



FLY TIMES

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Fly Times enters its 10th year of production with this issue and we as editors express our thanks to the many who have contributed throughout the years to make this a successful newsletter. This issue incorporates the latest in the way of meetings, field trips, opinions, and recent publications. On a sad note, we report the passing of Curt Sabrosky, a mainstay in the Diptera community for so many years.

As Noted in the last issue, this newsletter is also now available through the ECORC website as follows:
<http://res.agr.ca/ecorc/program2/entomology/flytimes/flytime.htm>

Another reminder that the *Directory of North American Dipterists* is now on the web and can be accessed at the following address: <http://res.agr.ca/ecorc/program2/entomology/diptera/dipteras.htm>

Issue No. 20 of the *Fly Times* will appear next April as both hard copy (for those of you without Internet access) and on the Web. If possible, please send either editor your contributions by email, or on disc; electronic contributions make putting the *Fly Times* together much faster. Those of you with hard copy contributions (last possible choice) may fax, or mail your message to Art Borkent at the above listed address. All contributions for Issue No. 20 should be sent by the end of March, 1998.

NEWS

Dipterists Informal Conference - ESA Annual Meeting - Call for Presentations, Agenda Items

by Brian M. Wiegmann

This year's dipterists conference at the Annual Meeting of the Entomological Society of America, Nashville TN, (Dec. 14-18, 1997), will be held on Monday, 15 December from 7 to 9 pm in the Opryland Hotel, Presidential Mezzanine Room Jackson A. The first hour will be devoted to informal research presentations, natural history notes, announcements or slide presentations. In the second hour there will be discussion of news and business relative to the North American Dipterists Society. Agenda items include discussion of potential meeting sites for the next NADS field meeting, and information regarding the International Congress of Dipteryology.

If you have a presentation or agenda item for the meeting please contact Brian Wiegmann, Department of Entomology, North Carolina State University, Raleigh, NC. phone 919-515-1653; fax 919-515-7746; email bwiegman@unity.ncsu.edu, by December 1, 1997.

Update on the Fourth International Congress of Dipteryology, Oxford, England on September 6-13, 1998

by Dan V. Hagan

An outline of the program, costs and registration was provided in the last issue of Fly Times. Now that the Second Announcement and Call for Papers is being distributed, here is an update of the details of the Congress. You may be interested to know that around 350 responses to the First Announcement have now been received, about twice the number of responses as at the same stage of previous Congresses, so we are looking forward to a full and exciting week in Oxford next year.

Authors and delegates must be notified by May 31, 1998 of the Section or Workshop for which their presentations have been accepted and the form that they should take. Abstracts for talks or posters submitted after that date will be accepted only as space permits, and it may not be possible to include them in the published volume of Abstracts.

The list of Congress Sections and Workshops with their contents will be posted on the Congress page of the Natural History Museum website, and will be continuously updated at the following address: <http://www.nhm.ac.uk/entomology/diptcong.html>

The scientific activity for each day is planned as follows:

- 0830-0915: Subject-based Section plenary talk, open to all delegates: in the Oxford University Museum.
0915-1230: Concurrent Section and Workshop sessions: in Keble College.
1230-1330: Lunch in Keble College.
1330-1415: Subject-based Section plenary talk, open to all delegates: in the Oxford University Museum.
1415-1730: Concurrent Section and Workshop sessions: in Keble College.
1800-1900: Dinner in Keble College
1900- : Special lectures, ad hoc meeting or workshops, etc.

The only variation to this is the opening, Monday morning session: there will be a half-hour Opening Ceremony (0830-0900), which will be followed by the plenary talk (0900-0945), coffee in Keble College, and then the concurrent sessions (1000-1230). The Friday afternoon session will be followed by a brief Closing Ceremony. The Section plenary talks should be 35-40 minutes, to allow time for delegates to return to Keble College for the concurrent sessions.

