FLY TIMES

ISSUE 53, October, 2014

Stephen D. Gaimari, editor
Plant Pest Diagnostics Branch
California Department of Food & Agriculture
3294 Meadowview Road
Sacramento, California 95832, USA
Tel: (916) 262-1131
FAX: (916) 262-1190
Email: stephen.gaimari@cdfa.ca.gov

Welcome to the latest issue of *Fly Times*! As usual, I thank everyone for sending in such interesting articles! I hope you all enjoy reading it as much as I enjoyed putting it together! Please let me encourage all of you to consider contributing articles that may be of interest to the Diptera community for the next issue. *Fly Times* offers a great forum to report on your research activities and to make requests for taxa being studied, as well as to report interesting observations about flies, to discuss new and improved methods, to advertise opportunities for dipterists, to report on or announce meetings relevant to the community, etc., with all the associated digital images you wish to provide. This is also a great place to report on your interesting (and hopefully fruitful) collecting activities! Really anything fly-related is considered. And of course, thanks very much to Chris Borkent for again assembling the list of Diptera citations since the last *Fly Times*!

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. For this issue, I want to again thank all the contributors for sending me so many great articles! Feel free to share your opinions or provide ideas on how to improve the newsletter. Also note, the *Directory of North American Dipterists* is constantly being updated. Please check your current entry and send all corrections (or new entries) to Jim O'Hara – see the form for this on the last page.

Issue No. 54 of the *Fly Times* will appear next April. Please send your contributions by email to the editor at stephen.gaimari@cdfa.ca.gov. All contributors for the next *Fly Times* should aim for 10 April 2015 (maybe then I'll get an issue out on time!) – but don't worry – I'll send a reminder! And articles after 10 April are OK too!

****

Issue 53, available online 24 November 2014

CONTENTS

****

NEWS

More Progress at the Zurquí All Diptera Biodiversity Inventory (ZADBI)

Art Borkent[1] and Brian Brown[2]

[1] Research Associate of the Royal British Columbia Museum,
American Museum of Natural History, and Instituto Nacional de Biodiversidad;
691-8th Ave. SE, Salmon Arm, British Columbia, V1E 2C2, Canada; artborkent@telus.net

[2] Natural History Museum of Los Angeles County, 900 Exposition Boulevard,
Los Angeles, California, 90007, USA; bbrown@nhm.org

The ZADBI project is continuing its progress in interpreting the fly fauna of the cloud forest at Zurquí, Costa Rica, along with comparisons to the fauna at Tapantí and Las Alturas. We have completed the extraction and curation of nearly all species from the Zurquí samples with only specimens of Cecidomyiidae and Psychodidae yet to be slide mounted. Mathias and Catrin Jaschhof will be at INBio for three months (November–January 2015) to further extract and have cecids slide mounted. It will be fascinating to see how many more species of cecids these two workers will discover beyond the 538 already compiled (nearly all unnamed). We expect to be sending all curated specimens to all collaborators within the next month or so.

Much of remaining material from each of the two Malaise traps at Tapantí and Las Alturas is challenging. We had hoped to curate all the Diptera from these samples but it is clear that we don't have the time to accomplish this for each family (beyond cecids, which are not going to be slide mounted from these two localities). As such, we've asked our 50 some collaborators to consider receiving specimens in alcohol and leave further curation up to them.

We are very pleased to announce that we have a new project manager for ZADBI, Estella Hernandez. She has replaced Anna Holden who is now in graduate studies in New York.

We have some further results regarding the diversity of Diptera at Zurquí. There are 71 families represented and based on study of limited samples from some of these, we have discovered 1,685 species (based on 9,663 specimens). Some of the "big" families have not yet been interpreted and we are looking forward to hearing from all our collaborators (and the two co-PIs!) in the coming months of the project regarding each of their groups. We were delighted to have the Jaschhof's publish their new cecidomyiid genus *Zadbimyia*, with 19 species discovered at Zurquí (Jaschhof & Jaschhof 2014). A remarkable taste of the huge diversity of this family at our site. Brian Brown also published a paper including a species of Zurquí species (Brown 2014).

