

FLY TIMES



APRIL, 1993 - No. 10



As readers of the Fly Times will see, this issue is filled with a variety of news and announcements. Many thanks for a great response to my last plea for submissions! Perhaps the most important contribution is by Terry Wheeler: a unique (!!) cartoon for Dipterists.

Please note that the next issue (for October, 1993) will be put together by Jeff Cumming and all contributions should be sent directly to him at the following address:

Dr. J.M. Cumming,
Centre for Land and Biological Resources Research,
Agriculture Canada,
K.W. Neatby Building,
Ottawa, Ontario,
K1A 0C6, Canada.

I am planning an extended field trip to Costa Rica to gather up gobs of ceratopogonids and will be out of touch (at least with my office) from June, 1993 - March 1, 1994.

NEWS

THIRD INTERNATIONAL CONGRESS OF DIPTEROLOGY

University of Guelph, Guelph, Ontario, Canada
August 15-19, 1994

Planning continues for ICD3, to be held on the campus of the University of Guelph in August, 1994. The Second Announcement is being prepared and we plan to circulate that announcement to North Americans with the Fall 1993 issue of Fly Times. The Second Announcement will include details of the scientific program, social activities, and other arrangements. Registration forms and abstract forms will also be included with the Second Announcement. So watch this space. Any questions or comments? Contact Steve Marshall at the University of Guelph.

NADS on the Chesapeake

The North American Dipterists' Society held its annual Informal Conference at the ESA 1992 National Meeting in Baltimore, MD. The evening started off with a series of research presentations followed by the annual business meeting.

Higher classification was the theme of the four talks presented in the formal part of the proceedings. Brad Sinclair summarized his research on the empidoid subfamily Clinocerinae and the implications of that work for the subfamilial classification of the empidoids. Old paraphyletic taxa are dropping like flies as the relentless march of the empid workers continues. Jeff Cumming ventured out of the empidoids and wondered what, if anything, is Aschiza? A reassessment of some old characters and the addition of several new ones resolved many of the familial relationships and provided strong evidence for the paraphyly of the entire group. Terry Wheeler examined the good and bad aspects of competing hypotheses on relationships in the Chloropidae family group, concluding that none of the alternatives presently available gives an accurate picture of the group and that people need to look at more taxa when they attempt to do higher classification. David Yeates brought the proceedings full circle back to the lower (no offence intended) Brachycera and discussed his views on the phylogenetic relationships of the 'Bombyliidae'. David continues to carve up nasty garbage-can taxa and put things where they belong (or, at least, where they might belong).

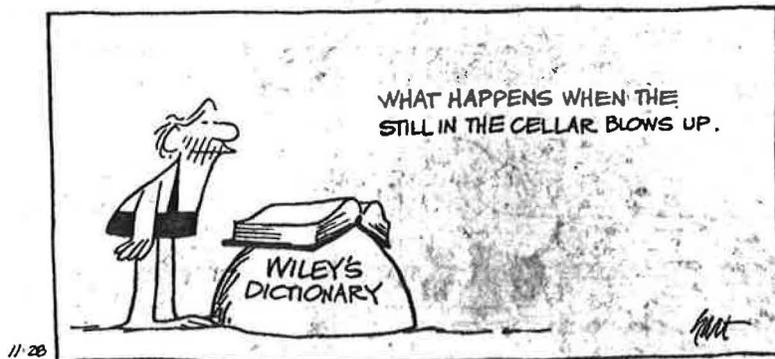
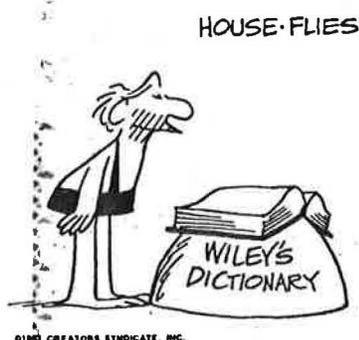
All the talks underlined the importance of examining a broad range of outgroup taxa and of interpreting characters in the context of the whole order, not just of the taxon in question. There is still much disagreement on relationships at the family level and many characters still need to be critically interpreted. Obviously there is still a lot of work that morphological systematists can do before we run out of steam.

The business meeting featured updates on several ongoing concerns. Art Borkent reported on the Phylogenetic Relationships of Diptera project. Steve Marshall reported on the Third International Congress of Dipterology to be held in Guelph in 1994. Darlene Judd showed some slides of the site for our next NADS Field Meeting in Texas and discussed arrangements for that meeting. There was some discussion on the future of Fly Times following a plea by Art Borkent for contributions from people other than the editors. Finally, and most importantly, Don Webb (Illinois Natural History Survey) volunteered to organize next year's NADS Informal Conference in Indianapolis.