The Congress URL (address) for those have access to the World-Wide Web is:
<http://www.nhm.ac.uk/entomology/diptcong.html>

Congress correspondence should be sent to the Chairman:

Dr. R.P. Lane, Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD, UK. Phone: +44 171 938 9474; Fax: +44 171 938 8937; Email: r.lane@nhm.ac.uk

Those with questions regarding the congress administration should contact: Catherine Hughes, ICD4, Oxford International, Summertown Pavilion, Middle Way, Oxford OX2 7LG, UK. Phone: +44 1865 511550; Fax: +44 1865 511570; Email: 101475.1765@compuserve.com

Curtis W. Sabrosky Passes Away

by Al Norrbom

We sadly announce the death of Dr. Curtis W. Sabrosky, a Research Associate with the Department of Entomology. Curt was returning from an extended trip to Russia and was found dead, apparently from a massive heart attack, in his hotel room in Helsinki on Sunday, October 5th. Curt was 87, remained active to the end with numerous interests, and was always available to help others. He was one of the most respected scientists in entomology, and his accomplishments were extraordinary. Curt specifically asked that there be no service and is survived by a son, Allen, who is living in Mississippi.

We are all in mourning here in the Diptera Unit. We will miss Curt very much. No more of his stories "That reminds me of the time . . ." followed by some recollection from 30-40 years ago.

But it is important to remember what a great life Curt had and how much he accomplished, and to be thankful for the many years he touched our lives. Seems like Curt knew everyone in Dipterology in the last 3/4 of a century, and more than that, he was friendly and helpful to everyone, whether you were a famous taxonomist or a beginning student. I will always remember his typical response to my knocks on his door - "Go away", but then he would proceed to talk with me for as long as I needed, and often later produced information pertinent to the problem we discussed. Curt was healthy and active until the end. It somehow seems fitting that he died away from home. He was such a globe trotter, even in his 80's usually making several international trips per year to continue his research and visit his many friends and colleagues. I can only hope for such stamina and longevity in my own life.

**North American Dipterists Society Field Meeting
May 3-7, 1997, Georgia**

by Dan V. Hagan

Drs. Dan Hagan, Frank E. French and Sturgis McKeever (plus graduate students) hosted 1997 NADS meeting at Georgia Southern University, in coastal Georgia, USA. The meeting was held at The New Ebenezer Retreat Center (in Effingham County, Georgia). Field trips were made to the coastal Georgia barrier island (Tybee Island) and to the sand ridge communities (relict dunes, 40,000 years old), in the physiographic province of the upper and lower Georgia Coastal Plain. During the meeting Dr. J. Richard (Dick) Vockeroth was presented with the 1977 C.P. Alexander Award for his numerous contributions to Dipterology throughout his career [see the following contribution for further details]. Attendees included participants from Canadian, U.S.A., and Denmark.

C.P. Alexander Award

by Jim O'Hara

Dr. J.Richard (Dick) Vockeroth, an Honorary Research Associate with the Biological Resources Program of Agriculture and Agri-Food Canada (AAFC), was awarded the prestigious C.P. Alexander Award by the North American Dipterists Society at a meeting of the Society in Georgia, USA in May 1997. Dick is the second recipient of this Award, which was introduced by the Society in 1994. The Award reads, "John Richard Vockeroth is recognized as our most knowledgeable dipterist, and for his critical and unique contributions in expanding our knowledge of flies, especially flower flies, educating and encouraging a cadre of world leaders for Systematic Dipterology." Dick joined the Systematic Entomology Unit of Agriculture Canada in 1949 and retired in 1991. Among many of his important contributions to AAFC was discovery of the face fly (*Musca autumnalis*) in North America, "A Revision of the Genera of the Syrphini" (1969) and a handbook in the series "Insects and Arachnids of Canada"

entitled "The Flower Flies of the Subfamily Syrphinae of Canada, Alaska and Greenland (Diptera, Syrphidae)" (1992). Dick has been a Research Associate of the present Biological Resources Program since his retirement and has continued to the present to provide valuable expertise in Diptera to the staff of the Diptera Unit and to students and colleagues internationally. Dick is recognized as one of the best collectors of Diptera in North America, in part because of his ability to distinguish in the field between rare and common flies across a wide spectrum of the order. He has contributed approximately 220,000 pinned insects to the Canadian National Collection of Insects and has been recognized for his collecting efforts and his expertise in Diptera by having about 40 species of insects named in his honour.

