.

1. The International Journal of Odonatology (PANTALA). It was not easy to produce a scientific journal for a completely new international society. At the time PHOENIX (later Worldwide Dragonfly Association) was founded in 1997 there was only a handful of members and no manuscripts at all! Everything had to start from scratch and of course it was not perfect to begin with: how could it be? The new journal had teething problems but, thanks to the unstinted efforts of the publishers (Backhuys), the Editor (Henri Dumont - how lucky WDA was to have him), the Editorial Board and the reviewers as well as others who gave so much of their time and experience in order to iron out problems, PANTALA is now a journal of which we can be justifiably proud.

Towards the end of the year 2000, after Volume 3 (2) was published, Henri decided that pressure of work made it impossible for him to continue editing Pantala and he asked to be relieved. With reluctance, the Board of Trustees accepted his decision and set about finding a replacement. Again we were so lucky. Reinhard Joedicke, due to ill health, found he had an enforced vacuum in his working life that he wanted to fill. With the promise of his wife Monika's support, he offered his services to WDA and the Board was delighted to accept his offer.

The handover has been made; Backhuys and Reinhard have forged an excellent rapport; Henri was able to provide Reinhard with a good number of MSS. in varying stages of readiness and Volume 4 (1) is promised in April 2001 and the next six months later.

However, like editors of scientific journals the world over, Reinhard can never have enough papers and he asks us all to assist with a continuing flow in the months to come. Anyone with a paper to publish, please contact Reinhard: R.Joedicke@t-online.de

2. ODONATOLOGICAL ABSTRACTS.

These are produced by Martin Lindeboom and Martin Schorr and it is hard to express adequate appreciation for the amount of work and effort they put into the production. They appear twice a year, at the same time as each issue of WDA's AGRION and can now be accessed from a secure site on our webpages (See 3. below) by all paid up members. Anyone who publishes a paper in any publication, please inform the two Martins at: FOEATRIER@aol.com

3. The Newsletter of the Worldwide Dragonfly Association (WDA's **AGRION**). The most recent issue was devoted to "My Most Beautiful Dragonfly" and it contained 23 contributions describing contenders for the title from Australia, Asia, Africa, the Americas and Europe.

As well as receiving copies by airmail, paid-up members can now access an enhanced **AGRION** from a secure site on our website (<http://powell.colgate.edu/wda/dragonfly.htm>)

As editor of **AGRION**, I welcome contributions of an anecdotal and non-scientific nature, describing odonatological trips, aspects of behaviour, interesting habitats, etc, etc, for inclusion in future issues. **AGRION** provides a receptacle for this type of information - information that will be of interest to dragonfly enthusiasts but which would otherwise be in danger of being unrecorded. Any one with a tale to tell, please let me have it: JSilsby1@aol.com

As well as receiving copies by airmail, members who have paid their 2001 subs can now access an enhanced **AGRION** from a secure site on our website listed above.

4. Symposia

WDA's 2nd International Symposium of Odonatology is being held in Sweden in July this year - commencing on July 21st. Details regarding registration, programme, cost, travel to Gallivare, accommodation, etc, etc can be obtained from the Organisers Goeran and Anna Sahlen (goran.sahlen@ebc.uu.se). All will be very welcome!

In January 2003 the 3rd Symposium has been arranged to be held in Australia and details of this will be announced at Gallivare.

5. Regional Meetings.

Regional meetings are held in years between symposia - as a means of encouraging friendships between members living in the same country or general area.

The second European Meeting was held in Darmstadt in July and was much enjoyed by all participants. In addition, the Japanese National Group had an enjoyable 'get-together' in October.

In the year 2002, the European Meeting will be held in Leiden, Holland.

6. Sponsorship and other Funds. Thanks to the generosity of a few members we now sponsor nine odonatologists residing in countries where the finding of funds for subscriptions to scientific societies is virtually impossible.

We have also been able to make one or two contributions towards funding students and other young people aiming to carry out projects that may be of benefit to endangered odonates and their habitats.

7. Membership

Membership stands at 246 and we have members in 33 different countries (46 in UK)

Single membership (with Journal) costs US\$52; and, without Journal - \$23;

Family - \$68; Students - \$38

We are waiting to welcome more American members!