After the business was concluded, the questions answered or dodged, and the slides all shown, the meeting was adjourned and many of the faithful congregated at a nearby swarm marker to wash the road dust out of their throats and scribble things on napkins until the wee small hours.

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B.C.



BITING FLY WORKSHOP

First Notice

The 1993 Biting Fly Workshop will be held in Mississippi on May 19-21 (Wednesday through Friday). As last year, we will meet Wednesday and Thursday with Friday an optional collecting day for any who may wish to stay over.

We will meet on the campus of Mississippi State University in Starkville. We can collect on the Noxubee Wildlife Refuge (southern lowland hardwoods).

A university dormitory will be available for lodging (\$6-\$12 per night) and the university cafeteria will be available for meals. There is the usual offering of motels in Starkville if anyone prefers.

A later mailing will contain detailed information about the university, Starkville, motels, maps, program, etc. For now, take a few minutes and complete the form below if you think you will attend or if you have any suggestions for the program. This will help us to know how many rooms are needed. We look forward to hearing from you.

Douglas M. Gaydon

Larry Corpus

_____ Yes, I plan to attend the Biting Fly Workshop _____ No. in party.

Lodging Preferred:

Dorm _____ Motel _____

Return to:

Douglas M. Gaydon
Biting Fly Workshop
Dept. of Entomology
P. O. Drawer EM
Miss. State, MS 39762

Name

Another blow to Dipterology!!

The no-fly zone in Iraq is still in effect and a similar area is being considered for parts of the former Yugoslavia.

The Phylogenetic Relationships of the Diptera Project

by Art Borkent

Just a brief announcement to note that the project is coming along nicely. Virtually all families are now being covered by authors and manuscripts are to be submitted this summer. We are expecting to be able to submit a complete draft sometime during 1994 to Thomas Say Publications (ESA) which has indicated that it would be interested in producing this work.

Collecting Phorids in Peru

In February and March of this year, Don Feener and I joined a Smithsonian Biological Diversity in Latin America (BIOLAT) expedition to Pakitza, Madre de Dios, Peru. This site is a guard outpost in the Zona Reserva of the huge Manu National Park, and is reached by a two-day boat trip up the Rio Madre de Dios and Rio Manu. We collected large numbers of phorids associated with ants, including many new associations. A further interesting find was a wingless female phorid that rides the back of termites, apparently the first observation of such a phenomenon. Additionally, we were able to rear phorid flies from fireflies, the first time this has been accomplished outside of the eastern USA. We also operated 4 Malaise traps over a period of 5 weeks, and blacklight traps on several occasions, so we therefore have a large mass of unsorted material that is theoretically available to others (see below). Luckily, the trip was well organized and executed by the BIOLAT administration, so our logistics, permits and transportation went without a hitch. I am skeptical about the possibility of repeating such a venture in light of the recent military crackdown in that country, however, and cannot recommend Peru as a safe, easy place to do field work. Also, both Feener and I were parasitized during this trip; I got leishmaniasis, whereas Feener was attacked by screwworms. Obviously, there are some nasty creatures down there!

The BIOLAT program has been developed in concert with the authorities of the Peruvian National Park system and the National Museum in Lima. This collaboration has resulted in a "convenio" that governs the disposition of material collected at Pakitza, such that half of it must be returned to Peru, and half of the remainder belongs to the Smithsonian. Because they are set out well ahead of time, one cannot gripe about these restrictions after the trip. Some persons sorting their groups of interest from our Malaise trap samples, however, might find the return, in specimens they can retain, too low to justify the effort involved in their processing.

- Brian V. Brown

Research & Other Activities
John Burger (University of New Hampshire)

I have recently published a paper on some Tabanidae from eastern Melanesia and Samoa, including a key to the species from that part of the Pacific. I also recently published a paper on some Tabanidae from Madagascar, including a redefinition of some species of *Chrysops* and *Picromyza*, and new species of *Aegophagamyia*.

An NSF grant proposal has been submitted with John Chainey (NHM London), Christian González (Santiago, Chile) and Graham Fairchild (FSCA, Gainesville) to revise the genus *Chrysops* for the world. This includes about 460 species presently described, and will add another 60 or so species, mainly from the neotropics.

I have completed work on a monograph of the Tabanidae of New Caledonia, with the addition of 16 undescribed species. After submitting the manuscript for review, I received a collection of specimens from Don Webb and Mike Irwin at the Illinois Natural History Survey, from their trip to New Caledonia at the end of 1991. This collection of about 140 specimens contained another 4 undescribed species. There seems to be no end to the diversity of Tabanidae on this remarkable island. Webb's material is currently being described and illustrated.