Monographic Research of the Diptera

by Darlene Judd

The Diptera program in Washington, DC welcomes Peter Hibbs, our new rhagionid student funded by the NSF PEET program. Peter arrived in August and has started classes at the University of Maryland. His dissertation project, advised by Norm Woodley, will focus on a genus-group revision of the family. Alessandra Baptista continues her dissertation studies on aulacigastrids and is preparing for a field season in Costa Rica.

In other news, I established new larval records for the rare and elusive tanyderids from Japan (one species), PNG (two species), and New Zealand (four species) during my six month collecting trip to the Eastern Hemisphere. In addition, Peter Johns (University of Canterbury, Christchurch) directed me to the habitat of a new brachypterous species on South Island. In all, the trip was very exciting and a big success. Australia was a disappointment as I was unable to locate any larvae, but I was treated to some very exciting weather: floods (western and northeastern Australia), land-gales and snow (Tasmania). I also managed to bring home, an as yet unidentified, malarial parasite from PNG. In hopes of locating further new larval tanyderid habitats, Norm Woodley and I will travel to Chile and Argentina in January 1998.

Call for Applications - The Dipterology Fund 1998 Grants Competition

by Terry A. Wheeler

The Dipterology Fund is a non-profit fund for the support of dipterological research in North America. Each year up to four grants will be made to a maximum of CAD \$1000 each. There are two categories of support available from the Dipterology Fund:

Student Research and Travel Grants. These grants, available to undergraduate, graduate, or postdoctoral

students in dipterology, may be used to support travel to conferences or field meetings, travel to museums or other research institutions, or field work for collecting or study.

Development Grants for North American Dipterology. This category is for proposals in areas other than those described above. Funding in this category would include, but not be restricted to, grants to bring visiting scientists to North American Diptera collections or support for research activities of individual dipterists who are not full-time students and who lack other conventional means of research support.

Preference will be given to applications for research in systematics, faunistics and ecology. Applications for funding should include a one page research proposal or justification of the proposed activities and an estimated budget for the proposed activity or research (including consideration of funding available from other sources). Applications from individual dipterists should include a 1-2 page curriculum vitae. Applications for the 1998 competition must be received by the Chair of the grants committee on or before 01 March 1998. Decisions will be announced by the end of March. Questions on the application procedure or the Dipterology Fund should be directed to the Chair of the grants committee. Applicants are strongly encouraged to submit their applications by email. If hard copies are being submitted, eight copies of each application package should be sent to:

Dr. Terry A. Wheeler, Chair -The Dipterology Fund, Department of Natural Resource Sciences, McGill University, Macdonald Campus, Ste-Anne-de-Bellevue, Quebec, H9X 3V9, Canada.

Phone: 514-398-7937, Fax: 514-398-7990, Email: wheeler@nrs.mcgill.ca

The Dipterology Fund - Report on the 1997 Grants Competition

by Terry A. Wheeler, Chair, The Dipterology Fund

The grants committee of the Dipterology Fund is pleased to announce that the following individuals and groups were awarded funding in the 1997 grants competition:

Stephanie Boucher (McGill University). Support for fieldwork - Zoogeography of Diptera in disjunct grasslands of the southern Yukon.

Riley Nelson (University of Texas) - Support for fieldwork - Collection of Asilidae in the southeastern United States.

Mark Metz (University of Illinois) - Support for fieldwork - Systematics and Ecology of Therevidae.

