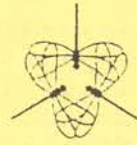


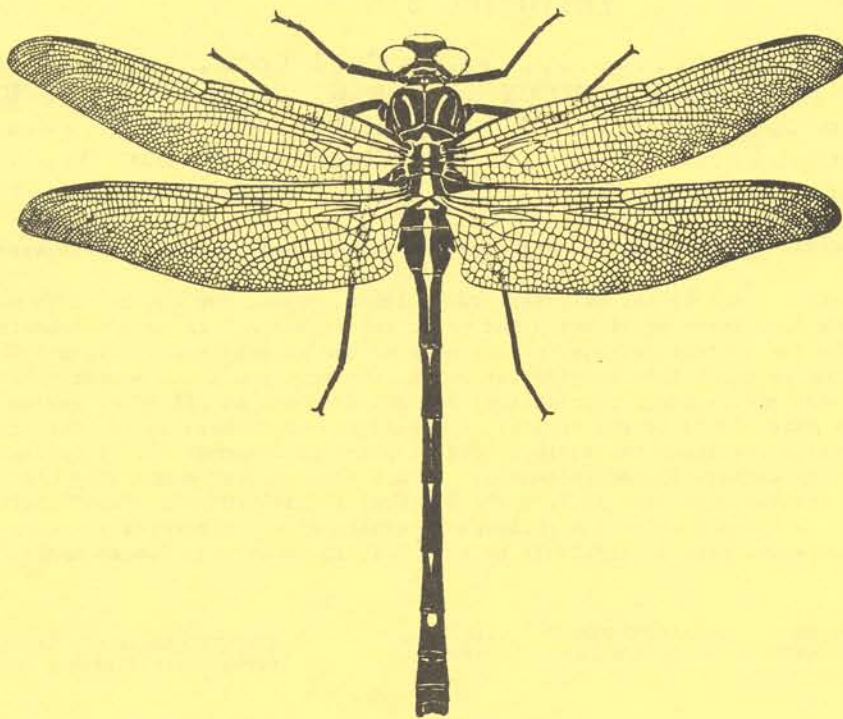
ARGIA



THE NEWS JOURNAL OF D. S. A.

VOL. 3, NO. 3

SEPTEMBER 15, 1991



PUBLISHED BY THE DRAGONFLY SOCIETY OF AMERICA

AN AFFILIATE OF THE
SOCIETAS INTERNATIONALIS ODONATOLOGICA

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ARGIA

THE NEWS JOURNAL OF THE DRAGONFLY SOCIETY OF AMERICA

VOL. 3, NO. 3

CENTER, KENTUCKY

SEPTEMBER 15, 1991

DRAGONFLY SOCIETY OF AMERICA'S "GRANTSBURG DRAGONFEST"

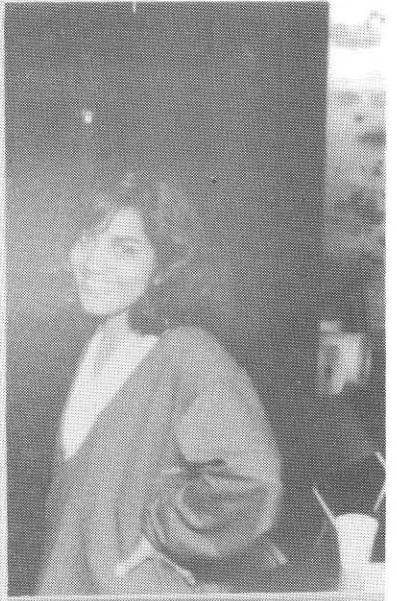
By Carl Cook
Crailhope Road, Center, KY 42214, USA



GROUP PHOTO GRANTSBURG, WISCONSIN, 1991

It was Friday afternoon, June 21st, and probably something of a novelty for local residents of Grantsburg, a small rural northwestern Wisconsin town, to watch the influx of several dozen bug collectors, all equipped with collecting nets and sundry other odd paraphernalia.

For the participants, it would be a jolly time of greeting old friends, anticipating the odonate hunting ahead, and wondering if the sunny weather predicted for tomorrow would really materialize! For odonate collectors, Grantsburg will long be fondly remembered.





As will be recounted in the several accompanying narratives of our two days on the St. Croix River, and post meeting trips, collecting was outstanding. The weather gods did smile upon us, with conditions approaching perfection for the tastes of the sundry flying and creeping critters throughout the rest of our stay in Wisconsin.

Evenings of Friday and Saturday found most of us enjoying dinner together in small groups at various local restaurants. Afterwards presentations of slides and videos were given back at the Wood River Inn. Some sharp specimen exchanging went on in the back of the room -- and even after "lights out" in the motel's conference room, activities continued far into the night in participant's rooms-- Tim Cashatt was showing a video on the biology of Somatochlora hineana, Donnelly, Tennessen and Cook were in earnest discussion about the systematics of Macromia.

In keeping with DSA's established tradition, only the briefest possible amount of time was devoted to society business affairs. President Donnelly had shown the need for increasing dues rates to offset the society's expected 1991 deficit, on motion by Cook, this was approved by the Executive Council. Tim Vogt was elected to fill the one remaining vacancy on the Executive Council. Both Mike May and Tim Vogt expressed concern that no invitations had been received from countries outside the US to host future annual meetings. Mike was concerned that DSA "could become just another Northeastern US group, if we can't start holding some meetings in other countries where it will be more convenient for those members to attend".

Those attending the meeting were: Allen Barlow, Tim Cashatt, Carl Cook, Duncan Cuyler, Jerrell Daigle, Nick & Ailsa Donnelly, John Haarstad, George & Phoebe Harp, Bob Hong, Leroy Koch, Mr. & Mrs. Bill Mauffray, Mike & Leslie May, John & Caroline Michalski, Glenn Miller, Bruce Noll, Ethen Noll, David & Mariette Nowak, Mark Pippinger, Clark Shiffer, Bradd Sims, Bill Smith, Brendon Smith, Corbin Smith, MaLenna Smith, George

Smolka, Ken Tennessen, Tim Vogt, Minter Westfall and Jim Wiker - also several children. The group photo on page one, and most candid photos of participants, were taken by ARGIA's Photographic Editor Mark Pippinger, nice work Mark!

A great time was had by all. Bill Smith and Tim Vogt were enthusiastic hosts, and guided us to what were certainly some of Wisconsin's finest odonate habitats. The successful collections, and beautiful forests and streams of Wisconsin will long be remembered by all of us.

THE COLLECTING ADVENTURES

It was just past 5:00 AM, I kicked the throttle open on the little Dakota pickup and crowded into the northbound traffic up I-65. Ahead was a long day's drive going to Wisconsin, but the anticipation of collecting odonates in new territory gave me a high! I felt great!

I had scheduled spending one day on the Wisconsin River, in Richland Co., hoping that Stylurus notatus & amnicola might be flying in response to the early flight season most species were having this year. After a refreshing night in an air conditioned motel in Madison, I headed over to the Gotham-Muscoda area on the morning of June 18th where I found the Wisconsin River disappointingly high from recent rains. A hard day of searching yielded no Stylurus adults and only a scattering of larvae, only the collecting of four females of Neurocordulia molesta at dusk kept the day from being a total loss.

The morning of the 19th dawned hot and sultry, afternoon thunderstorms were in the forecast-- but be undaunted, push on! Reaching the fabled St. Croix River, at the county road "O" boat landing in early afternoon, I was encouraged that the sun was still bright, and the St. Croix while obviously higher than normal was wadeable at least along the banksides. So! Arriving early-- I had outwitted the weekend hoards-- and would soon be netting rare ophiogomphids left and right (I hoped!)

I was really not at all disappoint-

ed with the collecting that afternoon and the following day on and near the St. Croix, even though the ophiogomphids taken were represented by only a couple of larvae. Macromia illinoiensis was quite common, although difficult to net. Gomphurus lineatifrons and ventricosus sat sparingly on bankside bushes. However, the most intriguing thing was the vast hoard of Stylurus spiniceps larvae which were making their way toward the river banks. Clearly a mass emergence was imminent. The rains commenced by nightfall on Thursday and continued unabated until next morning. I hadn't realized what a disaster was in the offing for the emerging Stylurus until I walked down to the stream next morning and saw dozens of freshly transformed dragonflies being swept away down the rapidly rising river.

Friday's weather outdoors was thoroughly miserable for both dragonfly and man, but in Grantsburg at the Wood River Inn the atmosphere was warm and cordial as everyone greeted old friends as they arrived for DSA's Second Annual Collectors Meeting. Friday and Saturday evenings were devoted to informal presentations, slide & video shows, and a short business meeting.

Saturday dawned sunny and crisp (to everyone's delight!) and Tim Vogt and Bill Smith formed up separate caravans to lead participants to two separate sites on the St. Croix where the new Ophiogomphus had recently been sighted.

I joined Bill's group headed North to Sandrock Bluffs Landing, on Tennessee Road, here the suggested collecting site was a series of more or less open fields with patches of scrub brush, and some thicker forest around the borders, rather than actually on the river itself.