John Chainey (NHM London) and I have completed a manuscript on a revision of the *Chrysops* of the Oriental and Australasian regions. The illustrations for this paper are currently being prepared.

Graham B. Fairchild (FSCA Gainesville) and I have completed work on a revised catalog of the Tabanidae of the Americas south of the United States. A final draft of this work should be completed by the end of 1992 and submitted for publication. Many changes in our knowledge of the Tabanidae of this area have occurred since publication of the catalog in 1971 [part 28 of the catalog of Diptera of the Americas south of the United States]. The current work will include about 1,400 valid taxa, an extensively revised classification and an expanded bibliography of references dealing with Tabanidae of the area covered. The entire catalog will also be kept on disk for continuous updating of changes. We anticipate making this available on disk for interested specialists so that the catalog can be continuously updated.

The Nearctic checklist of Tabanidae is still available either in hard copy or on disk, or both. It has been continuously updated and corrected for the past year. Both hard copy and disk are available at no charge by writing to John Burger. This was one of the last projects completed with the help of Professor L. L. Pechuman, Cornell University, who passed away in March, 1992, leaving us without the services of one of the top specialists on Tabanidae in the world.

One of my graduate students, Bai Xiong, completed his doctoral dissertation in May, 1992. His research topic was on the "Intraspecific variability and phylogeny of sibling species of the *Simulium venustum* and *S. verecundum* complexes (Simuliidae) revealed by the sequence of the mitochondrial large (16S) ribosomal RNA gene". He used polymerase chain reaction to

sequence the 16S portion of the gene and obtained some interesting insights into the phylogeny of these 2 species complexes. The results of this work are currently in preparation for publication, and should be appearing soon.

For the past 3 years, I have been conducting post-fire research in Yellowstone National Park as part of a program for our biology teaching effort. In collaboration with Peter Adler (Clemson Univ.), I made extensive collections of black fly larvae throughout Yellowstone and surrounding areas during July and August of 1992. I did all the fun work (collecting); Peter did all the hard work (cytotyping larvae fixed in Carnoy). Despite collecting relatively late in the season, we obtained 21 species, including specimens of *Simulium canonicolum* from the type locality (Grand Canyon of the Yellowstone River), and a goodly number of new state records for Montana and Wyoming.

I have provided routine identifications of Tabanidae for several museums and other institutions during the past year, including the Academy of Natural Sciences of Philadelphia, the Carnegie Museum, the University of Michigan, the Illinois Natural History Survey, the Florida State Collection of Arthropods, the National Museum of Natural History, Montana State University, and others. I am always willing to do identifications of Tabanidae worldwide, but prefer not to deal with material that has been in alcohol.



redacted Far Side, 3/3/1993

Searching for Types of Conopidae in Paris and London

by Sidney Camras

This item is submitted as a result of Art Borkent's request for articles. I for one would be very sorry to see FLY TIMES discontinued. I have found it to be very interesting and informative, and the directory has also been very useful.

Being more of a taxonomist than a field man, a visit to a museum to examine types and other specimens is like a supreme ego trip. I was like a child in a free candy store trying to get as much as possible in a limited period of time.

In Paris Loic Matile was most helpful in finding specimens in the old collections. Types were examined of species described by Meigen, Macquart, Kröber, and Séguy.

In London a computer printout made finding specimens very easy. Curators Nigel Wyatt and Brian Pitkin were very helpful in many ways. The types examined were by Walker, Bigot, Williston, Brunetti, Kröber, Souza Lopes, and Smith.

Having worked with birds at the Field Museum from 1935 to 1941, a side trip to the Tring Museum brought back fond memories.

Some types were as expected, but some were very surprising. For example Walker in 1848 described a species flavifrons, describing the front of the head as yellow. Actually the frons is black, and Walker was referring to the face as yellow.

One bit of advice that I would suggest is to find a hotel as close to the museum as possible. Much time was lost going to and from the museums. Perhaps the curators can help in finding a hotel nearby.

In summary, I tried to find an adjective to describe the trip such as successful, rewarding, or productive; but perhaps it could best be described as "worth its weight in gold".

Postscript: As a result of this visit, the group that requires the most changes is Neotropical Physocephala, and it is now being reviewed. Anyone wishing to send specimens for this study should send them to: Dr. S. Camras, Division of Insects, Field Museum of Natural History, Roosevelt Road and Lake Shore Drive, Chicago, Illinois, 60605, USA.

