FLY TIMES

OCTOBER, 1989 - No. 3

Another summer, come and gone! For many of us, the past season was an opportunity for collecting, spending time behind the microscope and was a welcome respite from the responsibilities of teaching and committee work.

Again, we encourage you to submit news of your work, reports on collecting trips, spots of special interest, or techniques you find valuable, comments on meetings past and future, book reports, job opportunities and, should the spirit move you, items of humour.

Included with this newsletter is a Directory of North American Dipterists. As a result of our information request in issue No. 2 of the Fly Times, we are also providing, from those who responded, a synopsis of projects and taxa studied. We would encourage all of you who have not yet done so, to send a brief description of your own interests on the form at the end of this newsletter. The Fly Times will produce another Directory for inclusion with the issue appearing one year from now (No. 5). It would be wonderful to have the list as complete as possible. Of course, if any of you want to make changes to your entry, write and let us know.

All contributions to the next issue of this newsletter should continue to be sent to the following address. Deadline for the next issue is February 31, 1990.

Dr. Art Borkent,
2330 - 70th St. SE,
Salmon Arm, British Columbia,
V1E 4M3, Canada.

NEWS

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The Second International Congress of Dipterology

This important meeting will be held in Bratislava, Czechoslovakia on August 27 - September 1, 1990. The second circular was recently sent out and provides details of registration, calls for papers and posters and other pertinent details. The sections list for the meeting are given as follows:

1. Advances in biosystematics of Nematocera.
2. Advances in biosystematics of Brachycera.
3. Morphology and ultrastructure.
4. Physiology of Diptera.
5. Semio-chemical communication of Diptera.
6. Genetics of Diptera.
7. Ethology of Diptera.
8. Ecology ad population dynamics.
9. Control of phytophagous Diptera.
10. Control of blood-sucking Diptera.
11. Pathogens of Diptera.
12. Vectors of human and animal diseases.
13. Medical and veterinary Dipterology.
14. Problems of tropical Dipterology.
15. Synanthropic Diptera.
16. Diptera as bioregulators.
17. Neurobiology of Diptera.
18. Forensic Entomology.

Workshops will be held on each of the following groups: Cecidomyiidae, Ceratopogonidae, Culicidae, Chironomidae, Simuliidae, Syrphidae, Sciomyzidae, Tephritidae, Drosophilidae, Agroimyzidae, Oestridae Hypodermatidae and Gasterophilidae, Anthomyiidae and Muscidae, Ephydridae, World Catalogue of Diptera, Sphaeroceridae, Chloropidae, Tabanidae, Tachinidae, Calliphoridae, Dolichopodidae, Empidoidea, Developmental stages of Diptera, Biogeography of Diptera, Homology and phylogenetic origins of the Muscomorpha.

Registration must be sent by March 31, 1990 to the following address:

Dr. L. Jedlicka,
2nd International Congress of Dipterology,
c/o Department of Zoology,
Comenius University,
Mlynska dolina,
CS-842 15 Bratislava,
Czechoslovakia.

The deadline for abstract submission is December 20, 1989.

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1989 Biting Fly Workshop - report from Dr. Herb Teskey

The 1989 Biting Fly Workshop was held at Castleton State College, Vermont, June 19 - 21, under the very able leadership of Jeff Freeman. A slim attendance of only 19 workers, experienced an interesting program involving an excellent keynote address by David Carlson (Gainesville) on cuticular hydrocarbon components of horse flies, reports of the past years research of the participants and an afternoon session on the identification of Tabanidae. Another afternoon, and for some, a few evenings were spent in collecting their favored flies.

The 1990 meeting will be in North Carolina, city and date to come later.

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First Annual Meeting of the North American Dipterists' Society by Fenja Brodo

This meeting, held at the Archbold Station, Lake Placid, Florida was a rousing success by any standard. There were 50 Dipterists in attendance, coming from 11 States, 2 Canadian Provinces and one from Denmark. Would you believe that only one of these fly-catchers was a female? The program was nicely laid out. Papers were presented in the afternoons leaving ample time for collecting, or for exchanging ideas and gossip. (Great excitement reigned among the Tipulid bunch when Chen Young and Jon Gelhaus found larvae of *Brachypremna dispellens* and the adult flies cooperated for picture taking.) Evenings saw more people collecting at lights than bending an elbow over beer.