On August 12, during the International Congress of Dipterology held at Potsdam, Germany, we had an evening gathering of all ZADBI collaborators, to discuss our project so far and to see what the future might hold (Fig. 1.). We talked about the publications which are expected, the continuing disbursement of curated specimens and the processing of further material from Tapantí and Las Alturas. We also discussed possible future directions after the current assessment of Dipteran diversity at Zurquí is complete. We strongly believe that the momentum present among all the ZADBI collaborators is an excellent basis for continued systematic cooperation.

Figure 1. Meeting of ZADBI collaborators at the 8th International Congress of Dipterology, Potsdam, Germany, on Aug. 12. From left to right, front row: John Hash, Alejandro Vargas, Brian Brown, Valery Korneyev, Gunnar Kvifte, Terry Whitworth, Brad Sinclair, Eric Fisher. Back row: Steve Marshall, Dalton Amorim, Vera Silva, Jade Savage, Jeff Skevington, Pekka Vilkamaa, Chris Thompson, Marc Pollet, Jeff Cumming, Art Borkent (not all attendees shown – beer and other attractions apparently took priority ;)

References

Brown, B.V. 2014. Revision of the *Apocephalus analis* group of ant decapitating flies (Diptera: Phoridae). *Zootaxa* 3857: 551-570.

Jaschhof, M. & C. Jaschhof. 2014. *Zadbimyia*, a new genus of asynaptine Porricondylinae (Diptera: Cecidomyiidae) with twenty-two new species from the cloud forest of Costa Rica. *Zootaxa* 3866: 1–29

****

Flies from French Guiana: a unique opportunity

Marc Pollet [1], Olivier Pascal [2] & Julien Touroult [3]

[1] Royal Belgian Institute of Natural Sciences (RBINS), Vautierstraat 29, B-1000 Brussels;
Research Group Terrestrial Ecology (TEREC), University of Ghent,
K.L. Ledeganckstraat 35, B-9000 Ghent; and
Research Group Species Diversity, Research Institute for Nature and Forest (INBO),
Kliniekstraat 25, B-1070 Brussels (Belgium); mpollet.doli@gmail.com, marc.pollet@inbo.be

[2] Pro-Natura international (PNI), 15 Avenue de Sègur,
75007 Paris, France; oli.pascal@gmail.com

[3] Muséum national d'Histoire naturelle (MNHN, http://spn.mnhn.fr),
Service du Patrimoine Naturel, CP41, 36 rue Geoffroy Saint Hilaire
75005 Paris, France; touroult@mnhn.fr

Recently, a once in a lifetime opportunity ended up in my lap and I embraced it as it was my first born: I'll participate in an expedition to one of the rare "terrae incognitae" on this planet, the southernmost border of French Guiana with Brazil and Suriname, known as Mitaraka. I am sure that this might offer opportunities for my colleague Diptera workers as well. But let me first introduce you to the project.

The "Our Planet Reviewed – French Guiana 2015" expedition

Why (the general research frame)? The "Our Planet Reviewed - French Guiana 2015 " expedition is the 5th edition of a large scale biodiversity survey undertaken by the *French Museum of Natural History* and the NGO *Pro-Natura international*. Together, both organisations run the "Our Planet Reviewed" programme which aims at rehabilitate taxonomical work that focuses on the largely neglected components of global biodiversity, invertebrates (both marine and terrestrial). Despite a long history of biological research and numerous institutions and scientists based in French Guiana, knowledge on the arthropod fauna of this French overseas Department is still very fragmentary. Actually Brûlé & Touroult (2014) proved that for most insect groups, there is still a long way ahead before a basic species checklist can be merely drafted. These authors estimate the entire insect species richness of French Guiana at about 100.000, and consider Diptera as one of the groups that are documented the poorest.

What (research objectives)? Basic arthropod taxonomy and species discovery are the main research objectives. Tropical forest ecology and biodiversity distribution modelling, nevertheless, will also be part of the project, mainly through the ongoing three years research project "Diadema" (see http://www.labex-ceba.fr/le-ceba/). The identification/listing of known species and description of new species is thus at the heart of the "Our Planet Reviewed" programme. [and also at that of many of you, I believe]

Where? The expedition will be conducted in the Mitaraka Mountains, a largely unknown area in the southwesternmost corner of French Guiana, directly bordering Surinam and Brazil (Fig. 1). It is part of the Tumuc Humac mountain chain, extending east in Amapa region and west in southern Surinam. The area consists primarily of tropical lowland rain forest with scattered inselbergs, isolated hills that stand above the forest plains (Fig. 2). The site is so remote that people and gear will be flown in by helicopters.