Everyone piled out of autos, put on collecting gear and headed for the site, Minter Westfall and I were walking along together through an opening, and almost immediately we begin to find odonates perched on grass and the bushes. Two or three species of gomphids, a couple each of libellulas, leucorrhinias, and sympetrums. The action never slowed any that I could detect the whole two days we collected those fields, a dozen

people could work over one field, and another group work the same field almost immediately afterwards and net just as many odonates. The prize we were seeking was, of course, Tim and Bill's new species of Ophiogomphus, and I believe nearly everyone must have gotten at least a specimen of it. There was a rumor going around that I gave a good imitation of the Rebel Yell when I got my first example, I don't really remember-- I was too excited! The ophiogomphids taken were very sparse until late Sunday afternoon, when Glenn Miller discovered a small area where they seemingly preferred to congregate-- then the collecting was furious-- a dozen or more taken in an hour! Everyone had Nick Donnelly running all over the place with his macro-lensed camera trying to get a good living shot. How did they turn out, Nick?

Although a good number of species belonging in other families were present at these sites, the gomphids were really what everyone came after, and gomphids it did produce! Species taken here (that I know about) included: Gomphus viridifrons (an exceptionally dark form, at first glance I thought they were adelphus), Gomphurus fraternus, lineatifrons, vastus & ventricosus; Hagenus brevistylus; Ophiogomphus n.sp., howei & rupinsulensis; Phanogomphus quadricolor (another very dark form) & spicatus.

Bill Smith and Glenn Miller periodically ran up and down the river in their big john boat and reported back to those collecting along the riverside as each different species made its appearance over the river. We always knew what species were returning to the river, and when to begin looking for them as they settled in the fields.

All too soon the sun was setting on our last day at St. Croix. Some of us would say our good-byes, and head for home with tired feet and full collecting boxes. For the others, the adventure was not yet over, we would head out on the post-meeting trip for northeastern Wisconsin early next morning. Somatochloras lookout!

Monday morning June 24th, our beautiful sunny weather pattern was still

holding, everybody is as enthusiastic as the first day at St. Croix-- this will be a brand new adventure! I joined Tim's caravan this time, made up of half a dozen vehicles with Duncan Cuyler, Jerrell Daigle, Clark Shiffer, George Smolka, Minter Westfall, Tim, Myself, and Ken Tennesen who would join us some where along the way, after a detour to visit his mother.

Our party's first day of collecting was almost a carbon copy of the experiences of the party guided by Bill (which is amply covered in John Michalski's accompanying article) so I will add only a few remarks on the Plum Creek and Spur Lake Road locations where we encountered apparently differing experiences-- one of those puzzling instances where the same location at different hours or different days will yield different odonate assemblages, or varying population densities.

Our party arrived at Plum Creek in rather late afternoon. The beauty of the sparkling little stream itself, easy access, so easy to wade, and a close-by parking and primitive camping area, made the site one of my favorites of the entire trip. We collected three or four Ophiogomphus colubrinus-- not really impressive-- and Tim remarked that they might be having an off-year. Most of the party was ready to quit for the day and head for a motel. I decided to camp near the creek in hopes there might be a dusk flight of the ophiogomphids, but there wasn't any evening odonate activity (except for Tetragoneura spinigera). But early next morning the story was entirely different. I approached the creek soon after sunrise, wefts of fog still arose from the water, but the ophiogomphids were already starting to come down to the stream in what was to become one of the most fantastic gomphid flights I've ever witnessed. At the ripple underneath the bridge females swooped down to oviposit, one nearly every minute or two, and the males would perch on nearby rocks and driftwood to wait for the females to arrive. By the time the others in the party arrived I had filled my collecting satchel, so I relinquished the "hot spot" under the bridge, and let some others in on the fast-paced action.

Ophiogomphus larvae were equally abundant. They preferred the midstream sandy-gravel substrate in shallow ripples where patches of submerged Elodea grew. The ratio was about ten colubrinus to each one of rupinsulensis.

With full collecting boxes, we departed for our final Wisconsin location-- the legendary Spur Lake Road in Nicolet National Forest near Dunbar. We had listened to some tall tales from Tim and Nick about this site. Our anticipation was running at high pitch-- was it really possible that we might see five species of somatochloras at one location?

We turned off US Highway #8 on to County Road "U" (I've never gotten used to Wisconsin's road designations, every separate county seems to have at least a Road "U" or "O"!) then made another turn onto Spur Lake Road itself, a rather unimpressive sand surfaced forest trail. ?? where was the bog-rimmed lakes?, the coffee-colored little streams?, that are usually associated with somatochloras?

Tim had guided us about 1 mile down the road, we crossed a small trickle of a stream, and reached an almost imperceptibly higher area. The one-lane road was bordered with mostly deciduous scrub behind us, and ahead there was a heavier forest growth of conifers. We grabbed nets in response to Duncan's pointing upward, where several odonates were flying high over the open roadway, they were mostly Tetragoneura spinigera-- but wait-- Yes! somebody had gotten a Somatochlora kennedyi!

Soon everybody was netting odonates right and left. Cordulegaster maculata were hanging up along the roadway on bushes. Somatochlora forcipata & walshi were flying low along the road, kennedyi was the high flyer, everyone was making jump shots-- even with our longest handled nets-- Before the day ended, both Jerrell and me had snapped the handles of our favorite nets!

On the 26th Ken joined us again, the others were leaving at the end of today, but Ken and I decided to stay one additional day. We would camp that night at the end of the road close to Spur Lake (indifferent to the friendly warning by a local waitress that "those big old

mosquitoes drink bug repellent for cocktails").

Our final day rewarded us with S. williamsoni and the best flight yet of franklini. So, it actually is true, one really can collect five species of somatochlors at this one fabulous locality! By noon with every Acetone jar filled with odonates, I waved good-bye

to Ken, still stuffing somatochlors in his satchel. ?? Come to think about it, I haven't yet heard anything from Ken since that day. Could he still be up there chasing somatochlors? Or what if he didn't take proper precautions with those northwoods mosquitoes! Naah, surely not!!

PRESIDENTIAL PROFILE: T. W. DONNELLY

Thomas W. Donnelly, DSA's newly installed President, is known world-wide among friends and odonatological colleagues simply as "Nick". He was born in Detroit, Michigan, in 1932, the son of a career military officer, brought up as an "Army Brat" with the family moving to different locations every year or two. During the late 1940's the family lived mainly in the Washington, DC area, and Nick attended High School there.

His interest in odonates began to develop at about age 16, heavily influenced by Donald Borror, when he had the first opportunity to start collecting insects at an Audubon Summer Camp.



I became acquainted with Nick sometime during his undergraduate years in the early 1950's. I had published an ad in the "Exchanges Wanted" section of Entomological News and Nick responded, thus beginning more than 40 years of correspondence, exchanges of specimens and ideas, comradeship afield and knee-deep

in stream & swamp perusing our common adversaries-- Dragonflies!

Margie and I first met Nick and Ailsa, I think in 1959, he had completed his PhD. and they were on their way to his new teaching position in Texas. They came through Kentucky for a few days visit to sample odonate collecting here. We lived in a rather small home at that time, and I had appropriated the guest bedroom to house my Odonata collection, so the Donnellys had to be put up there -- in the room half-filled with boxes of bugs!

The photo of Nick I have chosen, with Ailsa seated on the tailgate of their Toyota, and trusty canoe overhead, best personifies the Nick Donnelly known to the odonatological fraternity world-wide. If I would see Nick and he wasn't wearing a khaki field jacket, and his trademark "Crocodile Dundee" hat, I probably wouldn't recognize him.

Nick attended Cornell University and received his Bachelor's in 1954, his Master's from Cal-Tech in 1956, and PhD. from Princeton in 1959. The professional field he chose was Geology, however, and in spite of all the contributions he has made to Odonatology these studies have been done on his own time while teaching full time and doing research in geology, first at Rice University from 1959 to 1966, and now at State University of New York in Binghamton since 1966, where he is head of the Geology Department.

Nick seems to have decided on a professional career in geology while he was still at Cornell (Ailsa says "Nick really loved the outdoors, I think he decided to take geology on the principal

that geologists get to work outdoors a lot, while biologists can spend their entire lives glued to microscopes indoors!").

The first new odonate described was dedicated to his wife- Protoneura ailsa. The teaching job at Rice University and move to Houston brought a comparatively virgin odonate area, the US Southwest, under Nick's net. The next few years saw his discovery and description of Aeshna persephone; Somatochlora margarita; Enallagma westfalli and Gomphus apomyius. Also while at Rice, he received a grant to train some of his geology students on projects in Guatemala which led to his keen interest in the Neotropical fauna, and eventual descriptions of Heteragrion eboratum; Ischnura acicularis; Enacantha caribbea; Chrysobasis lucifer; Enallagma rua; Scapenea archboldi; Phyllogomphoides duodentatus, insignatus, pugnifer, & suasillus; Archilestes latialatus; Macrothemis aurimaculata; Epigomphus flinti, maya, sulcatistyla & westfalli; Philogenia stigills and Protoneura sulfurata.