A short business meeting was held Sunday evening, April 16th with 22 present. Steve Marshall and Chris Thompson, two of the organizers of this historic event, chaired this session jointly. The joviality and informality almost resulted in no notes being taken, however, this was too important an event to let it slip by with nothing written down for posterity.

The first order of business was to thank Mark Deyrup and the staff of the Archbold Station for excellent accommodations.

The majority present affirmed their interest in coming together again, but not next year. In 1990 there will be two important international meetings, ICSEB at College Park, Md. and the Dipterists' Meeting in Bratislava, Czechoslovakia, therefore, it was agreed that the next North American meeting would be held in 1991. The last week of May or early June were recommended because that time of year coincides with 'fly times' and avoids conflict for those in academe. Several interesting meeting possibilites were suggested and Brian Brown (Univ. Alberta) voluteered to follow up on these. First choice was the Southwestern Research Station, Portal Arizona, the second choice being Flathead Lake, Mazula, Montana.

It was also agreed to continue to have diptera sessions at national meetings, for example at the upcoming ESA meetings in Texas. Brian Brown volunteered to publicize our existence and our events in the ESA newsletter.

After very little discussion it was agreed that we remain an informal society and not elect a president, secretary, and so forth. But the editorial instincts amongst us demanded that we pay attention to our apostrophes. Henceforth we shall be known as the "North American Dipterists' Society."

The locale for the International Entomological Society for 1994 has not been fixed. Steve Marshall presented Guelph as a possibility.

Steve also put forth a proposal that Diptera systematists collaborate on a compendium of cladograms. He asked for a response by June in order to assess the viability of this project.

It was pointed out that we should make use of the list of fly collectors, published by the Biological Survey, to promote fly exchanges. Steve Marshall

"Fly Times" will continue to be edited by Jeff Cumming, Brian Brown, and Art Borkent. This newsletter will keep us all informed (to the extent that we feed the editors relevant material). All dipterists are encouraged to get on the mailing list which will be handled by Jeff Cumming at B.R.C.

The meeting ended with attempts to capture everyone on film. However, at no "standing" was everyone present. For the record, this photographer has a decent diapositive of some of the participants, but it was not taken with a wide-angle lens and would be too expensive to reproduce in this newsletter.

Section A Informal Conference
"Diptera Systematics"

This group of talks will take place at the Entomological Society of America National Meeting in San Antonio, Texas, on the evening of Tuesday, December 12, 1989. Let's have a large turnout to see these excellent talks and to show the ESA that there is a lot of interest in dipteran phylogeny.

Moderator: Brian V. Brown, Dept. Entomology, University of Alberta, Edmonton, AB, Canada, T6G 2E3

Contributors and Titles (each paper of 20 minutes duration):

Phylogeny of the Nematocera. D.M. Wood, Biosystematics Research Centre, Agriculture Canada, Ottawa, ON, Canada, K1A 0C6.

Grades to clades: an examination of the phylogenetic relationships of Tipula (Diptera:Tipulidae). J.K. Gelhaus, Systematic Entomology Laboratory, USDA, c/o U.S. National Museum, NHB-168, Washington, DC, USA, 20560.

Phylogeny and relationships of Deuterophlebiidae. G.W. Courtney, Dept. Entomology, University of Alberta, Edmonton, AB, Canada, T6G 2E3

Phylogenetic relationships of certain lower brachycerous Diptera. D.W. Webb, Illinois Natural History Survey, 607 East Peabody, Champaign, IL, USA, 61820.

What's a dance fly like you doing in a clade like this? A discussion of the phylogenetic relationships within the Empidoidea. W.J.Turner, Dept. Entomology, Washington State University, Pullman, WA, USA, 99164-6432.

Are paraphyletic genera acceptable? Phylogenetics of the Protacanthus group of genera in the robber fly tribe Apocleini (Asilidae). C.R. Nelson, Dept. Entomology, California Academy of Sciences, Golden Gate Park, San Francisco, CA, USA, 94118.