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Book Notice: **THE DRAGONFLIES OF SRI LANKA** by **Terence deFonseka**

from a e-mail from **Nancy Vanderpoorten**

Terence deFonseka has compiled all available information about Sri Lankan dragonflies. He has not studied specimens himself nor done much field work; however it is a good compilation of what has been done (and very few people are doing much now, though there is a growing interest). There are some color photographs as well (20 plates, approx 35 photos). He covers adults as well as larvae with illustrations largely taken from Fraser. The cost is \$25 US each including postage etc.

For info contact Nancy Vanderpoorten: nmg.vanderpoorten@sympatico.ca

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Book Review: **DRAGONFLIES OF THE NATAL DRakensberg**, by **M. J. Samways & G. Whiteley**, Univ. of Natal Press, Ukhahlamba Series, No. 6 (1997)

Ken Tennesen

This 78 page booklet (about 5.5" x 8") is a primer on the Odonata to be seen regularly above 1500 m in the Drakensberg region of Natal, South Africa. It has a soft cover and staple binding, and is well-illustrated. The authors provide a unique guide to

students of the order because they are publications; it is debatable whether lists from the Internet can or should be cited as a publication.

The Steinmann catalogue comprises two attractive clothbound volumes. Volume I spans 500 pages and covers the Zygoptera, Volume II comprises 636 pages and covers the Anisoptera. The volumes measure 6 1/2 by 9 1/2 inches. So much for the general appearance. At approximately one dollar per page (and with no illustrations at that!), these books have probably reached a record price and would seemingly place them in the league of volumes offered for sale by rare book dealers. Even though one is accustomed to the ever-increasing cost of technical books, the price for this set is astronomical. So is the layout and content worth their steep price? Easily, the answer is a resounding "No".

In a word, this catalog is simply awful. It must be one of the worst researched publications I have ever seen. Steinmann, who is not an Odonatist, must have relied solely on the previously published catalogs of Davies and Tobin (1984, 1985) and there seems to be few additions of taxa beyond those years. It seems inconceivable that the author apparently never submitted a draft of the work to any specialist for review. The catalog is plagued with errors and incorrect citations; if the original description was unknown to the author, he simply refers the reader to the page number in Davies and Tobin!

The numerous errors I found in *Hetaerina* and *Mnesarete* (two genera with which I have been very involved recently) engender little trust for those wanting to use this catalog as reference. It is (unfortunately) the job of the systematist to consider all previously published information when revising certain groups. Thus I suppose that any serious worker will have to consider this catalog when doing any systematic work. Maybe one can ask someone to photocopy certain pages pertinent to their work (at least the cost of copying will be less than a dollar per page!). Otherwise, this is one catalog I can confidently advise you to forget. Keep your money and go out and use it for that computer upgrade you wanted.

The new 430-page catalog by Tsuda is the third edition (the first was in 1986, the second in 1991) and follows a similar format as the older editions. New and interesting material for this edition include statistics on the total number of families (28), genera (630), species (5412), species without

subspecies (5054), species with subspecies (358), and number of species and subspecies (5969). Other interesting data: there are 252 species with one subspecies (nominotypic plus another subspecies), and only one with twelve subspecies (thirteen if you include the nominotypic subspecies). Also of interest is the listing of new genera and species proposed since the appearance of the 3rd (and last) edition of Bridges' 1994 catalog.

In my first review of this work, I stated: "The work concludes with distributional lists of the Odonata for Japan, Taiwan, Hong Kong, the Philippines, Indonesia, continental Southeast Asia, Europe, Central and South America, and southern Africa. These lists will be valuable, but one wonders why similar listings were not generated for North America and all of Africa." Added in this new edition are lists for China, the Russian Federation, Australia, Africa (as northern, western, southern, central, and eastern Africa), Madagascar and surrounding islands, and North America. The volume is paperbound but the pages do not lie flat thus making it hard to use.

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DASTARDLY DRAGONFLY EGGS

e-mail from **Mark O'Brien**

Researchers in Brazil have finally discovered why dragonflies lay their highly-corrosive eggs on newly manufactured cars - especially green, red, dark blue and black cars. Specialists from the University of São Paulo discovered that dragonflies mistake the shiny surfaces of new cars for water.

Researcher Etelvino Bechara said, "When in contact with the hot metal (of a sun-warmed car), the dragonflies' eggs produce an acid as strong as sulfuric acid that gnaws away at the paint." Bechara noted that the corrosion begins within three hours after the eggs are laid.

Professor Bechara began his research after automotive assembly line workers noticed that paint on newly manufactured cars had corroded. After studying the problem for two years, Bechara concluded that an optical illusion induced the dragonflies to lay their eggs on the cars.