Organizing Committee, North American Dipterists Society (Georgia Southern University) - Support for organization of the 1997 NADS Field Meeting.

The call for applications for the 1998 competition can be found in the preceding contribution.

A New Chironomid Web Page

by John Epler

A new web page which features a checklist of the Chironomidae of Florida and other information about midges can be accessed at: <http://www.freenet.tlh.fl.us/~johneplr/home.htm>

Check it out.

1997 Biting Fly Workshop, June 4-6

by Wayne Kramer

The 1997 Biting Fly Workshop was held in Niobrara Valley Preserve, Johnstown, Nebraska. We had 16 registrants and good weather, although we were just a bit early for many of the biting flies which are known to frequent the area. This was smaller than our normal attendance but this was the first time this group has ventured west of the Mississippi and I believe all the attendees enjoyed visiting this part of the country.

Talks included the following:

J. Freier: "Application of GIS to Systematic Entomology Research"

M. Williams: "Occurrence of Trichomycete fungi in larval Diptera"

M. Behrens: "An overview of the ecology of the Niobrara Valley"

A.P. De Leon: "Aspects of *Culicoides* feeding at the host interface and implications in the transmission of insect-borne disease"

In addition there were two sections on Tabanidae and Ceratopogonidae, opportunities to collect, time to discuss all sorts of interesting data with colleagues, and generally have fun.

1998 Biting Fly Workshop

by Dan V. Hagan

The 1998 Biting Fly Workshop will be held June 13-15, 1998, hosted by the Department of Biology of Georgia Southern University (Drs. Sturgis McKeever, Frank French and Dan Hagan) at Blackwater Falls State Park Lodge, Davis, West Virginia. The Lodge is 73 miles from Morgantown, WV and 103 miles

from Cumberland, Maryland. U.S. Air has commuter flights from Pittsburgh, PA to both cities. Lodge rooms have two beds - either two doubles or a double and single. Rooms are \$ 57.00/night for those 60+ yrs of age and \$ 64.00/night if less than 60, for two adults/room (1997 rates; possibly somewhat more in 1998). The lodge is located on the east rim of Blackwater Canyon and has a large dining room, a large reading and discussion room and a conference room. The Park has 1,688 acres, and except for the canyon is relatively flat. Most of the area is covered with deciduous forest with some red spruce. There is a small lake surrounded by several acres of grassy vegetation and there is a small grassy area near the lodge.

The main collecting area will be at Canaan Valley Resort Park, which has 6,015 acres and is 10 miles from Blackwater Lodge. Canaan has extensive meadows, stream bottoms, marshes, deciduous forest, red spruce forests and beaver impoundments. Deer are abundant and provide plentiful food source for biting flies. There is an 18-hole golf course with a clubhouse where lunch is served - quickly! Collecting permits are required at both Blackwater and Canaan and will be obtained for all registered participants.

Another collecting site is Dolly Sods, a large grassy area on top of the mountain which forms the Allegheny Front. In addition to the grassy area there is an extensive area (1,000 + acres) of heaths and sphagnum bogs surrounded by deciduous and red spruce. The area (controlled by the U.S. Forest Service) is accessible by a gravel road which leads from the paved road between Blackwater and Canaan.

For additional information you may write:

Biting Fly Workshop 1998, ATTN: French/ McKeever/ Hagan, Dept. of Biology,
Georgia Southern University, Statesboro, GA 30460-8042, USA.

Or you may send e-mail to: French@GaSoU.edu or dhagan@GaSoU.edu

Preparing Small Diptera (for the Best)

by Michael Peters

I just received the latest Fly Times and have scanned through the articles dealing with the drawbacks and benefits of the various techniques used in preparing small Diptera for future examination. I have given up on pointing adult dixids on paper triangles and use minutens instead. My rationale is that minutens mounted specimens could at some future date easily be used for cuticular hydrocarbon studies. I am leery of such information "extracted" for glued specimens. This is an insignificant matter (I first wrote the words, "small point") for most dipterists now, but may vastly increase the information available in future studies.