On the way to Australia in 1972 for sabbatical leave, Nick and Ailsa stopped in Fiji- mainly because they were traveling with three small sons and needed to get off the plane for awhile! That began Nick's interest in Fiji and its

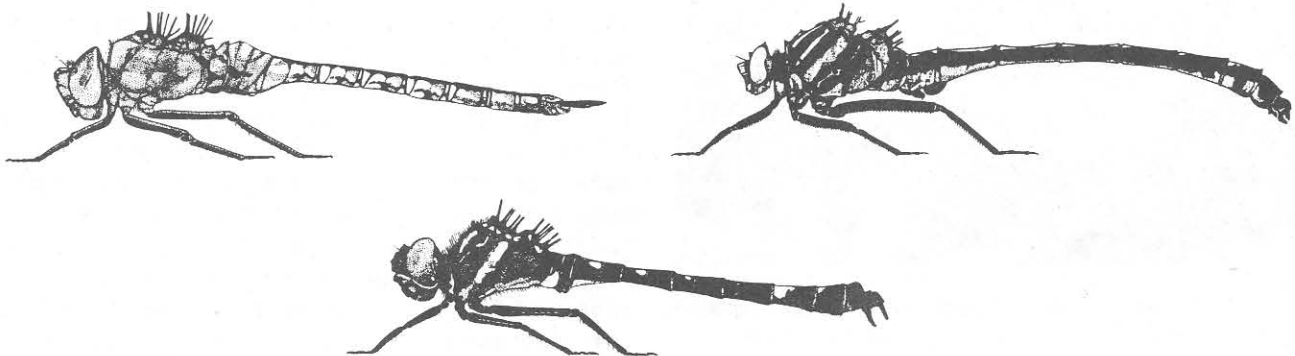
Nesobasis- which has led them to a number of different South Pacific Islands and descriptions of Melanesobasis bicellulare, maculosa, marginata, mcleani & prolixa; Nesobasis caerule-caudata, caerulescens, flavifrons, flavostigma, ingens, malcolmi, monticola, pedata, recava and rufostigma. Already plans are in the works to return to Fiji (for the fifth time) and Tonga in 1992!

In between the more exotic outings, Nick is busily at work bashing the local rocks and chasing the well-worn north-eastern Odonata fauna-- And alas! Still turning up some undescribed species-- e.g. Ophiogomphus fastigiatus.

Nick and Ailsa live at 2091 Partridge Lane, Binghamton, New York, and somewhere amid all the glob trotting in search of rare odonates, they were able to find time to raise three sons and for Nick to take charge of SUNY's Department of Geology.

Nick was very supportive of the idea of a new society to serve the needs of American odonatists, and was one of the foremost proponents for organizing The Dragonfly Society of America in 1989 during the SIO Symposium at Johnson City, Tennessee. In addition to his present term as President of the society, Nick will be editing the new society journal Bulletins of American Odonatology.

Carl Cook



Anax junius Drury, Hagenius brevistylus Selys, and Macromia illinoiensis Walsh, illustrated lifesize from examples collected in Nova Scotia

Original drawing by Paul-Michael Brunelle

A NEW KEY TO THE LARVAE OF NORTH AMERICAN SOMATOCHLORA

By Jerrell J. Daigle
2166 Kimberly Lane, Tallahassee, FL 32301

This summer in Tallahassee, I collected a half-dozen exuviae of Somatochlora georgina, two with the emerging males clinging to their exuviae. I have decided to revise the Somatochlora larvae key to include S. georgina and S. hineana (three last-instar larvae). Hopefully, someone can field-collect or rear series of the remaining unknown species (brevicincta, calverti, incurvata, and margarita) and add them to this key. I invite any comments or suggestions to correct or improve this key for inclusion in a future issue of ARGIA.

KEY TO THE SOMATOCHLORA LARVA OF NORTH AMERICA

- 1. Dorsal hooks present 2
Dorsal hooks absent 14
- 2. Dorsal hooks falciform, acute, the last projecting beyond the middle of segment 10 4
Dorsal hooks low knobs, rather blunt, not falciform, the last hook not projecting to middle of 10 . . . 3
- 3. Dorsal hooks on 4 to 9 Somatochlora ozarkensis
Dorsal hooks on 5 or 6 to 9 S. williamsoni
- 4. Epiproct of male flat above, anteapical tubercle not at all elevated 7
Epiproct of male longitudinally concave, anteapical tubercle slightly elevated 6
- 6. Dorsal hook on 4 vestigial or missing; total length 20 mm S. tenebrosa
Dorsal hook on 3 vestigial, small well-developed hook on 4; total length 21-24 mm. S. hineana
- 7. Lateral abdominal spines at least 0.5 as wide as long; epiproct not acuminate 8
Lateral abdominal spines less than 0.5 as wide as long; epiproct acuminate with a very slender tip . 10
- 8. Cerci 0.8 or less length of epiproct; transverse series of long prominent setae on posterior margin of abdominal segment 9
Cerci equal in length to epiproct; no series of long prominent setae on posterior margins of abdominal segment S. linearis
- 9. Palpal setae 9, cerci straight-edged laterally with incurving tips S. filosa
Palpal setae 7, occasionally 8; cerci evenly tapering to straight tips S. ensigera
- 10. Hind tibiae greater than 8.4 mm, hind femora greater than 7.4 mm S. elongata
Hind tibiae less than 8.4 mm, hind femora less than 7.4 mm 11
- 11. Dorsal hooks present on segments 3 to 9; dorsal hook on segment 4 in lateral view about 0.75 length of hook on segment 5 S. minor
Dorsal hooks present on segments 4 or 5 to 9; dorsal hook on segment 4, if present, less than 0.5 length of hook on segment 5 12

12. Epiproct longer than the cerci; dorsal hooks on abdominal segments 7 to 9 nearly straight in lateral view S. provocans
 Epiproct distinctly shorter (male) or nearly same length (female) as cerci; dorsal hooks on segments 7 to 9 slightly decurved in lateral view 13
13. Dorsal hooks 5 to 9, premental setae 12 S. georgiana
 Dorsal hooks 4 to 9, premental setae 9 to 10 S. walshii
14. Labium extending laterally over inner edge of eyes; male cerci with outer margin not regularly arcuate, more or less sinuate; lateral spines, when present, on both segments 8 and 9 15
 Labium not extending laterally over inner edge of eyes; male cerci with outer margin regularly arcuate; lateral spines, when present, confined to segment 9 20
15. Lateral spines present on abdominal segments 8 and 9 17
 Lateral spines absent 16
16. Premental setae 9 or 10; palpal setae 6 or 7 S. whitehousei
 Premental setae 11 to 13; palpal setae 8 S. septentrionalis
17. Epiproct short, slightly less than the length of the cerci; lateral spines on abdominal segment 9 long, 1/3 to 1/2 the length of the segment excluding the spine; palpal setae 8 or 9 S. sahlbergi
 Epiproct distinctly longer than the cerci; lateral spines on segment 9 shorter, 1/3 or less the length of the segment excluding the spine, palpal setae usually 5 to 7, occasionally 8, rarely 9 18
18. Metafemur long, usually greater than 7.3 mm; abdomen with a median series of slightly elevated dorsal prominences; epiproct of male with a distinct knob on each side S. cingulata
 Metafemur less than 7.3 mm; abdomen without median dorsal prominences; epiproct of male without lateral knobs 19
19. Lateral spines on segment 9 greater than 1/5 the length of the segment excluding the spine; metafemur usually less than 6.6 mm S. albicincta
 Lateral spines on segment 9 less than 1/5 the length of the segment excluding the spine; metafemur usually greater than 6.6 mm S. hudsonica
20. Fringe of hair on hind margins of abdominal segments 6 to 9 not forming two rows of dorsolateral tufts; lateral spines normally present on 9; palpal setae 7 or 8 21
 Fringe of hair on hind margins of 6 to 9 forming two rows of dorsolateral tufts; lateral spines absent from 9 or represented by very minute denticles; lateral setae 9 or 10 S. forcipata
21. Fringe of hair on middle of hind margins of 7 and 8 forming a thick, dorsal tuft S. kennedyi
 Fringe of hair on hind margins of 7 and 8 not forming median tuft 22
22. Fringe of hair on hind margins of 8 and 9 equal, or almost equal, to median length of segment; body length 17 mm., hind femur 5.25 mm S. franklini
 Fringe of hair on hind margins of 8 and 9 much less than median length of segment; body length 21-22 mm., hind femur 5.8-6.0 mm S. semicircularis

WESTERN COLLECTING TRIP - 1991

By Nick Donnelly
2091 Partridge Lane, Binghamton, NY 13903

After the Wisconsin gathering Ailsa and I headed to Seattle via Minnesota, Manitoba, North Dakota, Montana, and Pullman, Washington, returning via Oregon, northern Utah, and Nebraska. In addition to stops to see family and friends, research ancestral burials, and do some geology, we managed to get in some good collecting.

The Vermillion River in St. Louis Co, Minnesota, is a beautiful place but our brief evening's collecting there yielded few odonates. We found a nice *Arigomphus cornutus* stream, and took *Somatochlora walshi* and *franklini*. The area will repay future work.

On the Rainy River (border of Ontario and Minnesota) we found abundant *Gomphus fraternus*, as well as scarce *Stylurus amnicola* and *Arigomphus cornutus*. In southern Manitoba, in an uncharacteristically hilly region near the Pembina River, we took *Gomphus grasinellus* and *Somatochlora ensigera*. In North Dakota we collected briefly in Emmons Co. and found *Ischnura verticalis* and *Enallagma antennatum*, but little else.

Hurrying westward, we paused in north-central Montana to find *Enallagma anna* and *E. praevarum* flying together. We were to find these species together again in northern Nebraska - they are difficult to distinguish in the field by habits or appearance.

The season was too early (early July) in the Rockies for serious collecting. In a 7000' pond in western Montana where we had taken abundant *Aeshna* and *Somatochlora* in 1981 we had to content ourselves with a few emerging *Leucorrhinia hudsonica* and *Enallagma boreale*. In fact, snow on one road forced us to detour many miles! We had a similar problem two weeks later in the Cascades. Don't go too early!