He noted that the surfaces of cars painted with dark colors can reach temperatures much higher than those of white cars when parked in direct sunlight.

The white cars with their lower temperatures are far less attractive to the mating dragonflies.

University of São Paulo researchers are developing a additive to protect automobile paint from the effects of the eggs.

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WILLIAMSON QUOTE OF THE MONTH

e-mail from **Ellis Lauder milk**

E.B. Williamson certainly had a way with words, and I enjoy reading his work. Each time I see, and especially attempt to capture, a *Boyeria vinosa*, I am reminded of Williamson's (1907) comments

“ . . . its tendency to examine critically every object projecting above the water often makes its capture an embarrassing matter to the collector. More than once as I waited for an approaching male that insect suddenly left the line of flight I had mapped out for it, flew to within an inch of my legs, circled around one leg a time or two, then the other, then about both, and then quietly resumed its flight along the stream, oblivious to the net which had been frantically fanned all around it.”

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FUTURE DSA MEETING PROPOSALS NEEDED

Jerrell J. Daigle, jerrell.daigle@dep.state.fl.us

We need 2002 Southeast National DSA host proposals for presentation at the Texas DSA national meeting in July. States such as Alabama, Georgia, Kentucky, Louisiana, Mississippi, South Carolina, Virginia, and West Virginia have not been selected in the past as Southeast host states.

If you would like to host the meeting, please submit your proposal to me. Keep in mind that we have been averaging about 45-50 people the last several years with 64 being the attendance record.

Also, I am seeking proposals for the 2003 Central DSA national meeting. Please let me or Tim Cashatt, the Central region coordinator, know if you want to host the 2003 DSA meeting.

Furthermore, I am seeking proposals for the SE regional meetings for the years 2002 and 2003. Please let me know if you want to host a regional meeting in the Southeast or any of the above meetings. Thanks! See you soon!

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Poem: **FLASH AND FLICKER**

Kay Glover

Dragons are black,
Darners are blue,
They dance in the air,
So delightful to view.

They're darting to left,
There's a swoop of the net,
A foot slips in muck,
He'll get that one yet!

Colors flash and then flicker,
As the net makes the swing,
Tempting him on,
That devilish thing!

The chase goes on,
From small pond to stream,
Mocking the man,
Who lets out a scream.

Thorns pierce the skin,
Ah, another new scar,
Defeated today,
He heads for the car.

A drink from a bottle,
A bite from a peach,
The dragonfly of course lands,
Just out of reach!

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NEW ADDITIONS TO THE UNIVERSITY OF MICHIGAN MUSEUM OF ZOOLOGY ODONATA LIBRARY

Mark O'Brien

We recently recieved a shipment of books belonging to the estate of Leonora (Dolly) K. Gloyd from her son, Roger Gloyd, of Plano, TX. Mrs. Gloyd had been an adjunct curator of Odonata at the UMMZ for nearly 50 years, and although we had her reprints and specimens here at the UMMZ, her personal library had been sent to her son when she left the museum to live in Texas. Dolly had acquired many books on Odonata, some of which are quite rare. All of the Odonata-related books will be housed in the Williamson-Kennedy-Gloyd Odonata Library. The non-Odonatological works will probably be sold if already represented in our

library. The sales will go towards the support of the Michigan Odonata Survey. Check our web site for more information about book sales in January 2001.

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

I am pleased that Roger Gloyd considered the UMMZ for the final destination of Dolly's books. When one considers her long association with the Museum of Zoology and the connected web of Gloyd, Williamson and Kennedy, having these collections together merely reinforces our strong Odonatological heritage.

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BATS GLEANING DRAGONFLIES

e-mail from Elizabeth Kalko
<Elisabeth.Kalko@biologie.uni-ulm.de>

[For those of you not on e-mail, there has been a flurry of messages asking whether bats can seize perching dragonflies. They may have missed the article in last July's **ARGIA** by José Ramos cataloguing these captures by a Cuban bat species. Ed.]

"And the *Micronycteris megalotis* work is indeed progressing, I had not much time because of all the job hassles during the past years to finally get the initial work published, but now I have one masters thesis finished with the question how the bats find the dragonflies. Right now I have a masters student working with infrared filming on the bats. And we know now for sure that these guys take dragonflies ALL NIGHT LONG and what is superb, they do use echolocation to find them! Which is truly neat because so far it was assumed that motionless prey in clutter, that is sitting on leaves etc., cannot be found by echolocation alone. But these guys can do it . . ."

