



FLY TIMES



OCTOBER, 1988 - No. 1

This newsletter is the beginning of what is hoped to be a long lasting form of communication between North American Dipterists. In many ways, those studying flies in the Nearctic are a loosely knit group. We are the only major order without a society and without a regular newsletter. But hark! Attempts are now being made to rectify this sorry state of affairs. Steve Marshall of Guelph University (Ontario) is spearheading the organizing of a Nearctic Dipterist Society and I will be editing this newsletter for the next indeterminate period of time, with major assistance from Jeff Cumming (Ottawa) and Steve Marshall. With these two pivotal events, we hope that Dipterists will be communicating as never before and will find out what a wonderful group their fellow Dipterists to be and what a remarkably fantastic group the Diptera truly are.

Many of you will already be familiar with "The Flyer" newsletter which addresses the international Dipterist community. The present newsletter will encompass only the needs of North American Dipterists, will be less formal and will appear (we hope) twice a year: October and April. This will allow end of season reporting and beginning of season descriptions of expectations and plans.

As the first issue, my task is primarily to be taking orders from you the reader. We hope that Dipterists everywhere in North America will contribute to this newsletter to let everyone else know what their interests, goals and needs are. The format will be very informal. Virtually any subject or article that is even remotely related to Diptera will be printed.

I see several major areas of communication. These are as follows (not in order of importance!):

1. A report of research interests, or recent changes in study or association.
2. Areas of research cooperation (i.e. shared field trips; hosting possibilities; funding available; wish list; etc.).
3. News of upcoming meetings, symposia, conference, workshops or informal gossip sessions
4. Travelogs of recent collecting trips (perhaps with hints of how best to get to those choice spots).
5. Articles on techniques (collecting, mounting, SEM study, etc.).
6. Book reviews of major contributions to our understanding of Diptera.
7. Lists of recent major publications in Dipterology.
8. Names of new students and what they are working on.
9. Job opportunities.
10. Items of humor (i.e. cartoons, or short jokes)
11. We hope to develop a checklist of all Dipterists with their addresses and interests, which will printed from time to time.

If you can think of any other areas worth communicating don't hesitate to let me know.

I would appreciate hearing from you. Of critical importance is to let others, who have not received this newsletter directly, hear about it and send in their name to me. Although, we have tried to send this newsletter to as many as possible, we undoubtedly missed some very important Dipterists.

Any person wishing to contribute to the newsletter or who failed to make our mailing list and wishes to receive subsequent issues, should write to me at the following address:

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

NEWS

As can be seen from the following contributions, virtually all our news comes from Canadian Dipterists. Free Trade or not, I hope to have input from our American colleagues in short order!

The first annual meeting of North American Dipterists is going to be held at the Archibold Biological Station, Lake Placid, Florida from April 15-18, 1989. Dr. Mark Deyrup, of the Archibold Biological Station, has kindly offered to help us organize a meeting at the station next spring. The station has comfortable accommodations, good collecting, and meeting facilities. Costs are very reasonable, at \$8.00 per day for food, \$5.00 - 12.00 for accommodation, and \$2.00 per day station fee. We will convene on the Friday, with an informal gathering Friday night, then have a day of talks on Saturday. Sunday will be reserved for field trips, with a closing meeting Sunday evening. Some participants will stay Monday to collect Diptera on the station property. In order for us to plan this meeting, and to reserve adequate accommodation, we have to hear from you soon! Please let us know by early October whether you plan on attending, and whether you plan on giving a paper. Deadline for paper submission will be the date of the annual ESA meetings this fall. That way we will be able to rough out a program at that time. Papers on Diptera biology, regional biotas, collecting techniques are solicited. Less formal papers than those customary at larger meetings would be appropriate. Payment for accommodation and food should be made while at the station. Please notify one of the members of the organizing committee of your intention to attend. Organizing committee: Steve Marshall, Dept. of Environmental Biology, University of Guelph, Guelph, Ontario, N1G 2W1 (519-824-4120, X2720); Chris Thompson, Systematic Entomology Lab., USDA, NHB-168, U.S. National Museum, Washington, D.C., 20560 (202-382-1800); Monty Wood, Biosystematics Research Centre, Agriculture Canada, K.W. Neatby Building, Ottawa, Ontario, K1A 0C6 (613-996-1665).

Steve Marshall has spent some time at the Archibold Biological Station and gives the following report of his experience.

