



FLY TIMES

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Welcome to the latest *Fly Times*. This issue contains our regular reports on meetings and activities, opportunities for dipterists, as well as information on recent and forthcoming publications.

The electronic version of the *Fly Times* continues to be hosted on the North American Dipterists Society website at <http://www.nadsdiptera.org/News/FlyTimes/Flyhome.htm>. We will, of course, continue to provide hard copies to those without web access. We would greatly appreciate your independent contributions to this newsletter. We need more reports on trips, collections, methods, etc., with associated digital images if you provide them. Feel free to share your opinions about what is happening in your area of study, or any ideas you have on how to improve the newsletter and the website.

The *Directory of North American Dipterists* is constantly being updated and is currently available at the above website. Please check your current entry and send all corrections to Jeff Cumming.

Issue No. 34 of the *Fly Times* will appear next April. If possible, please send your contributions by email, or disc, to either co-editor. Those of you without internet access may fax, or mail hard copy contributions. All contributions for the next *Fly Times* should be in by the end of March, 2005.

NEWS

Informal Conference of Dipterists - 2004 Annual Meeting of the Entomological Society of America, November 16, 2004

by C. Riley Nelson

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The North American Dipterists Society will meet in a symposium at the annual meeting of the Entomological Society of America in Salt Lake City, Utah. I am organizing the event, which will be held Tuesday, 16 November 2004: 7:30 PM-10:30 PM in Room 253 A-B (of the Salt Palace L-2). The customary short program will proceed as follows:

- 7:30 PM. Introductory Remarks.
- 7:40 PM. The history and future of Diptera studies in Utah and western North America. **C. Riley Nelson**
- 8:00 PM. *Asmeringa lindsleyi* Sturtevant and Wheeler (Diptera: Ephydriidae): Biogeographic anomaly or taxonomic fallacy? **Wayne N. Mathis**, Tadeusz Zatwarnicki
- 8:20 PM. The phylogeny of bee flies. **Michelle Trautwein**
- 8:40 PM. The Selenge River Basin insect survey in Mongolia. **Jon K. Gelhaus**
- 9:00 PM. Pandora's stump: Diversity of Mycetophilidae in the Great Basin of North America. **Robert L. Johnson**, Mark Nelson, C. Riley Nelson
- 9:20 PM. Great Basin Diptera: 2005 Field Meeting of the North American Dipterists' Society in eastern Oregon. **Greg Courtney**, C. Riley Nelson
- 9:40 PM. Diptera and dipterists: What's new in Washington and around the world. **Christian Thompson**
- 10:00 PM. Discussion.

Please check with individual presenters as to whether they will actually be attending, because some may have needed to bow out. Once again, as is customary, the main point of the meeting will be to informally discuss (at venues not yet chosen) topics of interest to dipterists everywhere, including updates of major projects from around the world. There will also be a brief show of some dinosaur remains with apparent ancient insect damage. Some think fly larvae foraged on the rotting carcass. We will be asked our opinions as to whether the burrows and scrapings might have been caused by our voluptuous flies. If you have some brief comments or a small presentation that you would like to add at this late date, email me at the address above with the details and I will probably be able to fit your ideas into the program.

North American Dipterists Society, 2005 Field Meeting

by Greg Courtney

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This is a reminder that the next NADS field meeting is scheduled for the first week of August, 2005, at Malheur Field Station (MFS) in southeastern Oregon. MFS is approximately 40 miles from Burns, Oregon, adjacent to Malheur National Wildlife Refuge (<http://malheur.fws.gov/>), and a short drive from Steens Mountain (<http://www.or.blm.gov/steens/>). The area contains a wide variety of terrestrial, wetland, and aquatic habitats, including sagebrush- and greasewood flats, aspen- and alpine meadows, cattail marshes, lowland (1200m) reservoirs, alpine lakes, cold- and hot springs, a large river, and numerous small streams. Steens Mountain, with a maximum altitude exceeding 2900m, is especially rich in alpine meadows, coldwater springs, and snowfed streams and wetlands. Patches of snow typically persist throughout the summer, especially on north-facing slopes and in the many glacially-carved valleys. The latter (e.g., Kiger Gorge, Little Blitzen Gorge, Big Indian Gorge) are among many spectacular scenes on Steens Mountain. The mountain also is known for its unusual plant and animal communities. East of Steens Mountain is the low-lying Alvord Desert, a flat, vegetation-free ancient playa surrounded by sagebrush communities and many hot springs. The Alvord Basin, which can be reached easily on a day trip from MFS, contains other destinations (e.g., Pike Creek, Borax Lake, Cottonwood Creek) that might be of interest to meeting participants. The wide range of habitats and altitudes should provide many opportunities for collecting Diptera.