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MANTIDS EATING DRAGONFLIES

Several recent e-mails have noted mantids eating dragonflies, including our gentle giant, *Anax junius*, the green darner.

David Bree, Bloomfield, Ontario, writes:
"On September 13th, 2000 I was walking through an abandoned agricultural field in Sandbanks Prov. Park (Ontario, Canada). The field is adjacent to the north shore of Lake Ontario and often hosts resting migrant dragonflies (usually Green Darners) in Sept

and October. This particular morning only a few individuals were present. About half way across the field my attention was attracted by the distinct dry rustling sound of dragonfly wings against the grass. I closed on the sound to discover a young male Green Darner (*Anax junius*) in the grip of a European Praying Mantid (*Mantis religiosa*) of about the same size as the Darner.

"In my two seasons of odonate observation it seems to me that large dragonflies have few predators, I have only seen a couple taken by birds, spiders, and other large dragonflies, and I have not seen anything take a Green Darner.

"Whether the mantid snuck up on the dragonfly as it rested or whether the darner was unlucky enough to land near a waiting mantid is not known. Whatever the case the mantid had its prey firmly by the head and thorax and despite the continued wing flapping of the darner started to feed on its eye. I watched for about 5 minutes, taking a couple of pictures, in which time about one half of the head was consumed. I then left for about 15 minutes. When I returned I expected to find another photo opportunity of the mantid about half-way through its meal. However the mantid was gone and the completely headless darner was lying unmoving on the ground. A number of small ants were already at work on the body.

"I'd be interested in hearing about any other predators of large Darners in N-Eastern North America (I'm sure to get questions this summer when I tell this story in the park)"
[David Bree Box 123 Bloomfield, Ont K0K 1G0 Canada 613-393-1965, dbree@post.kosone.com]

Hal White adds, "Several years ago, I was wading through one of my favorite marshes here in Delaware in September. It has many isolated tussocks of vegetation about a meter in diameter. Around a few there were many dragonfly wings floating in the water and none around the others. Each tussock having wings around it (perhaps 10 or so) was occupied by a very well-fed preying mantis. I photographed one in the act of eating a *Pachydiplax longipennis* (Blue Dasher in the "popular lingo"). Although I didn't collect and identify the wings to species, the size suggested that most of the prey were *Pachydiplax*. This makes sense because it was the most abundant perching dragonfly there. My guess is that hundreds were consumed in that marsh alone that year."

[Hal White (halwhite@UDel.Edu)]

And from Cyrille Deliry, France, comes a very similar observation: "I remember an observation of Mantidae (certainly *Mantis religiosa*) which was eating the thorax of an *Anax parthenope* in Crau (France, Bouches du Rhône). A vespid wasp was trying to eat some parts of the *Anax*, and the Mantis pushed the vespid away."

[Cyrille Deliry (cyrille@deliry.com or deliry64@aol.com)]

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CHILDREN'S STORIES ABOUT DRAGONFLIES

e-mail from John Belshe

I found a copy of an old volume with an interesting children's story about dragonflies. I think I bought the volume in a bookstore several years ago. I do not know if this will fit as folklore or not. There was some previous interest in this type of thing some time ago and I pass the following along for those who might still be interested.

The volume is titled "Nature Stories for Little Folk". There are two stories: "The Crooked Oak Tree" and "The Life of a Dragonfly". The authors are listed as E. Carter and E. Field. Both stories are illustrated with "coloured illustrations". The date of publication is not printed; but, based on an inscription, it was given as a gift in 1905. It is sewn in a pasteboard binding with an impressed cover. Some illustrations are unsigned, others are signed "E. Carter", one of the authors, and several are signed "E. L. Fuller".

The story itself has several errors and is anthropomorphic. The dragonfly is named "Libellula", but the illustrations are not of a *Libellula* but more as a gomphid. If you are interested in more details, please let me know.

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BIOLOGICAL DIVERSITY AND POLITICS - THE IMPACT OF RECENT REGULATORY TRENDS ON SCIENTISTS WHO STUDY THE TAXONOMY AND DISTRIBUTION OF ORGANISMS

Roy Beckemeyer

A number of recent postings to the email list server, PERMIT-L (a server which deals with all aspects of collecting permits and collecting regulations and is sponsored by Sally Y. Shelton, Collections Officer of the National Museum of Natural History,

Smithsonian Institution), illustrate the response being taken by some countries to "protect" their biological diversity.