Phylogenetic origin of the Cyclorrhapha. B. Wiegmann, Dept. Entomology, University of Maryland, College Park, MD, USA, 20742.

Paraphyly, paraphyly, paraphyly. Phylogeny of the basal lineages of the Phoridae. B.V. Brown, Dept. Entomology, University of Alberta, Edmonton, AB, Canada, T6G 2E3

A phylogenetic classification of the world genera of Drosophilidae. D.A. Grimaldi, Dept. Entomology, American Museum of Natural History, Central Park West at 79th Street, New York, NY, USA, 10024.

DIPTEROLOGY AT THE AMERICAN MUSEUM OF NATURAL HISTORY

David Grimaldi, Assistant Curator, Entomology Dept.

In terms of staffing and physical size, the American Museum of Natural History (AMNH) is about the third largest museum of natural history in the world. The biological sciences at the AMNH are devoted entirely to Zoology, with Botany being the provence of the New York Botanical Garden. There are 8 scientific departments at the AMNH: anthropology, mineral sciences, vertebrate paleontology, invertebrates, ornithology, herpetology and ichthyology, mammalogy, and Entomology. There are 7 curators in the Entomology Department: Lee Herman (Coleoptera: especially Staphylinidae), Jerry Rosen (Hymenoptera: bees), Fred Rindge (Lepidoptera: Geometridae), Jim Miller (Lepidoptera: Noctuoidea--a curatorial fellowship appointment, not tenure track), Norman Platnick (Arachnids), Toby Schuh (Heteroptera: Miridae and Leptopodomorpha), and David Grimaldi (Diptera). Overall size of the insect collections are ranked 4th to 5th in the world, with the strengths mostly reflecting the past and present curatorial emphases: arachnids, cynipoid wasps, ants, bees, termites, Heteroptera, North American moths, Coleoptera (especially Curculionidae, Cicindellidae, and Staphylinidae), and the Diptera. Research emphasis is on monographic style revisionary taxonomy, usually published in the AMNH Bulletin and Novitates series.

The history of dipterology at the AMNH is obviously tied closely to C.H. Curran, one of the most influential of all dipterists. Curran was at the museum from 1928 to 1960, but as Arnaud has amply documented in Curran's biography (MYIA 2 [1981], Ann Arbor: Braun-Brumfield), after 1942 his productively diminished drastically, due to a preoccupation with control consulting. It is tempting to imagine what an even more incredibly stellar career he would have if the post-1942 blues hadn't set in, for he had described, in total, 2,648 taxa of flies in 62 families. He was not very careful about examining some of the old types in European museums, so probably only about 50% of his original names are valid. But, there has probably been no more versatile a Dipterist than he, and his privately-published book, The families and genera of North American Diptera, is testimony. Little reason why the present, Manual of Nearctic Diptera, features Curran on the frontispiece?

Others who have contributed to the Diptera collection and research on it are Pedro Wygodzinsky (deceased Jan. 27, 1987) (who worked on Neotropical simuliids and agromyzids, but only published on the former), Paul H. Arnaud, Jr. (tachinids, and general curation), and F.C. Thompson (Syrphidae, and addition of specimens to the collection). Present Research Associates in Diptera are Sixto Coscaron (La Plata, Argentina, working on Neotropical Simuliidae), and Dan Bickel (Sydney, Australia, working on Dolichopodidae).

Most recently, Mr. Julian Stark has become Scientific Assistant for Diptera, and is assuming the role of collection manager, which includes arranging loans, overseeing preparators, identifying unsorted specimens to family or lower level, and general curation (e.g., physical arrangement) of the collection. Julian has learned a great deal

about Diptera so far, and no doubt his B.S. in entomology from Cornell is serving him well. Collection strengths in Diptera are the Tachinidae, Asilidae, Syrphidae, Neotropical Simuliidae and Agromyzidae, Dolichopodidae, assorted smaller groups such as the Diopsidae, and, now, the Drosophilidae and amber fossils in various groups. A monograph revising the large Andean and Central American black fly genus, *Gigantodax*, is being published by Wygodzinsky (it was completed posthumously) and Coscaron.