Logistics: Participants who fly to the west are advised to fly either to Boise (Idaho), Ontario (Oregon), or Bend (Oregon), then arrange for a rental car. Burns is located on US Highway 20 approximately 130 miles from both Ontario (2.5-3 hours east of Burns) and Bend (2-2.5 hours west of Burns), and 180 miles from Boise (45 minutes beyond Ontario). MFS is a short drive south of Burns, mostly on State Highway 205. MFS supports several summer college courses in the biological sciences, and has several dormitories, classrooms, and research laboratories. Dormitories and at least one classroom will be available to NADS meeting participants. Meal plans also are available. Rates for accommodations and meals, and additional information about MFS can be found at <http://www.malheurfieldstation.org/>. Alternative accommodations include several campgrounds (Page Springs CG near Frenchglen, and Fish Lake CG and Jackman Park CG on Steens Mountain) and motels in Burns. For images of the area, please see the following URL: <http://www.ent.iastate.edu/fieldtrips/pn2002/> (i.e., paragraphs 4 and 5, and links therein).

Sixth International Congress of Dipterology, Fukuoka, September 2006

The ICD6 will be held from the 23rd to the 28th of September, 2006 in Fukuoka, Japan. For more information about the Congress visit the new ICD6 website at <http://apollon.nta.co.jp/6icd>. This site can also be accessed through our NADS website at <http://www.nadsdiptera.org/ICD/ICDhome.htm>.

Diptera Symposium at the XXII International Congress of Entomology, Brisbane, August 2004

by David Yeates

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Recent advances in information technology have made scientific collaboration easier than ever before, and it is likely that many of the lasting achievements in science during the 21st century will be attained by teams of researchers. Over the last 10 years the community of Diptera systematists have formed into a number of productive research groups to reach goals that transcend individual achievement. This teamwork has given the Diptera community a new ability to produce global outcomes within reasonable timeframes. This collaborative spirit should be a model for systematics and biodiversity research for the future not only in Diptera, but also in other megadiverse taxa. Presentations in an ICE symposium entitled “Global Goals and Collaboration: Diptera in the 21st Century” organized by **David Yeates** and **Thomas Pape**, provided overviews and updates of the major collaborative research programs in Diptera systematics and biodiversity, and established a forum for proposing future ventures. The symposium was scheduled for Friday afternoon of the Congress, in the main auditorium. There were thirteen presentations in all, covering a range of collaborative ventures:

Brian Wiegmann spoke about progress on the Dipteran ATOL project, called FLYTREE. **Jeff Skevington** and colleagues brought us up to speed on relationships of the basal *Eremoneura* using molecular and morphological evidence. **Chris Thompson** showed how much progress has been made by Dipterists using the WWW to distribute resources such as the Biosystematic Database of World Diptera. **Joanna Hamilton** and colleagues demonstrated the forthcoming interactive key to Australian fly families developed at CSIRO Entomology. **Karen Armstrong** and **George Roderick** showed the current state of molecular markers and identification in Diptera, focusing particularly on invasive tephritid species. **Rudolf Meier** and colleagues showed that the DNA barcode approach applied to Diptera sequences available on GENBANK needed to be treated with caution. **Thomas Pape** showed the progress being made in the systematics of European flies, focusing on the *Fauna Europaea* project for Diptera, and highlighting the renewed interest in checklisting, and closer collaborations between Museums fostered through European Union support. **Evert Schlinger**, **Mike Irwin** and **Neal Evenhuis** presented a progress report on the numerous continental island insect inventories underway at present, concentrating on Madagascar, New Caledonia and Fiji. Finally **Dalton Amorin**, **Terry Wheeler** and **Claire Baker** presented on the results of their empirical studies into the relationships of Psychodomorpha, Chloropidae and Keroplatidae.