A few days of fly chasing at Archbold Biological Station

The Archbold Biological Station is on a property of about 4300 acres 12 km south of Lake Placid in Highlands Co., Florida. The Station is supported by the non profit research organization Archbold Expeditions and is affiliated with the American Museum of Natural History. Located on the Lake Wales Ridge, the Station and its immediate vicinity offer a variety of natural habitats including sand pine scrub, scrubby flatwoods, southern ridge sandhill associations, wet and dry prairies, cabbage palm savannas, bay tree swamp, cypress and other swamps, marshes, hammock forest, lakes, ponds and flowing water. My experience with the station is limited to a few days spent there following the ESA meetings in Miami (December 1985). Although weather conditions were less than ideal (I recall scraping ice from the car windshield one morning), collecting was excellent. One warm night saw excellent night lighting which resulted in a long series of sphaerozerids previously known only from females, and the days spent collecting yielded several significant species. I was able to use their excellent lab facilities to rear 2 species of *Bitheca*, a primarily neotropical genus I was revising at the time, and collected a wide range of valuable material. Some of the best collecting was indoors - Dr. Mark Deyrup generously allowed us to work on his comprehensive collection of frozen malaise trap samples from the station, as well as the excellent collection of pinned material. In addition to the fine lab facilities and extensive collection, the station has a surprisingly well stocked library, well laid out facilities for lectures or meetings, comfortable accommodation and one of the best cooks I've ever encountered at a field season. I'm quite excited about getting back during a better collecting season, and am confident that we will have good dipterists' meeting combined with productive and enjoyable field work.

redacted Far Side, 10/30/1986

redacted Far Side, 6/13/1988

From Brian Brown (Dept. of Entomology, University of Alberta, Edmonton, Alberta, T6G 2E3), a report on a recent collecting trip to Costa Rica:

Costa Rica is a small country that has had the foresight and political ability to preserve some of its natural habitats in National Parks and private reserves before they were all converted to agriculture. Thus it offers the entomologist an unparalleled opportunity to collect in virgin forest with a minimum of bother and effort. Although some of my colleagues have sneered at Costa Rica as "collected out" or "not a real jungle adventure", these comments merely reflect ignorance of the situation. I don't belong to the fraternity of collectors that maintain good collecting can only be found in areas reached with great difficulty. The La Selva Biological Station in Costa Rica has far better (more intact) rain forest than areas I collected in Ecuador that were either reached with great difficulty, or were tiny remnant patches of habitat. Furthermore, Costa Rica, with its incredible diversity of habitats and elevations, is far from thoroughly sampled, at least for flies of the family Phoridae (my main interest).

Thus the two main advantages of Costa Rica are good habitat and convenience. There is a large number of people who speak English in the country, so that although every bit of Spanish helps, you don't have to be anything approaching fluent. The roads and transportation systems are good, and above all there is the Organization for Tropical Studies (OTS), who can help you with any problem you encounter.

My trip to Costa Rica took place from May 12 to June 18, 1988, and I was accompanied by two colleagues. Our first collecting was at the OTS La Selva Biological Station, reached by a three hour ride in the OTS vehicle (cost \$6.00 US). The station charges \$22.00 per day (or \$125.00 per week) for graduate students and \$35.00 per day (\$200.00 per week) for senior researchers. This fee includes accommodation in nice, large rooms with ceiling fans, and all meals. The station has some almost unbelievable luxuries (necessities?) for comfortable and productive field work : 24 hour line power, laundry facilities (including a drier!) and an ice-making machine. Anyone who has worked in tropical lowland forests and knows how disgusting it is to put on clothes that are wet and reek from the previous day's work will appreciate the clothes drier perhaps more than the other two conveniences. Another great advantage of the La Selva station is that there is a well maintained, extensive network of trails that have labels every 50 meters, allowing easy orientation and return to previous collecting spots.

Of course, the forest itself is the best part of La Selva. There are 1366 ha of property, mostly primary lowland rain forest (elevations range from 35-200m) but also some second growth and regenerating pasture areas. This forest is continuous with the much larger Braulio Carrillo National Park, making the effective size of La Selva truly large. Compared to the forests I collected at in Ecuador, La Selva was much less disturbed, as evidenced by the abundant bird and mammal life. I collected phorids at La

Selva with 4 malaise traps, and also by watching ants. Many phorids are associated with ants, and I collected them from *Paraponera*, *Eciton*, *Solenopsis* and *Pheidole*. Note that one cannot casually collect at La Selva; instead you must obtain prior permission from OTS.