Taxonomy of the Drosophilidae and other Acalyptrates

Present research in Diptera at the AMNH centers on the Drosophilidae. The second part of the revision of *Zygothrica* has just been completed (mostly the Indopacific species), which includes 14 species, 10 of which are new. Part III, which is underway, will be the remaining, bulk of (neotropical) species, with approximately 60 new species to be described. That last part will also summarize the biogeography of the group. Species of *Zygothrica* aggregate at fungi, and so are easy to collect if you find a mushroom bloom; specimens to study are always welcomed. The last 3 years has been spent on a revision of the higher classification of the world genera, subgenera, and, in some case, species groups. It has just been finished, and has utilized the analysis of 217 adult morphological characters (some completely new), surveyed over 160 representative species, and analyzed with the HENNIG-86 program. It reanalyzes the current 2 subfamilies, and proposes tribes, subtribes, and other categories for the first time. A second part to the study on amber Drosophilidae will also be underway in about 2 months, to treat several dozen specimens acquired since the first paper was published. A study on the behavior, morphology, and evolution of broad-headed Drosophilidae, and other Diptera, has just been published.

The AMNH has the largest collection of Drosophilidae in the world, and extremely complete save for Australia, Europe, India, and very remote areas, such as Madagascar and New Caledonia. My collection was donated to the AMNH upon accepting the appointment, and the Univ. of Texas collection, amassed largely through the curation of Marshall Wheeler, is now housed here, along with his reprint library. Prior to these collections, there was housed several dozen drawers (unsorted!) of extremely interesting material, empasizing New Guinea, Africa, and the Neotropical Region.

Other groups of interest are the Curtonotidae, Diastatidae, Ephydridae, Odiniidae, and particularly the Richardiidae.

Amber Fossils and the Mycetophilidae

Other research emphasizes the taxonomy of Diptera in amber, principally from the Dominican Republic, Chiapas Mexico, and also from the Baltic. Due to recent acquisitions, the AMNH has the largest amber Diptera collection in North America (undoubtedly the largest in the world is at the Staatliches Museum, Stuttgart). Represented in the collection are virtually all of the families of "amberizable" Diptera

(e.g., apiocerids are not present). Virtually all the families need intensive study, and interested investigators are strongly urged to borrow material for study. Unfortunately, the living fauna of Caribbean Diptera has not been well surveyed, even in the regions where the amber comes from, so future field work will emphasize collections from southern Mexico, the Dominican Republic and other Caribbean areas.

A revision of the mycetophilid genus *Lygistorrhina* has just been started, and was stimulated by the finding of several exquisitely preserved specimens in Dominican amber. A revision of the genus, for the world, must be done, because hardly anything is known on relationships of the group, and it is my belief that paleoentomological data must be incorporated into a phylogenetic scheme of living species to make any sense. Doing this project allows me to pursue my avid interest in the mycetophilids. Other research on the mycetophilids involves the morphology and life history of immatures, and the use of that information for taxonomy.

Also, a study on the paleontology of Cretaceous amber from New Jersey has just been published.

The FLIES OF COSTA RICA Project

Approximately 100,000 specimens of flies extracted from malaise traps, caught in Costa Rica, have been sent to the AMNH by Dan Janzen, and continue to roll in. Virtually all of the Neotropical families are represented, including some very rare taxa in rather large series. Tachinids that have been reared have been sent to Monte Wood and Norm Woodley. The specimens were collected and stored in ethanol, and critical point dried *en mass* here at the AMNH, and are very nicely preserved, even for the very minute midges, phorids, and dolichopodids. Most are being point mounted here, but the very tiny frail specimens are stored (CPDd) in small plastic petri dishes for those who wish to directly slide mount the material.