Biosystematic Database of World Diptera

by Irina Brake & F. Christian Thompson

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We are pleased to announce that we have now completed Phase One, and have captured all the names from secondary sources, such as the regional Diptera catalogs and the Zoological Record (1978 to 2000). Many new names have also been entered directly from reprints received as well as journals received by the Smithsonian Library.

We are sorry to say that we missed our date of having an interim version online by June, but still hope to have it done by the time you read this notice. The master data files now include 209,619 name records representing 151 families, 11,519 genera and 149,535 species as well as 19,132 references.

We have completely re-done the Diptera Web site to make it more general, including up-dating various links and adding quite a few new ones. Irina also completed a Milichiidae section. In addition to general information on the family, this section includes a key to genera, lots of detailed photos, and pages on all genera and selected species. Please go see the new site at <http://www.sel.barc.usda.gov/Diptera/>

The major event for the project was the arrival of Leo Jonathan, a 7 pound 5 oz boy delivered by Irina on 3 September. Hence, for the last few weeks the project has slowed. The other is that with the Smithsonian Libraries we have received a grant to develop and put online a digital version of Sherborn's Index Animalium, a complete listing of all zoological genus and species group names proposed from 1758 to 1850. The Smithsonian Libraries has recently completed a digital version of the Biologia Centrali-Americana. See it at: <http://www.sil.si.edu/digitalcollections/bca/> The Sherborn will be similar but will also include a database so queries can be made.

Our principal tasks remain those outlined in the previous Fly Times: production of MYIA volumes, finishing data-capture of primary references, complete the Species Interface, and putting online our tool set. As well, we continue seeking review and verification of the BDWD by specialists.

While the BDWD remains incomplete and not critically reviewed by specialists, we feel it is a useful tool even in its current state. If some authors of recent catalogs had, for example, used it they would have discovered some of the generic names they used as valid were preoccupied, junior secondary homonyms. Another author would have discovered that he left out a whole subfamily, genus and species. So, if you are working on a catalog, faunistic list or what ever, please get in touch with us. We want to work with you so that we can further improve our BDWD and perhaps help you, too.

Forthcoming Diptera Publications

Anthomyiidae. Flies of the Nearctic Region 8 (2), No. 15.

by Graham C.D. Griffiths

E. Schweizerbart'sche Verlagsbuchhandlung (Nägele u. Obermiller), Stuttgart

This issue is about to be published. It treats the genera *Strobilomyia* (cone flies, including economically significant pests of forest trees) and *Chirosia s.l.* (fern flies). The latter genus in its current wide sense (inclusive of *Pycnoglossa* and *Meliniella*) includes all anthomyiids whose larvae feed on ferns.

The Evolutionary Biology of Flies

David K. Yeates and Brian M. Wiegmann, editors.

Columbia University Press, NY.

This volume brings together major lines of research in comparative biology of Diptera to highlight and review key aspects of fly phylogeny, life histories, behavior, and genetics, as well as their impact on humans and environments.