On the Fly

by Greg Courtney

This message is to announce a change in venue. I recently accepted an Insect Systematist position in the Department of Entomology at Iowa State University. The appointment is effective July 1st, or soon thereafter. Initially, at least, I will not be at ISU very much, as I will spend most of July - September in Nepal (final year of the mosquito project) and the first week or two of October in Thailand (in hopes of expanding an existing collaborative program between ISU and Kasetsart University). Many of you may wonder how someone specializing in montane, aquatic insects could end up in Iowa - I have pondered that thought myself - but I was pleasantly surprised by the university's interest and support for my "torrenticolous" and international research. Therefore, I fully expect to continue working on montane, aquatic insects, especially in places like Nepal and Thailand. My departure from Grand Valley State University is not without mixed feelings. I have enjoyed many aspects of my position at GVSU - e.g., serving with a good group of faculty; helping develop a strong undergraduate program in aquatic biology; teaching and interacting with some outstanding students. However, the course loads here (2-3 courses / semester) have been detrimental to my research and writing. The position at ISU more closely matches my professional goals, includes a significant research component (60%), provides opportunities to mentor graduate students, and involves teaching only 1 course / semester. Consequently, I expect to devote far more time to research and writing than has been possible at GVSU. To those of you who during the past couple years have graciously sent specimens for identification, invited me to participate in book chapters & meetings, or simply sent a letter and expected a prompt reply, I hope and expect that my position at ISU will permit more time for these matters. Stay tuned . . .

My address after 1 July is: Department of Entomology, 411 Science II Building, Iowa State University, Ames, Iowa, 50011-3222, USA.

Status of the Diptera collection at the Instituto de Biologia, Universidad Nacional Autonoma de Mexico (Mexico City, Mexico)

by Scott Fitzgerald

I recently had the opportunity to visit the Coleccion Entomologica, Instituto de Biologia, Universidad Nacional Autonoma de Mexico, in Mexico City. Prior to my visit I corresponded with Dr. Atilano Contreras-Ramos at the Institute, who made it clear that a substantial portion of the Diptera collection was not sorted to the family level, making much material inaccessible for general loans. Therefore, the primary goals of my visit, which was supported by The Dipterology Fund (1996), was to secure material for a review of *Bibio* (Diptera: Bibionidae) of Mexico and Central America, and also to do some general curation (especially sorting unsorted Diptera to at least the family level) to try and make material more accessible for future general loans to the Diptera community.

I visited the Institute March 7-12, 1997 and was hosted by Dr. Contreras-Ramos, whom I must thank sincerely for his hospitality and guidance through the urban jungle that is Mexico City. Considering that it was my first trip beyond the Mexican border towns, Atilano's presence made eating from street vendors, crazy cab drivers, and mild dysentery, a much more comfortable experience for an out-of-his-element-northerner.

Comforted by the familiar smell of museum preservatives and a language that I recognized, my museum time was very well spent. Initially, I found the Diptera collection somewhat unpredictable, with families and unsorted drawers randomly located throughout the Diptera cabinets. With Atilano's consent, I arranged the Diptera collection "phylogenetically" by family (following the table of contents in Nearctic Diptera Volumes 1 and 2). All unsorted material was moved to the end of the Diptera collection and all drawers previously unlabeled were labeled to family level. Ten drawers of unsorted Diptera were sorted to family level and this material was incorporated into the collection.

A brief status of the collection: Prior to sorting and organizing, the collection contained thirty families of Diptera. The end result was fifty-eight families, although many of these are represented by only a few specimens. There are still thirty-one drawers of unsorted Diptera that need sorting to the family level. Most material sorted to family level is not sorted beyond that level with the exception of a few groups (i.e. some Syrphidae, Tachinidae, Bombyliidae, Tephritidae) and in some cases previous family level sorting is not reliable (mixtures of closely related or similar families).