The material is to be sent to taxonomic specialists on, say, various families, initially for generic, subgeneric, and/or species-group determinations. The material is then to be returned all except for the portion that you are actively revising or very soon wish to treat. Additional material will be sent to specialists as needed and as material is returned. This system will allow there to be an active inventory file on the Costa Rican taxa to be maintained. Holotypes and some paratypes will be housed in the AMNH, but synoptic series, including paratypes, MUST be sent to the new Costa Rican Biodiversity Institute (presently c/o AMNH--until they have a building; Dan informs me this is imminent), and to the BMNH and CNC. The synoptic collection of each family, gradually assembled at the AMNH, is then sent to Costa Rica. Material can then be borrowed from the Biodiversity Institute later on, since there will be full time curators there. Specialists who are most active in working up the material may get an expense-paid invitation to Costa Rica, in order to teach "ticas" (Costa Ricans) the nuances of specialized techniques in collecting and preparation (e.g., certain kinds of bait traps, particular hosts, methods of slide mounting,...), and the basics of the taxonomy of your group. It is quite apparent to me that there is being developed a very large teachable and skilled work force ready to sample the far and wide of Costa Rica.

Imagine, ALL the major localities of Costa Rica, including the Talamancas, the Osa Peninsula, etc... sampled for your group as you would do! But, first, a synoptic collection of genera must be assembled, to help with the education and nurturing of Costa Rican dipterists. Julian and I await serious inquiries from those interested in this new material.

COLLECTION NEWS

There will be major renovations to most of the AMNH insect collection, beginning in about 4-5 months. A two-floored compactor system, and updated climate control is to installed in the former large collection room, originally a grand old oak-paneled auditorium. This will affect most of the Diptera which are housed there, and make them inaccessible for about a year. It will not affect collections of those families housed in my office/lab, including the drosophilids, other ephydroids, mycetophilids, richardiids, a variety of small acalyptrate groups, the amber collection, and the Costa Rican Flies.

Two field trips, one to various areas within Costa Rica, and a second to the very remote region of southern Venezuela, were recently made, and many Diptera are now being processed for addition to the collection. The Venezuelan expedition was undertaken with other AMNH curators and some Venezuelan biologists, and was a truly enchanting experience! That material will be sent to specialists as it is prepared.

POSTDOCTORAL FELLOWSHIPS AVAILABLE

There is a yearly competition within the AMNH for approximately 7 postdoctoral fellowships. Entomology is almost always guaranteed one position each year, and possibly two if several applicants are very competitive among all departments. Benefits of the 1 to 2 year position include use of a state-of-the-art Zeiss electronic SEM, a research budget (which can include funds for attending meetings), and free publication in the AMNH series, particularly for larger revisionary papers emphasizing use of materials in AMNH collections. Write to me for details.

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From Dr. Marshall Wheeler - a reprint offer

There are 34 remaining copies of the following relatively rare publication: Cytological Studies on Gall Midges (Cecidomyidae), by the late Prof. M.J.D. White. This was published April 1, 1950 as The University of Texas Publication no. 5007. In addition to the cytological studies, two new species were named and described: Lasioptera asterspinosae and Oligotrophus pattersoni, both from galls on plants in the Austin area.

I would like interested dipterists to have these copies. To get one, write me, enclosing a self-addressed mailing label:

Dr. Marshall Wheeler,
1313 Ardenwood Road,
Austin, Texas, 78722,
USA.

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From J. Mark Scriber - notice of new director and curator

After 35 years as curator of the Michigan State University Entomology Museum, Dr. Roland L. Fischer has decided to relinquish the administrative duties and devote more time to teaching, writing and working with the collection.

The new director and curator is Dr. Frederick W. Stehr, effective November 1, 1988.

We have a large collection of insects, spiders and other arthropods estimated to be in excess of 1.5 million specimens, and are anxious to make it available to the scientific community via loans, visits or other appropriate means.

Direct requests for loans, visits or other matters to:

Dr. Frederick W. Stehr,
Dept. of Entomology,
Michigan State University,
East Lansing, MI 48823-1115,
U.S.A.

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News of great things from Dr. Curtis W. Sabrosky

I now live in a life-care retirement community at Medford, N.J., but I have been getting back to Washinton for library and lab work about one week out of each month. The books on Cuterebra (1986) and Protocalliphora (Nov., 1989), plus the big work (book-size probably) on the group names of Diptera, will finish up the big, long overdue projects and then I hope to get back to work on Chloropidae, Milichiidae and Asteiidae.