Contents:

- Phylogenetic Position of Diptera: A Review of the Evidence. **Michael F. Whiting**
- Phylogeny and Evolution of Diptera: Current Status, Recent Insights and New Perspectives. **David K. Yeates and Brian M. Wiegmann**
- The Role of Dipterology in Phylogenetic Systematics: The Insight of Willi Hennig – **Rudolf Meier**
- Biogeographic Patterns in the Evolution of Diptera. **Peter Cranston**
- Dipteran Genomes. **Michael Ashburner**
- Evolutionary Developmental Biology (EDB) of the Diptera: The “Model Clade” Approach. **Rob DeSalle**
- Transposable Elements and the Evolution of Dipteran Genomes. **Margaret G. Kidwell**
- The Evolution of Fly Sex Chromosomes. **Neil Davies and George Roderick**
- The Evolution and Development of the Dipteran Nervous System. **David J. Merritt**
- Fossil History and Evolutionary Ecology of Diptera and their Associations with Plants. **Conrad C. Labandeira**
- Invasive Diptera: Using Molecular Markers to Investigate Cryptic Species and the Global Spread of Introduced Flies. **Sonja J. Scheffer**
- Sexual Selection and the Evolution of Mating Systems in Flies. **Gerald S. Wilkinson and Philip M. Johns**
- The Ecological Genetics of Host Use in the Diptera. **K. E. Filchak, W.J. Etges, N.J. Besansky, and J.L. Feder**
- Guild Analyses of Dipteran Assemblages: A Rationale and Investigation of Seasonality and Stratification in Selected Rainforest Faunas. **R. L. Kitching, D. Bickel, and S. Boulter**

The Evolutionary Biology of Flies is not yet available for order on-line, but you may express interest in the book by contacting the CUP Orders Dept: Columbia University Press, Order Department, 136 S. Broadway, Irvington, NY 10533. Phone: 1-800-944-8648 or 914-591-9111, Fax: 1-800-944-1844 or 914-591-9201.

Manual of Central American Diptera

Brian V. Brown (head editor)

Published by Instituto Nacional de Biodiversidad

The Manual will be submitted in 2005. Virtually all 113 chapters are in, along with their illustrations. The introductory chapters are still being written, but the adult family key is practically complete, as is the larval family key, and part of the phylogeny chapter has been written.

Dipterology Fund

by Terry A. Wheeler

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Ste-Anne-de-Bellevue, QC, H9X 3V9, CANADA; wheeler@nrs.mcgill.ca

Report on 2004 Grants Competition

No grants were awarded in 2004.

Call for Applications - 2004 Grants Competition

Applications will be accepted for the 2005 competition of the Dipterology Fund until 01 March 2005. Up to four grants of CAN\$1000 each will be awarded. Details on applications for the 2005 Dipterology Fund competition may be found at <http://www.nadsdiptera.org>. If you are interested contact Terry at the address above.

Graduate Student Opportunity

Ian Walker is looking for potential graduate students with an interest in midge palaeoecology. The principal direction of his research pertains to the use of freshwater midge fossils (especially the Chironomidae) as indicators of past climatic changes near arctic and alpine tree-lines. Additional information is available at <http://www.ouc.ca/eesc/iwalker/PALAEO>

Students will enroll either as graduate students at Simon Fraser University or (more likely) at the new Okanagan campus of the University of British Columbia.

Ian may be contacted at: iwalker@ouc.bc.ca

Books and Publications

(with thanks to Chris Borkent for completing a literature search)