To help identify the collection's strengths I have included a list of the number of drawers for each family. (1) indicates holdings of half a drawer to only a few specimens):

24-- Tachinidae
22-- Syrphidae
20--Tephritidae
15--Bombyliidae
6--Tabanidae, Stratiomyidae, Asilidae, Otitidae
4-- Sarcophagidae
3-- Dolichopodidae, Calliphoridae
2-- Micropezidae, Lauxaniidae, Muscidae
1-- Neriidae, Lonchaeidae, Platystomatidae, Pyrgotidae, Richardiidae, Scathophagidae, Tipulidae, Bibionidae, Mydidae, Sciaridae
(1)--Athericidae, Rhagionidae, Xylophagidae, Pantophtalmidae, Psychodidae, Anisopodidae, Dixidae, Culicidae, Simuliidae, Chironomidae, Mycetophilidae, Blepharicidae, Therevidae, Apioceridae, Acroceridae, Nemestrinidae, Empididae, Phoridae, Conopidae, Pipunculidae, Agromyzidae, Diopsidae, Sciomyzidae, Psilidae, Ropalomeridae, Clusiidae, Sepsidae, Chamaemyiidae, Sphaeroceridae, Drosophilidae, Ephydriidae, Chloropidae, Cuterebridae, Hippoboscidae.

There is a great wealth of material to be identified and studied and there are certainly many new species awaiting discovery. My hope is that this status report will spark interest in future studies of Diptera in an understudied region. Dr. Contreras-Ramos is the primary contact for general Diptera loans and I have included his mail and e-mail addresses: Dr. Atilano Contreras-Ramos, Instituto de Biología, Zoología, UNAM, Apdo. Postal 70-153, 04510 Mexico, D.F., Mexico; email: atilano@ibiologia.unam.mx

**5th International Symposium on Fruit Flies of Economic
Importance, 1-5 June, 1998, Penang, Malaysia**

by Tan Keng Hong

For futher information about the above symposium please visit the following website:
<http://www.bio.usm.my/bio/fruitfly/> or contact Dr. K. H. Tan, Chairman, Secretariat, 5th International Symposium on fruit flies of Economic Importance,School of Biological Sciences, University of Science Malaysia, 11800 Penang, Malaysia; email khtan@usm.my

Books and Publications

Borkent, A. and W.W. Wirth. 1997. World Species of Biting Midges (Diptera: Ceratopogonidae). Bulletin of the American Museum of Natural History 233, 257 pp.

This work provides a world catalog of all species of Ceratopogonidae, discusses nomenclatural problems and provides a list of the type depositories for most workers.

Evenhuis, N.L. 1997. Litteratura Taxonomica Dipterorum (1758-1930). 2 volumes, vii, 426 + 445 pp. Backhuys Publishers, Leiden, Netherlands. 360 dutch guilders, \$200 US.

Neal has done it again! After his major catalog contributions (Australasian and Oceanian; Fossil Flies of the World), he has now produced an incredible synopsis of books and prints dealing with Diptera taxonomy published during the earlier years of our field (1758-1930). Published in two volumes, the work presents all bibliographic, biographical, and types and collection information regarding all authors who have published books, pamphlets, plates and other works on Diptera taxonomy. There are close to 700 titles by about 400 authors treated; in addition there are about 1300 multi-volume works cited.

The taxonomic literature is organized in an alphabetical arrangement of authors (Vol. 1 includes authors A-L, Vol. 2: L-Z). Under each other author there is a brief biographical summary, followed by a list of references providing biographical and bibliographical information. The deposition of the types and collections of the author are given (often with further important details regarding the state and/or location of the specimens), a list of patronymys, references including examples of labels and/or handwriting, followed by full references of the authors publications (most often accompanied by notes of specific dates of publication, discussion of difficulties of interpreting authorship, publication date, and other important details). Many of the included authors are accompanied by a photo (or drawing) and a sample of his or her handwriting.