We found *Gomphus lynnae* at its type locality, along with *Ophiogomphus occidentis*. The Yakima River, however, was in virtual flood, and wading was out of the question. Around Seattle I collected with Dennis Paulson one day. He located for me both *Ischnura erratica* and *Octogomphus specularis*, which were welcome species.

In central Oregon we were disappointed at the rather limited odonate fauna of the Deschutes River at Bend (Kennedy wrote, about a trip here in 1913, "The river...at Bend was practically devoid of odonate life." Can someone prove otherwise for this beautiful stream?). I noticed for the first time that some populations of *Enallagma cyathigerum* are distinctly smaller than co-occurring *boreale*, which is not the case in the east. I also found both *Argia emma* and *vivida* abundant together, which suggests there were many springs along the river I did not see. I even saw a small male *emma* in tandem with a large female *vivida* - a mispairing for the record books.

In eastern Oregon we were enchanted with the appearance of the Malheur River, but it was too late in the day to stop. Perhaps someone can stop here in the future. Along the Snake River in southern Idaho we again found *Enallagma anna* and *Libellula forensis*. A *Sympetrum occidentale* was clearly *fasciatum*. I wonder about these subspecies.

The best thing we *didn't* collect at the Dinosaur National Monument was a *Cordulegaster* which I think was *dorsalis*. It was flying on a high ridge top at Harpers Corner, and I suspect they breed in a small stream at Echo Cove. This will be a good Colorado record for the collector who takes one. Memo: always carry a net, even on wind-swept, vertiginous ridge tops!

Our last collecting was along the Niobrara River in northern Nebraska, first near the boundary with Wyoming and later around Valentine. The river is beautiful and clean, and there is a fascinating mixture of western and eastern odonates flying together. Where else might you find an *Argia emma* capturing an *apicalis*? Where else might you find *Stylurus amnicola* and *intricatus*? We found a mis-paired male of *amnicola* with a female *intricatus* in serious cop. - not a casual tandem. Another East - West surprise was *Ischnura verticalis* and *perparva* inextricably mixed up in the same little marsh. Other overlapping ranges included *Enallagma exsulans*, *antennatum*, *anna*, and *praevarum*; *Aeshna constricta* and *multicolor*; *Calopteryx maculata*, *Sympetrum occidentale fasciatum*, *Ophiogomphus severus* and *Gomphus externus*. This place is worth a trip!

NORTHEASTERN ODONATA MEETING, 8-9 JUNE, 1991

By Nick Donnelly
2091 Partridge Lane, Binghamton, NY 13903

Heady with the finest spring weather to strike our area in decades, the northeastern odonatists (affiliated with the DSA), struck again - this time on the weekend of 8-9 June in the Pine Barrens. Aply led by Mike May, the group found themselves too late for early specialties such as Gomphus apomyius, but not for species of Macromia and Somatochlora generally not found until later in the summer.

Beginning at Pakim Pond, Mike showed us abundant, coexisting Ladona deplanata and exusta. No one could have thought these the same species after this experience. Moving on to Whitesbog, we found several species for which this locality has long been noted: Enallagma pictum, E. recurvatum, Ischnura kelli-cotti, and others. I, for one, was surprised to find only homeochromatic females of the last.

At Upton we found Libellula auripennis and several other typical species. The group proved hilariously that even a mob of determined collectors cannot successfully trap Anax longipes in a corner of the pond! Later in the day we found Macromia allegheniensis

back at Pakim Pond and Somatochlora tenebrosa along roads.

Moving the next day to Atsion and Quaker Bridge, the group found Celi-themis verna fairly common in one pond (it had also been found on Pakim Pond), a surprise in view of its rarity only a decade ago. We also found Tetragoneuria costalis, Macromia georgina, Argia bipunctulata, Libellula flavida, Progomphus obscurus, and several other characteristic Pine Barrens species.

The group camped at Pakim Pond and enjoyed a communal cook-out. Odonatists included Mike and Leslie May, Ollie and Carol Flint, Nancy Adams, Nick and Ailsa Donnelly, Ken and Joyce Soltesz, Skip and Jane Blanchard, John and Caroline Michalski, Tony Froonjian, Richard Orr, Clark Shiffer, and Hal White - also several children. We were joined by three zoologists from the New Jersey Natural Heritage program: Frank Dirrigl, Tom Breden, and Dale Schweitzer. We have not set a locality for next year's trip, but the group is looking forward to another in what is turning out to be a series of very successful trips.

MIDWESTWARD, HO! The story of three rugged bughunters in the wilderness of I-80

By John Michalski
90 Western Avenue, Morristown, NJ 07960

Caroline and I had just begun loading the rent-a-car when our traveling companion, Al Barlow, arrived. Al did slightly better than we did, but to look at the pile of stuff we planned to take with us, you'd figure we were setting off for six months of collecting in Thibet. Backpackers know better than this, but when you have a whole car to fill, it spoils you. The car itself becomes your suitcase. Like everyone else who was headed for the Dragonfest in Wisconsin, we three were each

concerned about the weather forecast, but were determined to go rain or shine. You couldn't tell what it would be like in Grantsburg from the weather in New Jersey, anyway. But, just to get us in the right mood, the clouds above us opened up, monsoon-style, with only half the stuff packed into the car. All the umbrellas were carefully included in the luggage, at the bottom of the stack, so by the time we were ready to hit the road we were completely soaked. As we drove the first

two hours, the water rose in clouds from our bodies and we discussed the need for a really good inside windshield wiper. We made a mental note to write a letter to Detroit and continued on our way.

The meeting was for the weekend, so we left Wednesday morning, planning to stop at several points along the way. We arrived at our first stop about noon, a forest stream off exit 29 on Interstate 80 in Pennsylvania (White Deer Creek). A friend had said the area looked good for butterflies, and so it was; the Red-spotted and White-banded Purples were everywhere. We noticed at the time what was becoming, for us, a familiar species profile: a rocky, babbling river with hemlocks and pines overhead, populated by *Cordulegaster maculata*, *Lanthus* (? *parvulus*), *Calopteryx*, and a green gomphid we speculated was *Ophiogomphus*, but who knew which one. The sun was not out this morning, but with brighter light, the place must really hop with activity.

We also took some other side trips off the interstate around Karthaus, where Al collected *Tachopteryx thoreyi*, and later *Cordulegaster diastatops*, plus we all got sundries like *Amphiagrion saucium* and so forth. Late in the day, towards dusk, we looked down at the Alleghany River and decided to have a peek. There were huge factory tanks built along the river, and it smelled suspicious at some spots, but proved nonetheless to be a very interesting collecting locale. Besides the vast shoals of *Argia moesta*, we also saw or collected *Gomphus* (probably *viridifrons*, *Gomphurus vastus*, and *O. rupinsulensis*). The *viridifrons* is just a guess, since the closest we got to them was a pair of wings I found floating downstream.

Thursday, Day Two, took us through Ohio, Indiana and Illinois. Our most memorable stop was the Pigeon River near Howe, Indiana. This sandy-bottomed, very wadeable river brought us a large number of male *Gomphurus fraternus*, apart from the other interesting species that we saw but did not take. I did collect several pairs of

Hetaerina americana, which had somewhat different markings than the ones we get back home. After taking a quick peek at Lake Michigan (at Indiana Dunes National Lakeshore), our final stop this day was the Sugar River, in northernmost Illinois, where we expected to see *Gomphurus externus*. We toiled around for some time, trying to locate the bridge that Tim Vogt had recommended, and it seemed too late to see much of anything, but as it grew dark the dragonflies came out of hiding. The Sugar River is nicely wadeable, even though the water is opaque and looks like you'd sink to your neck, but it's only knee-deep. We saw at least two other species of gomphids that evening, but only succeeded in catching one *externus* and a female that I think is *Stylurus amnicola*.

Friday morning dawned coolish and partly cloudy, but our ardor was still at a high pitch as we entered Wisconsin, *The Cheese State*, which is what it says on the license plates (I'm possibly wrong about this, but if it doesn't say anything like that, then it should). By this time, the three of us had noticed two things — first, that porcupines live here and apparently can't get out of their own way when they're trying to cross a road; and second, that while New Jersey is frequently maligned as "the Toll Booth State", none of us had ever seen so many toll roads before in our lives. Jersey has two such roads — the Parkway and the dreaded Turnpike. But once we got past Pennsylvania, we needed more spare change than a parent outside the video arcade. We began to wonder if some of the driveways out here didn't have a little guy out front in a booth with his hand out. All the toll booth guys were real polite, though.

By noon on Friday we had reached the Black River State Park, where we collected several species of *Leucorrhinia*, plus *Lestes dryas*, and Al took a *Stylurus scudderi* in emergence. I also collected a small series of beautiful checkerspot and satyrid butterflies, and the grass-pink orchids were in full swing. In a few hours the weather grew absolutely cold and windy and it looked like it was about to rain. By the time we reached the car it was definitely raining and so we continued

on our more-or-less merry way northward.

We all know the story from Friday evening through Sunday noon. It was a magnificent time for everyone except the dragonflies, who I imagine are already speaking of that weekend as "the great cataclysm" or something like that. No one with six legs who lived through that time will ever forget it. And, thanks to Tim, Bill, and everyone else who planned and organized it for the rest of us, no one with two legs will soon forget that weekend either! Thanks again to you all!