Our second stop was at Monteverde, easily reached by a direct bus from downtown San José (Costa Rica's main city) to the front door of your hotel. This is a world famous natural history site, high in the central mountain range, where a large private refuge has been established called the Monteverde Cloud Forest Reserve. This reserve, however, wanted to charge us \$100.00 US for the privilege of collecting within its boundaries, half of which was to be refunded when a publication based on our work there was sent back to them. Naturally, we were surprised and dismayed by this charge, but we were rescued by Dr. D.M.Wood (formerly of BRC in Ottawa, Canada) who has purchased a piece of land at Monteverde with some spectacular montane forest. Monty offered to allow us to collect on his land for free, which we did instead of sampling in the reserve. His land extends from the Hotel Belmar (very comfortable, if somewhat pricey at \$27.00/day with 3 huge, excellent meals) to the Cloud Forest Reserve, encompassing an elevation range of about 1500-1800m. The weather there was almost constantly foggy, cool and raining, but the collecting was superb for phorid flies. We did visit the Cloud Forest Reserve for a day, and found it to be a beautiful, much more extensive (but not necessarily better) forest. I would suggest anyone going to Monteverde contact Monty about collecting on his property.

Our third destination was the tropical dry forest at Palo Verde, another OTS station. At this site, which cost \$7.00 per day, one must bring in and cook his own food. Although the price was right and the collecting for some groups of insects was good, I would not recommend Palo Verde. The phorid collecting was poor, the mosquitoes and ceratopogonids were horrendous and the forest was heavily disturbed. The forest at Santa Rosa National Park, now part of the much larger Guanacaste National Park project, is supposed to be much better. Contact Dan Janzen at the University of Pennsylvania for further details on Guanacaste.

I guess my final message about Costa Rica is that if I can do it, anyone can. I have talked to some people who are unnecessarily intimidated by the idea of travel in the tropics because of transportation, accommodation or language problems. We knew only a little Spanish (learned in evening extension courses), traveled everywhere by buses and had no problem getting reasonably priced lodging. It is a great place for a first exposure to the tropics and an area of high biological diversity for all dipterists. - Brian V. Brown.

COLLECTING TRIPS

After my glowing praise for Costa Rica above, I guess its not too hard to believe that I will be returning to Costa Rica. I will be collecting at La Selva for 2-3 weeks in 1989, leaving directly from Miami after the Dipterists Society meeting in Archbold Station Florida. If anyone who feels they need a helping hand to get started collecting in the tropics wants to meet up with me, drop me a line and we can arrange something. - Brian V. Brown.

The final volume of the Manual of Nearctic Diptera is slated to be published in March, 1989. This book will have three chapters dealing with the phylogeny and classification of the Nematocera, Orthorrhaphous Brachycera and Muscomorpha respectively. Galleys have already been proofed by the authors, so perhaps, with luck, we may even see it out a little earlier!

International Congress of Entomology - Vancouver (July 3-9, 1988)

A small number of Dipterists were able to gather before the International Congress of Entomology in Vancouver this past summer and enjoy a day of collecting. Thanks to Syd and Rob Cannings and their UBC vans, we headed out to the UBC forestry station where we spent a somewhat cloudy afternoon chasing syrphids, tephritids, empids, asilids, sphaerocerids and anything else foolish enough to come within range of our various nets and aspirators. A day in the field with pros such as Vockeroth, Friedberg, and Gilbert is always an educational experience. It was unfortunate that, through lack of communication, more Dipterists were not aware of this opportunity to get together.

Other dipterological doings at the Congress was a wonderful opportunity to meet with fellow Dipterists to discuss current research and interests and included a lot of time in the "refreshment tent" (a wonderful central meeting facility!), and a well attended informal evening dipterist gathering. Over 60 people were present representing countries all over the world, ranging from Britain to Japan to Brazil to Australia. All present briefly introduced themselves and their interests, which was followed by reports on progress on various major cooperative efforts such as the catalogues being produced (Palaeartic, Australasia/Oceania) and the Third Volume of the Manual of Nearctic Diptera. There was also a brief (!?) discussion on a format for a Nearctic Newsletter for Dipterists the results of which you are presently experiencing. Chris Thompson gave a report on his production of "The Flyer" and promised a completely edited second issue soon.

The meetings themselves were filled with many presentations of new information on Diptera. There were symposia held dealing with mosquito evolution; advances in blackfly systematics and ecology; Cecidomyiidae; filter-feeding ecology of aquatic insects (which dealt primarily with culicids and simuliids; bionomics of tephritid fruit flies; forensic entomology (including descriptions of some of the disgusting things flies can do to us!!); onchocerciasis in the Americas - vector biology and control; and a whole series of contributed papers. Of these, of particular note to me was an important paper given by George Byers who report strong evidence that wing fluting may be a poor indicator for determining homologous wing veins. There were many more excellent papers but lack of space here forbids reporting on them all. In addition so many talks were given that this meant that at least some could not be attended.