- Banziger, H. and T. Pape. 2004. Flowers, faeces and cadavers: Natural feeding and laying habits of flesh flies in Thailand (Diptera: Sarcophagidae, *Sarcophaga* spp.). *Journal of Natural History* 38(13): 1677-1694.
- Bybee, S. M., S.D. Taylor, C.R. Nelson and M.F. Whiting. 2004. A phylogeny of robber flies (Diptera: Asilidae) at the subfamilial level: Molecular evidence. *Molecular Phylogenetics and Evolution* 30(3): 789-797.
- Brown, B.V. 2004. Revision of the *Melaltoncha cingulata* group of bee-killing flies (Diptera: Phoridae). *Annals of the Entomological Society of America*. 97(3): 386-392.
- Chvala, M. 2003. Revision of the Hybotidae (Diptera) described by Gabriel Strobl from the Alps, with an annotated list of Strobl's localities and notes on the Admont Collection. *Acta Universitatis Carolinae Biologica*. 47(3): 163-186.
- Coscaron Arias, C.L. 2003. Clave de Simuliidae (Insecta, Diptera) de Ecuador. *Folia Entomologica Mexicana* 42(2): 191-219 [in Spanish].
- Crosskey, R.W. and M. Baez. 2004. A synopsis of present knowledge of the Simuliidae (Diptera) of the Canary Islands, including keys to the larval and pupal stages. *Journal of Natural History* 38(16): 2085-2117.
- Dorchin, N., A. Freidberg and O. Mokady. 2004. Phylogeny of the Baldratiina (Diptera: Cecidomyiidae) inferred from morphological, ecological and molecular data sources, and evolutionary patterns in plant-galler relationships. *Molecular Phylogenetics and Evolution* 30(3): 503-515.
- Foote, B.A. 2004. Acalyptrate diptera associated with stands of *Carex lacustris* and *C. stricta* (Cyperaceae) in northeastern Ohio. *Proceedings of the Entomological Society of Washington* 106(1): 166-175.
- Gaedike, R. 2003. Bibliography of keys to European insects (1996-2000). *Nova Supplementa Entomologica* 16: 1-121.
- Gaimari, S.D. 2004. A new genus of Lauxaniidae (Diptera) from New Caldeonia. *Zootaxa* 449: 1-39 [freely available on-line].
- Harbach, R.E. 2003. Mosquito systematics: From organisms to molecules: A tribute to Kenneth L. Knight. *Journal of the American Mosquito Control Association* 19(4): 452-460.
- Huo, K. and Z. Zheng. 2003. Primary investigation on Syrphinae (Diptera: Syrphidae) from Qinling-Bashan Mountains (I). *Entomotaxonomia* 25(4): 281-291 [in Chinese].
- Ilango, K. 2004. Phylogeny of the Old World phlebotomine sandflies (Diptera: Psychodidae) with special reference to structural diversity of female spermathecae. *Oriental Insects* 38: 419-461.
- Lambkin, C.L., D.K. Yeates and D.J. Greathead. 2003. An evolutionary radiation of beeflies in semi-arid Australia: Systematics of the Exoprosopini (Diptera: Bombyliidae). *Invertebrate Systematics* 17(6): 735-891.
- Mathis, W.N. and T. Zatwarnicki. 2004. *Tronamyia*, a new genus of shore flies, and a phylogenetic reassessment of the tribe Lipochaetini Becker (Diptera: Ephydriidae). *Annals of the Entomological Society of America* 97(2): 259-270.
- Nel, A., V. Perrichot, C. Daugeron and D. Neraudeau. 2004. A new *Microphorites* in the Lower Cretaceous amber of the Southwest of France (Diptera: Dolichopodidae, "Microphorinae"). *Annales de la Societe Entomologique de France* 40(1): 23-29.