Nick and Ailsa Donnelly had loaded us up with some places to check out on our way back east, and on Sunday Bill Smith took us to the North Fork of the Chief River (Sawyer County), to collect *Arigomphus cornutus*. Both Al and I got a couple, and they are certainly fabulous animals. Then the set of us headed for the South Fork of the Flambeau River, where we hoped to see gomphids aplenty. And we did, too, but the water was so very high and fast that it was really difficult moving around in it. Al got pretty banged up on the submerged rocks, but I fared better and perched myself on a narrow island. As Bill and his two sons flailed chest-deep in water, swinging in vain at dozens of *Ophiogomphus howei* and other such morsels, I found that one or two of these fellows would fly straight up to my island every few minutes, where they were almost sitting ducks. Apart from several *G. ventricosus* and *O. rupinsulensis*, I collected four male *howei*, though two ultimately escaped by various means. We packed our gear, bade the Smiths a fond farewell and continued north and east.

Using the information Tim Vogt and the Donnelly's had given us, we next headed for Plum Creek, in northeastern Wisconsin, where we all collected several *Ophiogomphus colubrinus* as well as *Epithea spinigera*. Caroline, normally too cautious for mishaps, took a dive at one point, soaking herself up to the shoulders, and poor Al took two dives. To add insult to injury, I, who had remained obnoxiously dry all this time, walked up to the bedraggled Barlow to see if he needed some dry envelopes or something. Before he

could open his mouth, an *Ophio* buzzed between us, and I swung after it, tipping my net into the water and dousing Allen yet again, this time with a veritable tidal wave of river water. His facial expression at that moment will not bear up to written description. So far, I am still dry from the knees up, but I know he's out there, waiting for me.

Monday brought us to the famous Spur Lake Road in the hopes of a possible *Somatochlora* festival. They had swarmed for the Donnelly's the week before, but apparently there was a better game in town this Monday, and we worked very hard indeed for the few we got. When we settled for the night (in a delightful family cabin in the Northern Peninsula) we were very surprised to find that we had taken, between us, four different species: *franklini*, *forcipata*, *minor* and *walshii*.

By now, we were all pretty tired and frankly, if we could've snapped our fingers and popped ourselves home on Sunday night, it would have been a vacation that was perfect in every way. But three people in a car can only party it up together for so long, and the last two days dragged on a little bit. We stopped when the collecting looked good, dutifully taking those species that we did not expect to find back east, such as *Gomphus spicatus*, which we caught in fair numbers near Trout Lake County Park in Chippewa County. We returned to New Jersey Wednesday afternoon, thoroughly shagged, but also thoroughly loaded with insectivorous booty.

It's mid-August as I write this, and none of us has lifted a net since June 26. But we know the *aeschnas* are coming.

IMPORTANT REMINDER

IF THERE IS TO BE A SEASON SUMMARY ISSUE IN DECEMBER 1991, WE MUST HAVE YOUR COLLECTING RECORDS AS SOON AS POSSIBLE!!

Please also include information on a few of your favorite collecting sites for the proposed LOCALITY ATLAS (see pp. 21)

THE STATUS OF ODONATOLOGY IN MEXICO AND CENTRAL AMERICA

By Rodolfo Novelo G.

Instituto Ecologia, A.P. 63, 91000 Xalapa, Veracruz, MEXICO

A condensed review is given on the current status of odonatists, research projects, recently published studies, and research facilities in Mexico and Central America. The data has been kindly supplied by: M.S. Carlos Esquivel (Costa Rica); M.S. Enrique Gonzalez (Mexico); Dr. Jean-Michel Maes (Nicaragua) and summarized by myself.

The information is given strictly in alphabetical order of country.

COSTA RICA

M.S. Carlos Esquivel is the only professional odonatist in Costa Rica. He is Teacher-Researcher at Escuela de Biología, Universidad Nacional, Heredia. His present odonatological research projects are: 1) Diversity and phenology of neotropical odonates; 2) descriptions of new species of Costa Rican Odonata; 3) Behavior of Odonata (in collaboration with Dr. T.B. Herman, University of Nova Scotia, Canada). The principle geographical area under consideration, and where most future studies are expected to be conducted, is the Costa Rican Central Valley. No faunal list of Costa Rican Odonata has yet appeared, but one is in preparation.

STUDENTS: Mr. Alonso Ramirez Ulate is working toward the Bachelor of Biology degree at Escuela de Biología, Universidad Nacional, under Prof. Esquivel's supervision. He is conducting a personal investigative study on the biology of Odonata larvae. His thesis (in preparation) will be "Descripción de la larva de Heteragrion erythrogastrum (Megapodagrionidae)".

LITERATURE: The most important paper concerning Odonata which has been prepared in Costa Rica by a national or resident researcher is Prof. Esquivel's "Clave para las familias de odonatos de Mexico y Centroamerica". Brenesia (in

press). A list of the odonates of known from "La Selva" (ca. 120 species) is in preparation and may appear this year (1991).

- NATIONAL COLLECTIONS:** There are only two collections containing odonates
- The collection called "Orden Odonata" deposited at Instituto de Biodiversidad in Santo Domingo, Heredia. The curator is Dr. Angel Solis. Specimens contained is $\pm 2,000$ and the percentage of specimens determined is $\pm 25\%$. There is no catalog.
 - The collection called "Odonatos de Costa Rica" is deposited at Escuela de Biología, U.N.A., in Heredia City. Curator is M.S. Carlos Esquivel. The total specimens is $\pm 3,000$, and the percentage determined is $\pm 90\%$. There is no catalogue available.
 - There is a reference collection at La Estacion de Biología "La Selva" which includes $\pm 1,000$ odonates of about 85 species.

PROTECTED AREAS: There are many field stations located in various National Parks in Costa Rica. These are situated at varying altitudes from sea level to mountainous high altitudes, and comprise several biomas. Perhaps the best known is La Estacion de Biología "La Selva" which is the habitat of at least 120 species of odonates as so far known.

The reserves and field stations are managed by the Natural Resources Ministry or the Universities.

CONSERVATION: Certain laws offer protection either directly or indirectly to living species and their habitats, including odonates, foremost is the sanctuary provided in National Parks and Reserves. However, some human activities -deforestation and pollution- probably are endangering the existence of several species and their habitats outside of the Reserves.

CONTACT: Persons interested in establishing contact please write directly to:

Carlos Esquivel Heredia
Escuela de Biología
Universidad Nacional
Heredia, COSTA RICA

Phone: (506) 37-63-63, Ext. 2331
Fax: (506) 37-64-27

MEXICO

At the present time there are two professional odonatists working in Mexico, both have guided several students to the completion of their thesis in the field of odonatology, and it is hoped many of these will continue in that field professionally. Presently the two professionals are: M.S. Enrique Gonzalez Soriano and M.S. Rodolfo Novelo Gutierrez.

E. Gonzalez holds a position at the Instituto de Biología, Universidad Nacional Autónoma de México (UNAM), Mexico City. His current research involves two projects: 1) Systematics of the Odonata of Mexico; and 2) Biology of Odonata, both in collaboration with Angel Maya Flores and R. Novelo.

R. Novelo works at the Instituto de Ecología, A.C., Xalapa, Veracruz, as researcher, presently conducting two projects: 1) Biosystematics of the larvae of Mexican Odonata; and 2) various regional studies on odonates, in collaboration with Jorge Pena Olmedo, Jose Antonio Gomez and E. Gonzalez. All geographical areas of Mexico are included in the study area.

STUDENTS: Several persons have attained the Bachelor's degree by original research on Odonata under the supervision of E. Gonzalez. They, and the titles of their thesis, are:

Villeda, C. Ma. P. 1978. Estudio preliminar del suborden Zygoptera de la Sierra de Los Tuxtlas, (Veracruz (Odonata). Fac. Ciencias, UNAM, Mexico. 114 pp.

Novelo, G.R. 1981. Comportamiento sexual y territorial en Orthemis ferruginea (Fab.) (Odonata: Libellulidae).

Fac. Ciencias, UNAM, Mexico. 63 pp.

Verdugo, G.M. 1981. La Familia Aeschnidae del estado de Veracruz (Odonata: Anisoptera). Fac. Ciencias, UNAM, Mexico. 117 pp.

Garcia, C. Ma. V. 1987. Estudio taxonomico del suborden Zygoptera del estado de Morelos (Insecta: Odonata). Fac. Ciencias, UNAM, Mexico. 163 pp.

Mendoza, T.R. 1988. Contribucion al estudio de los odonatos del Valle de Mexico. Fac. Ciencias, UNAM, Mexico. 175 pp.

Maya, Angel F., is presently studying under the guidance of E. Gonzalez, his research project is odonates from San Luis Potosi State.

Concurrently, R. Novelo has supervised the following student's studies on Odonata, who have produced these thesis:

Pena, O.J. 1989. Contribucion al estudio del suborden Zygoptera (Insecta: Odonata) de la Sierra Norte del estado de Hidalgo, Mexico. Fac. Ciencias, UNAM, Mexico. 202 pp.

Gomez, A.J.A. 1990. Los odonatos de la Sierra de Huauchinago, Puebla, Mexico (Insecta: Odonata). Fac. Ciencias, UNAM, Mexico. 184 pp.