Figure 1. Map (see the study site in the southwestern corner of French Guiana).

When? From mid January 2015 until the arrival of the first team on February 23, a site in the forest will be cleared to set up the base camp. This team of 32 researchers will be operational for 16 days when it is partly replaced by an equal-sized second team until March 27.

Who? The programm organisation gathered no less than 49 researchers who will participate to the expedition, with a well balanced representation of zoologists (mostly entomologists) and botanists. Most researchers are French(-speaking), with only a few exceptions (including me), from prominent French research institutions, such as MNHN, IRD, CNRS, and INRA. Together with the technical and other supporting staff, the entire team consists of 75 people. Olivier Pascal is the expedition organizer and Dr Julien Touroult is the PI for the entomological component of this survey.

How (sampling techniques)? A large array of sampling techniques will be employed, depending on the concerned biota. Among others, Malaise traps, flight interception traps (Fig. 3), and light traps will be used either in a standardized protocol or "at sight". These two approaches will enable us to compare their relative effectiveness in species discovery. Of course, I'll contribute with hundreds of coloured pan traps.

Your possible contribution to the project

I'll be part of the first team and during the first days, I'll assist in setting up 32 Malaise traps before I install about 200 pan traps of various colours on day 3 and 4 (although I hope to achieve this in one day…). The rest of my residence there, I'll dedicate to collect Diptera on sight by sweepnet. I'll focus primarily on Dolichopodidae, but as the order deserves special attention in this project, any fly species that is not too fast, stingy or big will end up in one of my vials or the killing jar.

After the field work, I'll join a small team in Cayenne (capital of French Guiana) for one additional week to start the sorting process of the Malaise trap samples. This should allow us to speed up the dissemination of the different fractions to colleague taxonomists. And that is exactly where you might become part of this amazing story.

Figure 2. View of the study area, taken from an inselberg summit on the French Guiana – Brazilian border (Photo: Olivier Pascal).

Figure 3. Flight interception traps (Photo: Julien Touroult).

Quite a number of you have been, or are, involved in the study of fly specimens from samples that were collected by me during two previous expeditions: Diptera of the Neotropical Andes (DNA, Ecuador - 2009) and Invertebrates of Valdivian Temperate Rain forests (IVTR, Chile - 2013). In both of these projects, agreements were made about the delivery of data, specimens and papers between the receiving institute/museum, me and the involved coordinators/taxonomic experts. I can say that this approach worked really well, which is also the reason why we intend to apply it here too.

Everyone of you with the necessary taxonomic knowledge and – especially - interest can apply. Some of the families will be sorted out quite easily, others might come in multitaxa samples (e.g. Muscoidea, Tipuloidea, …), so we are both looking out for coordinators to break down those multitaxa samples onto the family level, and taxonomic experts to study the specimens. Of course, both roles can be combined. As species identification/description is the core business of this project, a rapid treatment of the specimens is of paramount importance. So if you subscribe, please, make sure that you can give sufficient priority to the study of these samples. Of course, those of you that were involved in the above mentioned projects (and performed well) are a step ahead, but as the collected material might well be overwhelmingly diverse and abundant, I would really invite everyone of you to join in. Remember that this is one of these places on earth that just might be visited only once ever!

So if you want and can contribute to this project, please, send an email to me (Marc) and indicate if you want to take the role as coordinator (that also includes that of taxonomic expert), or taxonomic expert, and for which taxonomic group. I'll then return an agreement form for you to complete. Don't wait with this too long as we want to get things organized as soon as possible.

Relevant websites

Muséum national de l'Histoire naturelle (MNHN, http://www.mnhn.fr/)
Pro-Natura international (http://www.pronatura.org/)
Our Planet Reviewed Programme (http://laplanetevisitee.org/)
Centre d'Etude de la Biodiversité Amazonienne (CEBA, http://www.labex-ceba.fr/le-ceba/)

References

Brûlé, S. & Touroult, J. (2014). Insects of French Guiana: a baseline for diversity and taxonomic effort. Zookeys 434: 111-130. doi: 10.3897/zookeys.434.7582.