Also, Wayne Mathis and I are revising the New World Stenomicra. I have sorted out over 50 species, only four of them described, and have a tentative key to them. Further study required, especially on male genitalia of a large group of clear-winged species that range throughout the hemisphere and may well represent a number of species.

The book on "Bird Blow Flies (Protocalliphora) in North America (Diptera: Calliphoridae)" by Curtis W. Sabrosky, Gordon F. Bennett, and Terry L. Whitworth may be in print soon. It is scheduled for Nov. 1st by the Smithsonian Press. A camera-ready copy shows 306 pp., including 64 figs. and 14 maps. This revision recognizes 26 species (15 of them new and one newly recognized as Holarctic) compared with 10 in Hall's "Blowflies of North America".

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A couple of weeks of fly and paper chasing in the Dominican Republic

by Dr. Steve A. Marshall

Hispaniola, with its large land mass, topographic diversity including the highest mountain in the Carribean, and its relatively poorly known insect fauna is an attractive destination for systematists. This attraction is enhanced by remarkably low charter airfares (my two week ticket cost 299$CDN), reasonable ground costs and safe working conditions (as compared, for example, to Colombia). Lubomir Masner (proctotrupoids), John Swann (Guelph MSc student) and I set out to sample two of the most intriguing areas of Dominican Republic during the second two weeks of this January. I here offer some comments on our trip in the hopes that other DR-bound dipterists can benefit from our experience. First of all, permits are strongly recommended. You will have a hard time finding any habitat worth working outside the national parks. To get a permit you must write the Sto. Domingo office (address below) with your intentions, then go to the office when you get to DR. Don't expect any response by return mail, you won't get one. Expect to blow your first day in the capital taking care of paperwork, and be prepared to do it all in Spanish. While in the capital, I suggest you stay at the Hotel Commercial. It is central, clean and cheap at about 20$ (we paid 50US$ elsewhere before finding the Commercial).

We started off by obtaining permits for Armando Bermudez NP, the park which includes Pico Duarte, the highest peak in the Carribean. Bus travel from the capital to the city nearest to the park, the delightful mountain resort town of Jarabacoa, was easy and cheap. Hotels there are all booked up on weekends, so try phoning the Hotel Nacional from Sto. Domingo if that worries you. From Jarabacoa, travel about 40 minutes by local collective taxi (crammed pick-up trucks; gringos pay triple) to Monabao, where you can stay in the local "hotel" (no sign, just ask around) for about 1$ per night (no plumbing, no hydro, the company of the owner's pig is free). From Monabao it is a 3-hour hike along a poor road to LaCienaga and the park "headquarters", a new cabin with a very hard floor (bring an air matress!). We inundated the cabin area with malaise and intercept traps, and collected as best we could despite inclement weather. It is a 5-day round trip to the peak, on miserable, muddy, heavily travelled mule tracks, so we restricted our collecting to the fine broadleaf forest near headquarters. There is quite a lot of woodcutter and squatter traffic in the park, so it probably isn't surprising that all my traps were stolen when we left them there to explore another park. The area of Armando Bermudez has a lot of potential, and I plan to return there some April when I'm told there is more blossom and more insect activity. The trip to the peak should be worth 5 days and the 100$ a guide and mules cost for the trip. Take raingear, warm clothes, an airmatress, and food from Jarabacoa unless the sardines, cheese, bread and beer available in La Cienaga will be enough for you.

After a few rainy days in the La Cienaga area, we left our traps and headed back to the capitol to get permits for Sierra Bahoruca National Park, in the southwest corner of the country, near the Haitian border. The area we had in mind is a hunk of land that belonged to, and was protected by, a major mining company (Alcoa) until the early 1980's. When the company was Nationalized in the early 80's, the natural area Alcoa had so successfully protected became part of the the Sierra Bahoruca National Park. The attraction of this area for us was threefold. First of all this area was reputed to be the least disturbed habitat on the island, at least until it became a national park. Secondly, it is an area of extraordinary endemism, having recently yielded spectacular new butterflies, beetles, and other insects. Lastly, an Alcoa highway which runs from the Alcoa port of Cabo Rojo to a major bauxite pit 30 km north provides access to a range

of habitats running from xeric scrub through montane forest, pine forest, and even an isolated patch of spectacular cloud forest.