LITERATURE: E. Gonzalez has published many important contributions on the behavior of neotropical odonates. Among these are his papers on Palaemnema desiderata, Orthemis ferruginea, Cora marina, Heteragrion alienum and Elasmothermis cannacrioides. He has described several new species including Epigomphus donnellyi, Phyllogomphoides apiculatus, P. luisi and P. danieli. He has in preparation additional new species in the genera Amphipteryx, Protoneura, Paraphlebia, Oplonaeschna, Macrothemis and a treatise on the odonate fauna of Morelos State; additionally he is working toward his Ph.D. by a study about the reproductive behavior of Paraphlebia.

R. Novelo has published on the behavior of Palaemnema desiderata and Orthemis ferruginea; he has assisted in the descriptions of Ischnura posita atezca and P. luisi & danieli; has contributed papers pertaining to the larvae of Perissolestes magdaleneae, Cora

marina, Palaemnema desiderata, P. paulitoyaca, Heteragrion albifrons, H. alienum and H. tricellulare; and regional studies on the Odonata fauna from Quintana Roo, and the Northern Mountain Range of Hidalgo. His current projects are a study of Mexican Odonata larvae in preparation for his Ph.D. thesis; a study of the odonate fauna of the Mountain Range of Huauchinango, Puebla; and the preparation of two chapters for a book on Odonata.

NATIONAL COLLECTIONS: Odonates are present in the collections of several Universities throughout the country, however, the more important collections are:

- A. The Odonata included in the Entomological Collection of Instituto de Biologia, UNAM, Mexico City. E. Gonzalez is in charge of the Odonata Section. It has approximately 15,000 specimens of \pm 400 species from several parts of the world, the Odonata are 100% determined. There is no catalog of the collection.
- B. The Odonata included within the Aquatic Insects Collection of Insectario, DPAA-DCBS, UAM-X, Mexico City. R. Novelo is in charge. It has approximately 5,000 specimens of \pm 180 species from Mexico, USA and Japan, 100% determined. There is no catalog.
- C. The Entomological Collection of Escuela Nacional de Ciencias Biologicas, IPN, Mexico City. It has about 100 Odonata, all determined. M.S. Rebeca Pena is in charge.
- D. The Entomological Collection of Sanidad Vegetal (Government Office) of Secretaria de Recursos Hidraulicos. Biol. Silvia Ramirez is in charge. It has 55 specimens of 29 determined species.
- E. Entomological Collection, of Museo de Zoologia, Facultad de Ciencias, UNAM, Mexico City. The curator is M.S. Jorge Llorente. There are about 400 specimens of an undetermined number of species.

PROTECTED AREAS: There are many reserved areas throughout the country which provides excellent habitat for odonates.

The Biosphere's Reserves were created with aid from UNESCO, and some Field Stations are supported by Universities. The main protected areas are (institutions in charge in parentheses):

I. BIOSPHERE'S RESERVES:

La Michilia, Durango (Inst. Ecologia)
 Mapimi, Durango (Inst. Ecologia)
 Sierra de La Laguna, Baja California Sur (Centro de Investigaciones Biol.)
 El Cielo, Tamaulipas (Univ. Autonoma de Tamaulipas)
 Montes Azules, Chiapas (UNAM)
 Sian Ka'an, Quintana Roo (Centro de Investigaciones de Q. R.)
 Manantlan, Jalisco (Universidad de Guadalajara)

II. FIELD STATIONS:

Los Tuxtlas, Veracruz (UNAM)
 Chamela, Jalisco (UNAM)
 Morro de la Mancha, Veracruz (Inst. de Ecologia)

CONSERVATION: There are laws that indirectly protect odonates by preservation of habitats. One is the Law for Environmental Protection which has implemented stricter control over pollution, and there are programs aimed toward improving water quality in some of the main river basins. However, some human activities remain a strong source of habitat pollution, e.g., agriculture and industry.

Persons interested in establishing contact with Mexican odonatists please write to:

M.S. Enrique Gonzalez Soriano
 Departamento de Zoologia, Instituto de Biologia, UNAM, A.P. 70-153
 C.P. 04510, Mexico, D.F., MEXICO
 (Phone: (5) 550-52-15 ext. 4908)

M.S. Rodolfo Novelo Gutierrez
 Instituto de Ecologia, A.C.
 Km 2.5 antigua carretera a Coatepec
 Apartado Postal 63
 C.P. 91000 Xalapa, Veracruz, MEXICO
 (Phone: (281) 860-00 ext. 211)
 (Fax: (281) 869-10)

NICARAGUA

In this country there is no professional odonatists, but Dr. Jean-Michel Maes who is curator at the Museo Entomologico at Leon, fills very well this gap with his enthusiasm and capability, even though his research specialty is with other groups. He has, in fact, himself published a catalog of Nicaraguan insects which includes the order Odonata and has collaborated with others on a speciality catalog of the Odonata alone. His geographical interest for odonates covers all areas of Nicaragua.

STUDENTS: There is no one in the country presently studying Odonata.

LITERATURE: The most important papers concerning odonates published in the country by national or resident researchers are:

- Maes, J.M. 1989. Orden Odonata. in: Catalogo de los insectos controladores biologicos en Nicaragua. Vol. 1, Insectos Depredadores (Primera Parte). Rev. Nica. Ent. 8:3-14
- Maes, J.M., J.P. Desmedt & V. Hellebuyck. 1988. Catalogo de los Odonata de Nicaragua. Rev. Nica. Ent. 4:29-43

NATIONAL COLLECTIONS: There are four collections in the country containing Odonata:

- A. Museo Entomologico, S.E.A., Leon City. The curator is Dr. Maes. There are about 200 specimens, all determined, and they have been cataloged.
- B. Centro de Proteccion Vegetal, Ministerio de Agricultura, with 50 specimens, determined but not cataloged.
- C. Escuela de Sanidad Vegetal, Instituto Superior de Ciencias Agropecuarias. 50-100 species undetermined.
- D. Escuela de Biologia, Universidad Autonoma Nacional de Nicaragua. 50-100 specimens undetermined.

PROTECTED AREAS: According to Dr. Maes there are no Reserves or areas of protected habitat in Nicaragua.

CONSERVATION: There are no laws protecting habitats, and few or no studies have been conducted to determine if there are at risk species in Nicaragua. The indiscriminate use of insecticides, the destruction of natural habitats for agricultural purposes, the deforestation and burning of brush, are human activities most likely having a detrimental impact on odonates, especially those inhabiting epiphytes.

Persons wishing to contact Dr. Maes please write to:

Dr. Jean-Michel Maes
Museo Entomologico, S.E.A.
Apartado Postal 527
Leon, NICARAGUA
(Phone: 0311/6586)

COMMENTS

From the above report it can be easily seen that Odonatology in Mexico, as well as most of Central America, remains poorly developed. Much of the fundamental groundwork remains to be done, beginning with the basic subjects such as alpha taxonomy and regional checklists. From my point of view one of the main problems with Neotropical Odonatology is the lack of interested resident workers. We have no resident researchers, not even amateurs, in countries such as Guatemala, Honduras, El Salvador and Panama. One would think the splendid record of E. Gonzalez in graduating 10 students (including myself) after having done major research on odonates, would soon fill these gaps. Unfortunately, this has not been the case because nobody except me has continued working on Odonata (a 10% return!). The prospects outside of Mexico seem no better- in Costa Rica there is only one (A. Ramirez) and none in Nicaragua. If this trend continues, our expectations for a full accounting of Neotropical Odonata are not favorable in the near future.

Our national collections also need to be improved. All are still incomplete (no country has 100% representatives of

its respective fauna), and most of them are still uncatalogued.

On the other hand, there are some favorable aspects to the present situation- there are at least three very

dedicated resident professionals with on going projects and precise objectives to reach in our studies. I think this is a very good beginning.

ACROSS THE EDITOR'S DESK

By Carl Cook
469 Crailhope Road, Center, KY 42214

MEETINGS:

1992 DSA ANNUAL MEETING

Ken Tennesen and Carl Cook offered to host the next DSA annual meeting, to be held in June, 1992, in south central Tennessee. The proposal was favorably received by the members attending the Grantsburg meet, and accepted by the Council.

The tentative date proposed is June 12-14, with post-meeting collecting on the 15th through 17th. Some interesting odonates occurring in the area are: Calopteryx angustipennis, Tachopteryx thoreyi, Gomphurus hybridus & lineatifrons, Gomphus sandrius, Ophiogomphus acuminatus, Macromia alleghaniensis, and post-meeting trips may add Arigomphus maxwelli, Stenogomphurus consanguis & rogersi. Columbia, TN, 40 miles south of Nashville, will provide participants a wide variety of motels and restaurants, and ample free camping is available at Meriwether Lewis National Monument off Natchez Trace Scenic Parkway.

More detailed information will be provided in the December 1991 issue of ARGIA, or you may contact Carl Cook for more specifics: (502) 565-3795.

1992 NORTH AMERICAN BENTHOLOGICAL SOCIETY ANNUAL MEETING

The NABS annual meeting will be in Louisville, Kentucky, 26-29 May, 1992. Dan M. Johnson is organizing a symposium on Odonate Ecology within the framework of the meeting. There will be a poster

presentation featuring works relating to dragonfly research. Dan has called for papers and posters suitable for the symposium in SELYSIA 20 (1): 4. For further information contact Dan at: Department of Biological Sciences, ETSU, Johnson City, TN 37614.

2nd NEOTROPICAL ODONATOLOGISTS MEETING

Enrique Gonzalez Soriano has circulated the preliminary announcement of the second Neotropical Odonatologist meeting planed for 13-18 July, 1992. It is to be held at the well known Los Tuxlas Field Station.