Important Relocation!

Brian Brown will be taking up a position of assistant curator of Entomology at the Natural History Museum of Los Angeles County, beginning 18 January 1993. He will be continuing his studies on the taxonomy phylogenetic relationships of Phoridae, specifically the ant-decapitating flies, genus *Apocephalus*. His address will be: Department of Entomology, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA, 90007

DIPTERA IDENTIFICATION - HOW CAN WE HELP EACH OTHER?

Many of the readers of this newsletter are involved either with general collection development or with survey-type projects ranging from regional surveys to the increasingly in vogue "biodiversity" projects. As specialists on what may well be the most diverse group of organisms on the planet, we dipterists comprise a small group uniquely qualified to take on this kind of project. Although no one of us can single-handedly identify more than a small fraction of the species of fly taken in a typical survey, most of us know the problems involved with making a good Diptera collection, and most of us can sort such a collection to "sendable units". The limiting factor, it seems to me, is knowing who amongst us is willing to receive and identify those "sendable units". For example, I am currently involved with an inventory of selected groups of flies in an old growth Ontario forest. From the outset, the selected groups are those families under study in my laboratory, or taxa I know are under study by friends who would like to see good series of well prepared material. In order to plan such study, and to budget for summer help and materials, it is important to know who falls in the latter category. In short, I would like anyone who is willing and able to identify flies for fellow dipterists to insert a note in this newsletter outlining what groups, from what regions, and under what circumstances. Here is my own entry to give an idea of what I would like to see:

Steve Marshall - Sphaeroceridae - Will identify well pointed, critical-point dried material only, unless special arrangements are made (*ie.* joint project, payment for proper preparation in my lab). Limitations: Almost all North American material can now be identified promptly. The common, unrevised genus Leptocera is a notable exception. Other regions present problems because of numerous undescribed and unrevised genera. South American material is welcomed but lowland rainforest taxa in particular are too poorly known for satisfactory identifications. I cannot deal adequately with African or most Oriental groups at this time.

In my experience, material carefully prepared during the course of insect surveys can be a joy to work with and a good source of interesting specimens and good series. Even if you are not interested in forming a newsletter fly identification network, please let me know directly if you can help out with survey work going on in my lab (mostly here in Ontario, but occasionally elsewhere). (Steve Marshall, Department of Environmental Biology, University of Guelph, Guelph, Ontario, Canada N1G 2W1).

Books and Publications:

Krzeminski, W. 1992. Triassic and Lower Jurassic stage of Diptera evolution. *Mitt. Schw. Entomol. Ges.* 65:39-59.
This important paper describes the wing venation of early Mesozoic Diptera (including a number of new taxa) and discusses the implications of these on our understanding of the cladogenesis of the earliest lineages of the order. Two new suborders are named.

Poinar, G.O. 1992. *Life in amber*. Stanford University Press, Stanford, California. xiii + 350 pp.
This informative and well written book includes a discussion of all known amber deposits and provides an analysis of all inclusions, including Diptera. This is a vital resource to all Dipterists interested in fossils and the diversification of their families.

Krzeminski, E. and W. Krzeminski. 1992. *Les Fantomes de l'Ambre. Insectes fossiles dans l'ambre de la Baltique*. Musée d'histoire naturelle de Neuchatel, Suisse, 142 pp.
This book, written in French, provides a detailed synthesis of the fauna in Baltic amber and makes repeated reference to a wide array of Diptera. The book is lavishly illustrated and provides a wonderful 'window' of life in Europe during the Eocene. An english version of the book will be coming out soon.

King, D.G. 1991. The origin of an organ: phylogenetic analysis of evolutionary innovation in the digestive tract of flies (Insecta: Diptera). *Evolution*, 45, 568-588.

On page 571 of this paper, there is a cladogram of the entire Order, showing the distribution of the new character states the author has discovered. Unfortunately, these character states do nothing to resolve the major questions of dipteran phylogeny, and further sampling is needed from phylogenetically important taxa (eg. Platypezidae, Atelestidae). The author discusses the phylogenetic implications of his findings.