To get to the Bahorucas, we rented a car in Sto. Domingo (about 500CDN$ per week) and made the all day drive to Pedernales, a few potholed miles from the above mentioned Alcoa road. One could stay in Pedernales, an unappealing little town with a couple of seedy hotels, but we were fortunate enough to be guests at the Alcoa compound at Cabo Rojo. They have an enlightened policy of providing luxurious lodging for bona fide scientists, for a nominal fee of a few dollars a day. We went into this area well armed with information on its history, biogeography, current condition etc. provided to us by Dr. Jose Alberto Ottenwalder, Director at the Zoo in Sto. Domingo and leading expert on the flora and fauna of Hispaniola. Thanks to Dr. Ottenwalder's advice, we found the 7 or 8 mile jeep track that leads from the pits at the end of the Alcoa road (turn left at the pits) to Las Abejas, the closest thing to "Shangri La" known to me. The track goes through miles of dry pine forest, then turns into a footpath dropping into verdant cloud forest. This forest was alive with flies, every sweep yielding a variety of sphaerocerids (mostly species in the sordida group, soon to be described as a new genus) and with a wide variety of tachinids. The most conspicuous of the tachinids was a huge black and yellow Paradejeania, a new species previously collected by and soon to be described by Norm Woodley.

While Las Abejas was the high spot of the trip, the most exciting fly of the trip was actually collected during a leg-stretching stop near Paraiso, on the other (east) side of the Pedernales peninsula. Here I caught a spectacular tachinid similar in size and shape to a large Belvosia, but velvet black with a red abdominal apex instead of black and yellow. I later keyed it to Atacta, an identification confirmed by Monty Wood, who also confirmed that all known Atacta are smaller, rather dull grey flies. Clearly, there are some exciting discoveries awaiting us on Hispianola, and I look forward to a return trip.

redacted Far Side, 10/261988

redacted Far Side, 9/29/1988

From Adam Peters (Dept. of Entomology, Michigan State University)

I am a graduate student with Drs. Guy Bush and Frederick Stehr working on the genus Procecidochares (Tephritidae). I am especially interested in the P. minuta species complex in the southwest.

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Anonymous contribution arising from an Ottawa (Ontario) author

Gaurax Revenge

An entomologist friend of mine - I will call him Bob - recently told me that he spent some time at the end of June aspirating small Diptera in a bus shelter near his home in an Ottawa suburb. He reckoned that he had taken at least seven species of Gaurax (Chloropidae) as well as other interesting genera. When I asked him how these flies occupied their time when they were not waiting for a bus, he said he guessed they were mostly hanging around bracket fungi and other low-grade forms of plant life. One of his neighbours, having observed him in the shelter on several occasions, allowed curiosity to overcome politeness to the point of asking him what he was doing. Quick-witted as always, Bob replied that the bus company had requested him to keep the local shelters free of noxious small insects and similar vermin in return for free transportation - a sort of gentleman's agreement on both sides.

As sometimes happens with imaginative people, Bob soon allowed himself to believe that this fabrication was, in fact, the truth, and a few days later, he attempted to board a bus to go downtown. When the operator asked for his fare, Bob produced a vial of small vermin, explaining that it constituted a free pass. An altercation ensued as a result of which my friend was ejected from the bus (the operator unfortunately happened to be a male of the rather common subspecies robustus).

Bob is now thinking of consulting a lawyer to ascertain whether he can successfully sue the bus company for breach of contract. I am trying to dissuade him, pointing out that he did not take the names and addresses of friendly witnesses at the scene. He thinks there weren't any. At the time they all seemed hostile because of the disturbance and consequent delay.

What else is there to say? It is clear that one doesn't have to be in the midnight sun to see "strange things done" in Canada.

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Books and Publications

R.H.L. Disney. 1989. Scuttle flies (Diptera, Phoridae), genus Megaselia. Handbooks for the Identification of British Insects, Volume 10, Part 8. 155 pp. + 526 figs. available from Publication Sales, British Museum (Natural History), Cromwell Road, London, SW7 5BD, England. £14 (softcover).