While some opportunity will be provided to the participants for odonate collecting, the meeting is not intended to be primarily for collecting purposes.

The goal for this meeting is to interchange ideas about current and future research projects on all Tropical Odonata. It will include oral presentations and workshops on reproductive behavior, biology, taxonomy, and general topics of interest to odonatologists.

It is regreatable that DSA did not receive timely information about the organization of this meeting, and thus was unable to attempt to coordinate our own society's annual meeting within the same framework, so that a DSA sanctioned joint meeting might have taken place in 1992 in Mexico. DSA, however, remains very anxious to discuss the possibility of holding future society meetings in host countries outside of the US.

For information contact: Enrique Gonzalez Soriano, Instituto de Biologia, UNAM, Dept. de Zoology, Apartado Postal 70-153, C.P. 04510, Mexico, D.F., MEXICO

DSA's POLICY ON SELECTING MEETING SITES

Traditionally, it has been society policy to consider only oral invitations given at the immediate proceeding meeting, for those wishing to host the next annual meeting. It was pointed out during floor discussions at the recent Grantsburg meeting that this policy may be discriminating against persons and/or countries who would host DSA, but are not able to attend the proceeding meeting.

Henceforth, and unless, or until, changed by the Executive-Council in Official Session, the following policy shall apply to all Annual Meeting invitations:

1) Invitations may be made in the traditional manner- orally from the floor during a proceeding meeting- to host any of the next three meetings.

2) Invitations may be sent via registered letter to the society, at least 30 days before the meeting at which they are to be read from the floor.

3) All invitations made orally or by letter, will be voted upon by members present at the regular business session of annual meeting where presented.



Left, Mark Pippinger, DSA's Photographic Editor. Right, Tim Vogt, elected to Executive Council, at Grantsburg meeting

TIM VOGT ELECTED TO DSA COUNCIL

Tim Vogt was elected to the Dragonfly Society of America's Executive-Council at the June Annual Meeting at Grantsburg, Wisconsin. He will serve for the two-year period 1991-1993.

Tim is a professional biological environmental specialist for the State of Wisconsin. His current odonatological work involves status investigations and conservation of possible at-risk species in Wisconsin, biological studies on some little known Canadian species, and the description of one new Wisconsin odonate that he and fellow environmentalist Bill Smith have recently discovered.

Tim hosted our very successful 1991 Meeting, and helped guide the participants to some of Wisconsin's choice odonate habitats. Thanks very much Tim, we hope you will consider inviting DSA back to your wonderful state again before too many years pass.

ARGIA ADDS PHOTOGRAPHIC EDITOR TO STAFF

Dr. Mark Pippenger, of Little Rock, Arkansas, a physician at the VA Medical Center there, is an accomplished photographer as well as an avid odonatologist. At the DSA meetings in Jonesboro and Grantsburg he has spent about as much time making pictures as collecting odonates, he very generously contributed most of the photos used in this issue.

By popular acclaim Mark has been "officially" designated ARGIA's roving photographer.

THE FRENCH ORGANIZE A SOCIETY OF ODONATOLOGY

According to a report in MARTINIA 7(1):1-2. The organizational meeting of the Societe francaise d'Odonatologie was held at Bois d'Arcy on April 6, 1991.

Monsieur Jean-Louis Dommanget was elected President; C. Brunel, Secretary-General; A.-J. Francez, P. Machet, and F. Boudier, members of Executive Committee. Monsieur Machet is also a member of the Dragonfly Society of America.

In response to the letter from John Michalski and your editorial comments on Sympetrum, I have this to add. As many members may know, I had been planning to revise Sympetrum (the entire genus) for my PhD. This was the case until I decided, after much anguish, to work on my other love, robber flies (Diptera: Asilidae). Anyway, the comments in the March Argia by John and you have brought back my guilt over the abandonment of odonatology, and especially Sympetrum! Will Dennis Paulson ever forgive me? Dennis? Dennis?

Actually, even though I will be thrashing around, deep in the mire of Dipteran phylogenetic systematics, I'll still be hard at work on several dragonfly projects. An outline of the status and distribution of Yukon dragonflies is now in press, co-authored by my brothers Syd and Dick. This is the basis for a chapter on dragonflies in an upcoming book on the insect fauna of the Yukon, published by the Biological Survey of Canada.

Syd and I are also working on an overview of the dragonflies of peatlands of the Canadian cordillera. Two larval descriptions are in the works - Leucorhinia patricia (with Syd Cannings) and Williamsonia fletcheri (with Ralph Charlton). The paper by me and Rosser Garrison describing a new Sympetrum from Mexico and Arizona will be out very soon in the ESA Annals.

Which brings me back to Sympetrum. Despite the obvious need for a revision of this genus, a big but worthwhile job, I don't know of anyone willing to take it on. Whoever does it should try to incorporate molecular systematics into the work, and be certain to treat the whole genus. Ling Chu Tai's thesis (1967), done at Purdue and available from University Microfilms International, Ann Arbor, is useful but hardly comprehensive, and deals only with North American species. It can hardly be termed a generic revision. In the meantime, there are a number of nice problems for energetic souls, as noted in the March Argia.

At Grantsburg Nick Donnelly commented that bird watchers had access to published information on prime locations to visit in order to see nearly any species of North American birds, and he wondered why odonatologists hadn't compiled such a list for dragonflies. Why indeed haven't we already done so?

Some of us returning from Wisconsin hoped to stop at the Sugar River (north Illinois) to search for Gomphurus externus, speaking for myself, I don't think I ever found the choice spot, so I didn't add this hoped for species to my catch. It would have been nice to have had more exact information and a detailed map of this difficult to find site.

All of us have good locations where we visit to collect the local "specialties" or we even know the only site that a particular species can be found in the area. I will begin to include this kind of information in the next issue of our Season Summary. This is a call for information about YOUR favorite sites-- please include detailed information (including a map, if possible). When a significant amount of information has been compiled, it is my hope for DSA to publish the results in atlas form-- a kind of collector's guide book.

ADDRESS CHANGES:

Rob Cannings, Curator of Entomology and Manager of the Natural History Section of the Royal British Columbia Museum, Victoria, British Columbia, is on two years leave from that institution to finish his PhD., at the University of Guelph. Until August 1993, he should be addressed at: Department of Environmental Biology, University of Guelph, Guelph, Ontario N1G 2W1, Canada.

Ginger Carpenter, formerly with the Cape Cod Museum of Natural History, has accepted a position with the Rhode Island Nature Conservancy. Her office address is: 240 Hope Street, Providence, RI 02906, or home address: 37 Arthur Avenue #9, East Providence, RI 02914.

EXCHANGES AND NOTICES

MICROSCOPES: All types of compound and stereomicroscopes, accessories and optical components, new & used, sold, bought, and swapped. Antique microscopes especially wanted. Send for price list of items available.

C & K Instruments
469 Crailhope Road,
Center, KY 42214

EXCHANGE WANTED: I am interested in all families and material from all geographical areas. I have on hand approximately 1,000 - 1,200 different species at all times available for exchange. Particular wants are the several Nearctic species I lack: Ophiogomphus edmondo, Somatochlora brevicincta and S. septentrionalis, plus males of Coenagrion angulatum, Macromia margarita and M. rickeri, and ANY Gomphidae from ANYWHERE.

Carl Cook
469 Crailhope Road,
Center, KY 42214

EXCHANGE WANTED: Wants to exchange Odonata from North and Central America, and the Caribbean Islands.

Jerrell J. Daigle
2166 Kimberly Lane,
Tallahassee, FL 32301

I AM INTERESTED in corresponding and exchanging with anyone interested in neotropical Odonata. My collection for the U.S., Canada, and Alaska is almost complete. Lacking is: Enallagma lauranti, Ophiogomphus edmondo, Somatochlora brevicincta and S. georgiana. Lacking from the Antilles are: Enallagma truncatum, Telebasis corallina, Gynacantha ereagris, Progomphus zephyrus, and Scapania archboldi.

Rosser W. Garrison
1030 Fondale St.,
Azusa, CA 91702-0821

EXCHANGE WANTED: Specimens and collecting data from the Republic of Malawi. I am trying to build as complete a list (with data) as possible to send along with specimens to Malawi Nat'l Museum. Will trade specimens from Malawi, Singapore, and Northeast US.

Allen E. Barlow Jr.
411B Passaic St.
Hackensack, NJ 07601

EXCHANGE WANTED: I am extremely interested in all Odonata from New Guinea, Philippines, Malaysia, Taiwan, Japan & SE Asia generally. Am anxious to receive any specimens and literature (I already have the seven-part Lieftinck series on PNG). In return I can offer many species from Trinidad (West Indies), eastern US (including NJ Pine Barrens), some Europe and Siberia, USSR. Will try to obtain anything physically possible to exchange with interested persons.

John Michalski
90 Western Avenue
Morristown, NJ 07960

DATA WANTED: The following people are known by the Editor to have regional lists in preparation and should welcome additional records from the states indicated: ALABAMA-- Ken Tennesen, 1949 Hickory Ave., Florence, AL 35630; KENTUCKY-- Carl Cook, 469 Crailhope Rd., Center, KY 42214; MISSOURI-- John F. Belshe, Dept. of Biology, Central Missouri State University, Warrensburg, MO 64093; NEW JERSEY-- Michael L. May, Dept. of Entomology, Rutgers University, New Brunswick, NJ 08903; NEW YORK-- Thomas W. Donnelly, 2091 Partridge Lane, Binghamton, NY 13903; OHIO-- Robert C. Glotzhober, Ohio Historical Society, 1982 Velma Avenue, Columbus, OH 43211-2497; VIRGINIA-- Frank L. Carle, 146 Mountain View Road, Warren, NJ 07060; WISCONSIN-- William A. Smith, E7618, Hwy. PF, Plain, WI 53577.