Introductory chapters include detailed descriptions of the basis for the work (e.g. ICBN rules, other biographical and bibliographical sources, sources for dating publications, sources for location of types and collections). The work is, thankfully, fully cross-indexed (authors and titles).

These two volumes are laced with an extraordinary number of additional details describing various aspects of the authors' publications and collections. Anyone who knows Neal will understand that this latest work incorporates a remarkable number of details and is incredibly free of errors (in fact, the best I could do was note that the deposition of some neotypes of a very few authors had been missed).

Lest one get the impression that this is a dry synopsis of the literature, note that Neal has incorporated all sorts of little jewels of information along the way. For example, the brief biography of Pierre André Latreille (who named the genus *Culicoides*) includes the following: "imprisoned in Bordeaux during the French revolution but obtained freedom by finding a new species of beetle in his cell and having it delivered to naturalist friends who succeeded in getting him released". There are many other tidbits of similar ilk.

Every Diptera taxonomist or systematist will need to have this work on their shelf (I suspect that many non-Dipterists will find the work invaluable as well). I spent hours perusing the work, flying from one author to another, finding answers to the numerous literature problems I've encountered in the past (as well as the location of some obscure collections). This work will save countless hours and Neal is to be congratulated for producing this monumental publication that will serve our community for many decades. [Written by Art Borkent]

Feener, D.H. and B.V. Brown. 1997. Diptera as parasitoids. Annual Review of Entomology 42:73-97.

Miller, B.R., M.B. Crabtree and H.M. Savage. 1997. Phylogenetic relationships of the Culicomorpha inferred from 18s and 5.8s ribosomal DNA sequences (Diptera, Nematocera). Insect Molecular Biology 6(2):105-114.

Pawlowski, J., R. Szadziewski, D. Kmiecik, J. Fahrni, G. Bittar. 1996. Phylogeny of the infraorder Culicomorpha (Diptera: Nematocera) based on 28S RNA gene sequences. Systematic Entomology 21(2): 167-178.

Soli, G.E.E. 1997. On the morphology and phylogeny of Mycetophilidae, with a revision of *Coelosia Winnertz* (Diptera, Sciaroidea). Entomologica Scandinavica, Supplement 50, 139 pp.

Whiting, M.F., J.C. Carpenter, Q.D. Wheeler, W.C. Wheeler. 1997. The Strepsiptera problem: phylogeny of the Holometabolous insect orders inferred from 18s and 28s ribosomal DNA sequences and morphology. Systematic Biology 46(1): 1-68.

This paper provides evidence that the Strepsiptera is closely related to the Diptera. In addition to molecular evidence they discuss some gross morphological character states which may support such a relationship.

Offer from Backhuys Publishers

Backhuys Publishers are offering the following two books at half price for the following 6 months.
Postage is extra.

1. Proceedings of the second international congress of Dipterology, held in Bratislava, Czechoslovakia, August 27 - September 1, 1990. Published 1991. Price HFL 155.00 = US\$ 92.00 (offered price is half of this).
2. Spencer, K.A., 1992. Flycatcher. Memoirs of an amateur entomologist. Price HFL 190.00 = US 112.00 (offered price is half of this).

Orders can be sent by mail, telephone, fax, or E-mail to the following and may be paid by VISA or American Express.

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Submission Form for Directory of North American Dipterists

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 faxed, emailed or sent to the following address:

Dr. J. M. Cumming,
Biological Resources Program, ECORC
Agriculture & Agri-Food Canada,
K.W. Neatby Building, C.E.F.
Ottawa, Ontario, CANADA, K1A 0C6

FAX: (613) 759-1927
Email: cummingjm@em.agr.ca

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: _____ **Email:** _____

Projects and taxa studied: _____