This publication is the second part of the section on Phoridae ("scuttle flies" is a name only Disney uses), the first having been on all other genera exclusive of Megaselia (Volume 10, Part 6). In the present work, Disney brings some order to the 220 British species of this overwhelming and probably paraphyletic genus. The keys are intended for use with slide-mounted material, although it is possible to use them with material preserved

in other ways. Only males are treated, as females are notoriously difficult to identify and associate with conspecific members of the opposite sex. Male terminalia are illustrated for many species, as are other relevant characters. Following the key are some updates to the first phorid book, a discussion of an exceptionally difficult group of Megaselia (the M. pulicaria complex), the description of a new species (M. spinolabella), and a table listing the number of rectal papillae (a promising new taxonomic character) in various Phoridae.

This handbook represents years of work by Disney, who has sorted out myriads of synonymies, new species, mixed type series and other taxonomic nightmares. He is to be commended for undertaking this task, which has given him a profound knowledge of this large and intractable group. His greatest gift to the world of phoridology in this book is an excellent series of illustrations of the male terminalia of Megaselia, where the most important taxonomic characters are found. There are some shortfalls in this treatment, however, and my main criticisms of the book follow below.

Slide-mounting is a convention that Disney started for the Phoridae and he is firmly convinced that it is the best way to treat specimens. It allows him to see very small structures that have great taxonomic, and possibly phylogenetic, significance. It seems to have given Disney the idea, however, that looking at the aedeagus is irrelevant, whereas in my own work on systematics of the genus Gymnophora and in sorting out species of Megaselia, I have found aedeagal structure to be by far the best taxonomic and phylogenetic characters. I suspect that much of the difficulty Disney found with the M. pulicaria complex could have been resolved by examining the structure of the aedeagus.

Secondly, the key has been constructed so that at most couplets (there are 298!), one species at a time is pulled off. This makes identification of large numbers of specimens somewhat tiresome, and I sometimes wished Disney had constructed some kind of working groups allow preliminary sorting.

Overall, though, this book provides a great improvement over the keys in Die Fliegen (which are still incomplete for phorids) for Britain, and represents a monumental work in the taxonomy of phorid flies. Hopefully, the author will extend his work to the Megaselia fauna of the rest of the Palaearctic fauna and begin to draw some phylogenetic conclusions from this most difficult group.

Brian V. Brown.

McAlpine, J. F. and D. M. Wood, eds. 1989. Manual of Nearctic Diptera. Vol. 3. Research Branch, Agriculture Canada, Ottawa. Agric. Can. Monogr. 32: 1333-1581. Available from Canadian Government Publishing Centre, Ottawa, Canada, K1A 0S9, Tel. No. (819) 956-4802; $75.95 Cdn (inside Canada), $91.15 US (outside Canada).

Volume 3 of the Manual of Nearctic Diptera provides a comprehensive cladistic rationale for the classification of the Diptera adopted in volumes 1 and 2. Chapter 114 by D. M. Wood and A. Borkent present a phylogenetic interpretation of the infraorders in the suborder Nematocera, including a discussion of the sister group of the Diptera. Chapter 115 by N. E. Woodley treats the groups included in the orthorrhaphous Brachycera, while chapter 116 by J. F. McAlpine deals with the remainder of the suborder, the cyclorrhaphous Brachycera comprising the Muscomorpha of volumes 1 and 2. These three chapters are followed by a page and a half of corrections to volumes 1 and 2, as well as an extensive index to all three volumes. (JMC)

For those who have not yet sent in a synopsis of their interests for the Directory of North American Dipterists, the following form is provided. Please restrict yourselves to no more than 20 words, listing the titles of your major projects and the animals you work with.

The completed form may be sent to Dr. J.M. Cumming, Biosystematics Research Centre, Agriculture Canada, Research Branch, Ottawa, Ontario, K1A 0C6, Canada.

Should any of you like to expand on your interests and projects, feel free to send in a contribution that can be inserted into the next newsletter as a separate item.

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Full name: _____

Address: _____

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Projects and Taxa Studied: _____

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