NEWS ITEMS WANTED FOR ARGIA: Any item regarding odonatology wanted. Folklore, short media accounts, cartoons, photos, odonatologists in the news. Anything concerning our field of interest.

BOOK REVIEWS

Catalogue of the family-group, genus-group and species-group names of the Odonata of the world by Charles A. Bridges. US\$105.00 (North America), US\$110.00 (elsewhere), available from the author, 502 W. Main St., #308, Urbana, Illinois, USA 61801.

A distributional list of world Odonata 1991 by Shigeru Tsuda. US\$??, available from the author, 17-9, Habikigaoka 7-chome, Habikino-shi, Osaka Pref., 583 JAPAN.

Complete catalogs on such a small (about 5000 species) order of insects as the Odonata have had a curious history. For years, we have had to rely on two: Kirby's synonymic catalog of 1890 and Muttkowski's catalog of the Odonata of North America (1910), both of which, though valuable, are long out of date (the first was reviewed by Sélys!), scarce, and long out of print. The issuance of the two-part catalog by Davies and Tobin in 1984 and 1985 gave us a reasonably up to date catalog of these most interesting insects. The most serious flaw of that work was the lack of any species index and, except for the generotype of each genus, there were no indications of original generic placement for species transferred to other genera. Unpublished lists of the North and South American Odonata by Dennis Paulson and his contributions to two parts of the Aquatic Biota of South America (1977) and Mexico, Central America and the West Indies (1982), set the stage for further catalogs.

The work by Bridges is, and will be, *the* reference work for this order for many years to come. Bridges had earlier completed similar catalogs for HesperIIDae, Papilionidae, Pieridae, Lycaenidae, and Riodinidae butterflies, all to the enthusiastic reviews of those Lepidopterists who use them (*e.g.*, Moulds, M.S. 1990. Book Review. Gen. Appl. Entomol., 22:90). I feel that similar kudos are due this magnificent volume of over 700 pages. The work is divided into five parts: 1) Family-group names, 2) Genus group names, 3) Species group names, 4) Bibliography, and 5) Appendices.

The Bridges catalog contains a wealth of

information that goes beyond the limits of an ordinary catalog. Not only can a researcher find references for almost any name proposed, but included is a bibliography of all taxonomic references on the order. Each bibliographic reference is given a unique number which is referenced in all other sections. Other treats await the Odonatist. For example, part IX contains a chronological listing of all bibliographic citations in alphabetical order for all species group names. How many new taxa were introduced by Calvert, for example, in his Contribution to the neotropical Odonata paper of 1909? Bridges lists 79, and each entry provides the volume/page/figure citation, type status and location (if known), and current status of each name. Also included is an alphabetical listing of all journals and under each are included all taxonomic papers chronologically arranged, and a chronological index of all taxonomic papers. For example, in 1836 we find only one taxonomic paper (Eversmann) described new species. Final sections include genus and species group names which need further checking (for example, *Libellula cyanea* Fabricius 1775 is a junior primary homonym of *Aeshna cyanea* [Müller, 1764]!).

Except for the preliminary edition of Tsuda's world catalog (see below), Bridges' work is probably the first generated by computer. The author combed all bibliographic references, most of which came from the Zoological Record, and he entered several pieces of data, each allocated to a specific data field. Once done, it was possible to generate any one of several indices, each of which can have an added value to the researcher. This is not meant to belittle Bridges' work on this volume, but it does show the value of such computer-generated data fields. Another advantage is consistency in spelling, dates, etc.

There are, and will continue to be, errors found in such works. For example, certain names have been omitted (*e.g.*, form *servum* Sélys 1876 [*Agrion*], a synonym of *Coenagrion resolutum* Sélys, 1876); authorship is wrong for others (*e.g.*, *incana* and *luctuosa* should be Hagen *in* Sélys, not Sélys); and errors occur in the bibliography (*e.g.*, La Rivers

is cited as Rivers, Ira La; and Erich Schmidt is entered as both Schmidt, E. and Schmidt, Er-ich). However, I consider these errors minor.

My copy is nicely bound and the pages lie flat, allowing easy access for research purposes. Although the author is not an Odonatist, his "love" for compiling bibliographic catalogs will make taxonomic investigation in the Odonata considerably easier for those of us who are.

Tsuda's A Distributional List of World Odonata 1991 is a revised update of his earlier 1986 work. The author, in his introduction, states that over 200 new names have been added to the revised version. The first part contains an alphabetical listing of all species and subspecies arranged under each genus, which in turn, are listed alphabetically. This arrangement differs from that of Bridges, who lists all Odonata genera alphabetically, but prefaces each genus with a three-letter code (e.g., Ani: Lib: Lib: Sympettrinae) indicating placement of each genus.

After each species and subspecies, Tsuda lists a series of localities using three-letter codes (e.g., BUR for Burma): Bridges' catalog does not include such distributional data, which can prove most useful to the taxonomic worker. A separate list of genus group name synonyms follows the main catalog. I would have preferred to see the synonyms incorporated into the main catalog, because one will have to turn to this section each time to check for any other names included in the genus in question. An alphabetical index of all names is included, which I feel is a "must" for any catalog. 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.

The volume is paperbound, and the print appears to be computer generated using character script. It is unfortunate that the final copy could not have been generated on a laser printer using proportional type as was done for Bridges' catalog.

Both volumes reflect an enormous amount of work by their authors and will be absolutely

necessary for anyone doing systematic work on this order.

Rosser W. Garrison

DRAGONFLIES AND DAMSELFLIES OF CAPE COD

Carpenter, Virginia, 1991. Dragonflies and Damselflies of Cape Cod. 79 pp., 8 color plates, soft covers, ISBN: 0-916275-00-2, Published by The Cape Cod Museum of Natural History, Brewster, MA 02631, Price US \$9.95. (Authors' address The Nature Conservancy, 240 Hope Street, Providence, RI 02906).

This is a nicely organized little book with chapters on life history, eggs and oviposition, larvae, behavior, and adult classification of dragonflies in general. Descriptions are provided for 72 of the 90 plus species known from Cape Cod. Both descriptions and keys are completely non-technical, and while they are perhaps more user friendly for the neophyte odonatologist, they do not always identify some more difficult to distinguish species. I am also disappointed that no descriptions are given for nearly two-dozen rarer species which are known from the area covered, however, they are listed in a Check List that follows the systematic section of the book. Terry Ellis has beautifully illustrated 39 species in full-color on the plates.

The book will have greatest appeal to the general devotee of natural history who wishes to have scientifically accurate information on these interesting insects. A very readable account of dragonfly biology, and simple taxonomy that doesn't require consulting Torre-Bueno's A Glossary of Entomology to understand what is being said. Also, If you are a dragonfly-watcher anywhere in the northeast, this book will be as essential as your binoculars.

Carl Cook

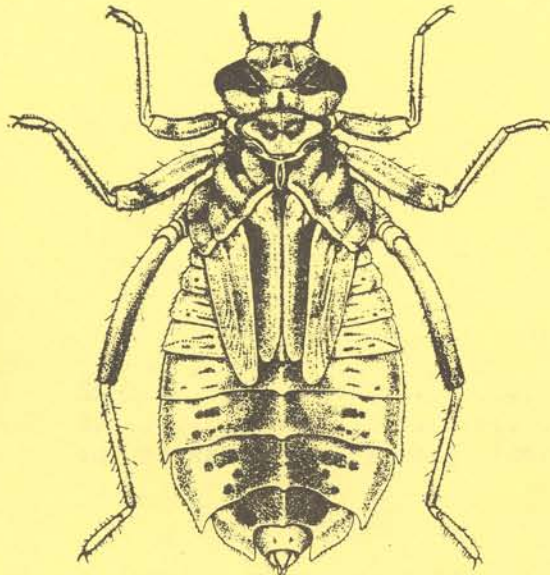
MYSTERY DRAGONFLY

The "mystery dragonfly" puzzle that appeared in the March issue proved unexpectedly popular with readers. So far, 19 letters and 3 phone calls have been received. This is by far the largest response generated by any single item ever published up to now!

The wing photo was of Williamsonia fletcher Williamson. Jerrell Daigle was the first to call with the correct identification, and the first by letter was from Robert Glotzhofer. OK, dragonfly sleuths-- get set--- GO!

This line from a poem that I recall might give a hint:

"Kings may come, and kings may go,
But, the desert sands,
They shall eternally blow"



POETRY ABOUT DRAGONFLIES

All through the ages the beauty and exceptional grace of dragonflies has been an inspiration to poets everywhere.

ARGIA welcomes the submission of both classical and original poems about dragonflies. Our first of this series is a beautiful original by K. J. Tennessen.

RIDING

I will sit by this hidden stream
and let the wings of the dragonfly
take me to the places my feet
are too tired to carry me.

As he passes I hitch a ride and we
glide low over the rippling water
propelled by wings that carry
the continuum of his kind.

Far upstream we go, hearts beating
in expectation and exploration
of the densely shaded waters of this
beloved home so foreign to me.

The dragonfly is wild.

K.J. Tennessen

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