The response involves the passage of what can only be considered Draconian regulations restricting access to and use of animal and plant specimens by non-citizens. As noted by Dennis Paulson in a posting to the Odonata list server, the law recently passed in Brazil even extends to photographs of biota!

The most recent item on PERMIT-L dealt with India's Biological Diversity Bill. The posting directed readers to the site for the on-line version of the publication Asia-Pacific Biotech News at the URL <http://www.asiabiotech.com.sg/>

In the article posted there, the situation is summarized as follows:

"India's Biological Diversity May Hinder Biotech Growth ... the Biological Diversity Bill 2000 ... bans all non-Indians from having access to the country's biological sources without prior approval from the National Biodiversity Authority.

The All India Biotech Association has voiced much concern over the Bill, and ... has recently appealed to the ministries concerned, requesting for amendments to the provisions of the Bill. In its appeal, it cited the following implications among others from the Bill, which it considered to be important issues of concern.

A person who is not a citizen of India is not allowed to obtain any biological resource or knowledge associated with biological resource for commercial use, survey or utilization without prior approval from the National Biodiversity Authority.

No individual is permitted to transfer results of any research relating to any biological resource obtained from India to anyone who is not a citizen of India, or to a corporate body not registered in India without prior approval from the National Biodiversity Authority.

The National Biodiversity Authority will have to approve all exports of biological resources."

This regulation and the even more restrictive one in Brazil appear to have the potential to impact not just collection of specimens from these countries, but also the study of material already residing in collections. They certainly appear to have the

It is named PHAON (Pinhey's Heritage African Odonata Network) in honor of the late Elliot Pinhey, who was a giant of the study of African Odonata. To subscribe communicate your interest to <Dijkstra@naturalis.nnm.nl>

Recently we have learned of some additions and changes of URL's for dragonfly sites:

David Kitching's (Cheshire dragonflies) web site is now at <<http://www.brocross.com/dfly/dfly.htm>>

Costantino dr. D'Antonio's site, "List of Italian Odonata" is <www.procidamix.com/odonata.htm>

F. K. Kakkassery, in St. Thomas College, Trichur, Kerala, India, has launched a new site on the Odonata of India. <www.geocities.com/indianodonata> Give it a visit.

Jay Cossey, a professional photographer who shoots insects for a hobby, has a gallery of butterfly photos at <www.images.on.ca/JayC>. He has some good dragonfly photos.

It may be the time to bring up gazetteer sites again. Several issues ago I listed some sites from which you can find out where obscure localities are. I regularly use Canadian and American governmental sites to find locations for odonate specimens. This has been highly useful for the dot-map project.

The sites are; Canadian: <<http://geonames.nrcan.gc.ca/english/Home.html>>

American: <<http://mapping.usgs.gov/www/gnis/>>

For other countries: <<http://164.214.2.59/gns/html/index.html>>. This site seems to be the lineal descendant of the old "blue books" which were issued by the CIA and were an invaluable source of location information for foreign countries. Of course, using this information is not always easy. Many countries with their own alphabetic characters write the Roman-character versions of their names in different ways. I just tried a prominent Thailand city to see what would appear. For "Chiangmai" I received four replies (airport, population center, administrative center, and municipality). For "Chiengmai" there were three replies - omitting the airport. So this site is pretty useful.

Rosser Garrison brought another URL back from his Brazilian trip. It is a place finder rather than a gazetteer. Try it if you are having difficulty finding an obscure locality.
<<http://www.calle.com/world/>>

BACK ISSUES OF ARGIA AND THE BULLETIN OF AMERICAN ODONATOLOGY

The editor is able to provide back issues of **ARGIA**. Please contact T. Donnelly, 2091 Partridge Lane, Binghamton NY 13903. The present price schedule takes into account the different costs of duplication of each number of **ARGIA**. In the event that an issue becomes exhausted, then xerox copies will be sent. **Prices are \$2.00 per issue; these do not include postage; see below.**

Back Issues of the **BULLETIN OF AMERICA ODONATOLOGY** can be furnished at the prices given below. **Prices do not include postage; see below.**

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	SURFACE		AIR MAIL	
	1st number	each additional	1st number	each additional
United States	\$1.25	\$1.00	---	---
Canada, Mexico	\$1.25	\$1.00	\$1.50	\$1.25
Western Hemisphere	\$1.50	\$1.25	\$2.00	\$1.50
Europe, Asia, etc	\$1.50	\$1.25	\$3.00	\$2.50

ARGIA

Binghamton, New York

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