- Nihei, S., C.J.B. de Carvalho, 2004. Taxonomy, cladistics and biogeography of *Coenosopsia* Malloch (Diptera, Anthomyiidae) and its significance to the evolution of anthomyiids in the Neotropics. *Systematic Entomology* 29(2): 260-275.
- Ovtshinnikova, O.G. 2003. Systematic position of the genus *Rhaphiomidas* Osten-Sacken, 1877 (Diptera, Mydidae) in the superfamily Asiloidea based on the structure of the muscles of male genitalia. *Entomologicheskoe Obozrenie* 82(3): 771-778 [in Ukrainian].
- Parvu, C. 2002. Checklist of Dolichopodidae (Diptera) of Romania (XX). *Travaux du Museum National d'Histoire Naturelle "Grigore Antipa"* 44: 267-276.
- Richter, V.A. 2003. On the fauna of tachinids (Diptera, Tachinidae) of the Russian Far East. *Entomologicheskoe Obozrenie* 82(4): 917-921 [in Russian].
- Rotheray, G.E., P.J. Chandler and F. Gilbert. 2004. Final stage larvae and puparia of Platyppezidae (Diptera). *Insect Systematics and Evolution* 35(1): 79-105.
- Runyon, J.B. and R.L. Hurley. 2004. A new genus of long-legged flies displaying remarkable wing directional asymmetry. *Proceedings of the Royal Society of London B (Supplement)* 271: 114-116.
- Sasakawa, M. 2003. Notes on the Japanese Diptera: Part 2. [Mycetophilidae and Sciaridae] *Japanese Journal of Entomology (New-Series)* 6(3): 119-133 [in Japanese].
- Schacht, W., O. Kurina, B. Merz, & S.D. Gaimari. 2004. Zweiflügler aus Bayern XXIII (Diptera: Lauxaniidae, Chamaemyiidae). *Entomofauna, Zeitschrift für Entomologie* 25 (3): 41-80 [with translation and update to Shatalkin's 2000 key to Palearctic lauxaniid species].
- Stahls, G., H. Hippa, G. Rotheray, J. Muona and F. Gilbert. 2003. Phylogeny of Syrphidae (Diptera) inferred from combined analysis of molecular and morphological characters. *Systematic Entomology* 28(4): 433-450.
- Thunes, K.H., J. Skartveit, I. Gjerde, J. Stary, T. Solhøy, A. Fjellberg, S. Kobro, S. Nakahara, R. Strassen, G. Vierbergen, R. Szadziewski, D.V. Hagan, W.L. Grogan Jr., T. Jonassen, K. Aakra, J. Anonby, L. Greve, B. Aukema, K. Heller, V. Michelsen, J.-P. Haenni, A.F. Emeljanov, P. Douwes, K. Berggren, J. Franzen, R.H.L. Disney, S. Prescher, K.A. Johanson, B. Mamaev, S. Podenas, S. Andersen, S.D. Gaimari, E. Nartshuk, G.E.E. Sjøli, L. Papp, F. Midtgaard, A. Andersen, M. von Tschirnhaus, G. Bächli, K.M. Olsen, H. Olsvik, M. Földvári, J.E. Raastad, L. O. Hansen and P. Djursvoll. 2004: The arthropod community of Scots pine (*Pinus sylvestris* L.) canopies in Norway. *Entomologica Fennica* 15: 65-90 [Diptera the most species rich group with 210 species, 78 of which are new to the Norwegian fauna].
- Tomasovic, G., J. Dils and J.M. Maldes. 2003. Notes sur les Asilidae palearctiques (Diptera, Brachycera) (20). Concordance entre systematique et repartition géographique dans un groupe d'Asilidae. Designation du lectotype de *Machiremisca periscelis* (Macquart in Lucas, 1849) comb. n. *Bulletin de la Societe Royale Belge d'Entomologie* 139(1-6): 91-93 [in French].
- Weinberg, M. 2002. Platystomatidae (Diptera) in the collections of the "Grigore Antipa" National Museum of Natural History (Bucharest). *Travaux du Museum National d'Histoire Naturelle "Grigore Antipa"* 44: 293-298.
- Wiegmann, B.M., D.K. Yeates, J.L. Thorne and H. Kishino. 2003. Time flies, a new molecular time-scale for brachyceran fly evolution without a clock. *Systematic Biology* 52(6): 745-756.
- Yeates, D.K., M.E. Irwin and B.M. Wiegmann. 2003. Ocoidae, a new family of asiloid flies (Diptera: Brachycera: Asiloidea), based on *Ocoa chilensis* gen. and sp.n. from Chile, South America. *Systematic Entomology* 28(4): 417-431.
- Zhang, J.F. 2004. A new gigantic species of *Eoptychopterina* (Diptera: Eoptychopteridae) from Jurassic of northeastern China. *Oriental Insects* 38: 173-178.

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

The information can be emailed, or the form completed and faxed or sent to the following address:

Dr. J. M. Cumming,
Invertebrate Biodiversity
Agriculture & Agri-Food Canada,
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Full name: _____ **Address:** _____

_____ **Telephone Number:** _____

FAX Number: _____ **Email:** _____

Projects and taxa studied: _____