Wada, S. 1991. Morphologische Indizien für das unmittelbare Schwestergruppenverhältnis der Schizophora mit den Syrphoidea ('Aschiza') in der phylogenetischen Systematik der Cyclorrhapha (Diptera: Brachycera). *Journal of Natural History*, 25, 1531-1570. (with English abstract, thankfully)

Based on the structure of the sensory epithelium of the retinae of compound eyes, the author supports the monophyly of the group Syrphoidea (Syrphidae + Pipunculidae) + Schizophora, rendering the 'Aschiza' paraphyletic. He names this group Eumuscomorpha. Additionally, Wada reviews the literature and supports the monophyly of Eumuscomorpha based on Hennig's dorsobasal arista character. His new character states are plotted in character matrix diagrams, and cladograms are produced. This paper is somewhat flawed by the author's lack of in-depth knowledge of certain groups; for example, Ironomyiidae is listed separately from Phoridae + Sciadoceridae, in spite of a well-supported relationship among these families. His taxonomy is suspect as well- *Phora schineri* (Becker) was synonymized with *P. dubia* (Zetterstedt) by Schmitz in 1953. These small problems, however, do not detract significantly from the main message conveyed by the impressive new optical character state.

NOTES FROM FENNOSCANDIA AND POINTS EAST

Fenja Brodo

Shrinking budgets notwithstanding, my husband and I were able to take off for a year, with six months in Sweden, six months in Finland and forays to Estonia, Russia and the Ukraine. I used the year to work on a revision of the subgenus *Arctotipula* (Tipulidae). I should tell you at the outset that sabbaticals are affordable even in tough times, especially if you can rent your home in exchange for renting elsewhere. Most European universities and museums have guest accommodations with cooking facilities available at reasonable costs. One has to plan and book ahead.

Linnaeus and taxonomy in general may be a little out of fashion in some places, but in Uppsala, Sweden where we spent our first six months, Carolus Linnaeus, his homes and gardens are tourist attractions. A treasured souvenir of Sweden is a new 100 kroner bank note (worth approximately \$20) with a portrait of Linnaeus, part of a manuscript page from "Systema Naturae" and his botanical garden on one side. The other side features a bee pollinating a flower. My host here was Dr. Christine Dahl (Trichoceridae and Culicidae).

Scandinavian crane flies have been well documented by Bo Tjeder. My first pilgrimage was to visit him in Lund. Regretfully he was too ill for visitors and died soon after my visit. Neuropteran as well as tipulid workers have lost a respected colleague.

Helsinki has a fine crane fly collection determined mainly by Bo Tjeder and Bernard Mannheims. Working conditions were very congenial thanks to the department head, Dr. Olaf Biström, and fellow dipterists Pekka Vilkkamaa and Gunilla Ståhls.

Helsinki is the gateway to Russia and other C.I.S. countries. Postage is prohibitively expensive (for locals) and the mail is notoriously unreliable. Visitors are usually asked to be couriers in both directions. Dr. Emilia Nartshuk graciously allowed me to borrow specimens and these will be mailed back to Helsinki and then will await the next visitor to hand-carry them back to St. Petersburg.

It is not news that life is difficult in the former Soviet bloc. However, nothing can compare to the warmth and hospitality of my Russian colleagues. I was royally treated. In St. Petersburg, Moscow and Kiev, I was a guest in private homes. My colleague Valody Lantzov came all the way from Piatagorsk to Moscow to meet my train, guide me around Moscow and take me to Kiev and back. That is akin to someone coming from Florida to meet you in Chicago and take you to Montreal.

Kiev is an old city worthy of visiting for its own sake but Kiev is also the home of Dr. E.N. Savchenko, tipulidologist and author of many important books and papers on the Tipuloidea. It was an adventure to be taken to visit Dr. Savchenko. Although he has been retired for many years he is still keenly interested in the systematics of the tipuloids and asks not to be forgotten. He appreciates receiving reprints and mail even though he is unlikely to answer, postage being what it is.

Eastern Europe is much more accesssable now and the exchange rate for westerners is very favorable. However, the logistics of living and moving around are difficult. Collecting trips must be organized with local help. A lichenologist and friend, Misha Zhurbenko, is organizing a rather strenous trip into the Barunga Mountains in the Taimyr in 1994, and has room for a few more participants but needs people who can help defray expenses for this expedition. I'd be glad to supply more information, or you contact Dr. Michael Zhurbenko directly at the Komarov Botanical Institute; Academy of Sciences of Russia; 2, Prof. Popov Street; St. Petersburg, Russia.

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 when listing the titles of your major projects and the animals you work with.

The completed form may be sent to Jeff Cumming at the following address:

Dr. J. M. Cumming,
Centre for Land and Biological
Resources Research,
Agriculture Canada,
K.W. Neatby Building,
Ottawa, Ontario,
K1A 0C6, Canada.

Should any of you like to expand or modify your entries from the last list, use the form to indicate the changes.

Full name: _____

Address: _____

Telephone Number: _____

FAX Number: _____

BITNET: _____

Projects and taxa studied: _____