From Art Borkent - I am currently on a work transfer to British Columbia to study the Ceratopogonidae of western Canada. My new address is 2330 - 70th St. SE, Salmon Arm, British Columbia, V1E 4M3, Canada; phone (604) 832-9516. I am working madly on a revision of the Holarctic Serromyia (Ceratopogonidae) and hope to see it completed by the end of the year. The Palaeartic species are currently a disaster of confused descriptions and nomenclature. New projects include a study of the Cretaceous fossil Ceratopogonidae in Canadian amber. I

have over 190 specimens to study with a reasonable number of species represented. I am also working up a revision of the genus Ceratopogon with Bill Grogan. Finally, I have been investigating the phylogenetic relationships between the genera of Ceratopogonidae and have discovered a number of new exciting synapomorphies.

Did you know??

That Monty Wood's favourite singer is Gnat King Cole?

Dipterology at Guelph
Steve Marshall

University of Guelph has a little-utilized collection of about a million specimens, including about 800 drawers of Diptera. The core of the collection is the old Entomological Society of Ontario Collection, including a comprehensive collection of poorly labelled material determined by many of the leading authorities of the early 1900's, ie. Curran, Aldrich. The collection has no operating budget and no technical support. The relatively well curated state of much of the Diptera collection can be attributed to the talents and energies of a number of recent students, in particular Brian Brown, Kevin Barber, and Brad Sinclair, as well as to the generous efforts of Dipterists at other institutions who have curated some groups. Dick Vockeroth's extensive work on our syrphines comes to mind. My own effort is directed almost entirely towards our 300 or so drawers of Sphaeroceridae, although I do make periodic stabs at our mountains of "misc dips", and try and spend some time working up our Tachinidae. Some portions of our Diptera collection are virtually uncurated. Our unsorted calypterates for example, vastly outnumber our sorted calypterates, and most of our adult Nematocera are in poor shape. I'm glad to send material on request, but should warn that it may take me a month or two to find time to pack and ship your request (I would far rather have you visit the collection). Next year is my sabbatical - hopefully that will leave me more time for my "unofficial" job of taking care of the Guelph insect collection.

Other news from Guelph: The main dipterological activities here at the moment are my own sphaerocerid projects and that of PhD student Terry Wheeler. Terry is revising Rachispoda. The new physiologist on our faculty, Jonathan Schmidt, has a special interest in nutrition of parasitic flies, especially Sarcophagidae. Dave McCorquodale, a former student of militogramines who defected to sphecids for his doctorate, is currently at Guelph. Dave has promised to tackle our militogramines. I guess if Jeff Cumming (another Guelph grad) can make the advance from aculeates to empids, there is hope for Dave!

The Canadian National Collection of Diptera

Jeff Cumming and Dick Vockeroth

The Diptera collection is considered one of the strongest segments of the Canadian National Collection of Insects, maintained by the Biosystematics Research Centre in Ottawa. Over 2 million specimens of Diptera are housed in approximately 4600 drawers, making it one of the largest Diptera collections in North America. Nearly 3 thousand primary Diptera types reside in the collection (in part through the acquisition of the Mesnil, Reinhard, Hull, W. R. Thomson and Garrett collections) and these are currently being catalogued. A recent assessment of the state of the collection has indicated that approximately 60% of the Diptera are sorted to species level, with a further 20% sorted to genus, leaving only 20% of the collection in family or miscellaneous categories. Although most specimens are from the Nearctic region, coverage is worldwide, with impressive holdings from the Neotropics (particularly Chile), the Palearctic (especially Scandinavia, Great Britain, Austria and Spain), as well as Nepal and Uganda. Families that are particularly well represented include the Agromyzidae, Calliphoridae, Ceratopogonidae, Lauxaniidae, Lonchaeidae, Mycetophilidae, Sarcophagidae, Scathophagidae, Syrphidae and Tachinidae, as well as to a somewhat lesser degree the Chamaemyiidae, Chironomidae, Dolichopodidae, Empididae, Sciomyzidae, Simuliidae, Stratiomyidae, and Tabanidae. In addition, the collection contains relatively diverse holdings of immature Diptera, an impressive slide collection, and interesting Upper Cretaceous fossil Diptera associated with Canadian amber inclusions.

DEADLINE FOR NEXT ISSUE MARCH 31, 1989