****

Manual of South American Diptera (MSAD)

Márcia Souto Couri

Museu Nacional,Quinta da Boa Vista, 20940–040 Rio de Janeiro,
RJ, Brazil; courimarcia@gmail.com

The Manual of South American Diptera will bring together information on the systematics of South American dipteran diversity. It will include general information on the systematics of families, identification keys, genera synopses, and high-resolution illustrations, establishing a basis for study of South American Diptera.

Several large recent Diptera surveys in Brazil, Colombia, Ecuador, and other South American countries have substantially added to the available information on the biodiversity of the order. Besides

hundreds of new species records, these projects have demonstrated endemism patterns for South American dipterans and for conservation of natural environments. These projects, during the last two decades, represent strong team efforts and have provided training for a large number of qualified students on the systematics of different dipteran families (many of whom are in permanent research positions). The projects have also improved many important South American dipterological collections. Finally, a closer partnership has been established with specialists from around the world.

The MSAD has close to one hundred co-authors and, as with previous published regional Diptera manuals, will be organized in two volumes with 12 introductory chapters and 112 family chapters. The project is an international effort, including specialists from countries of South America and other parts of the world. The internal organization of chapters will closely follow previously published Diptera manuals, especially standardization of morphological terminology.

The MSAD will certainly represent a major step—similar to the Nearctic, Central American, and Afrotropical manuals—towards providing wider access to information on the biodiversity of South American Diptera. This is a four-year project for publication of Volume 1, and a five-year project for Volume 2. Annual evaluation protocols will be scheduled to review progress of chapters.

MSAD project was launched during the 8th International Congress of Dipterology in Potsdam, Germany, 10-15 August 2014. The website for the project is http://www.msadiptera.wix.com/manual, and the Editors are: Márcia Couri, Claudio J.B. de Carvalho, Carlos J.E. Lamas, Silvio S. Nihei, Dalton de Souza Amorim, José Albertino Rafael, Wayne N. Mathis

****

Announcing a Retirement!

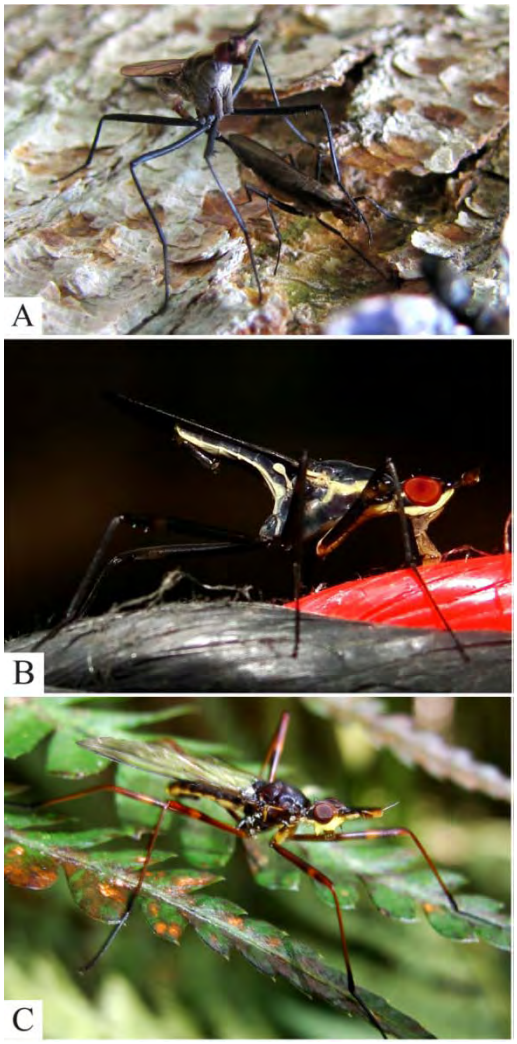
Dear colleagues,
I have officially retired from my post at the Carnegie Museum of Natural History since March of 2014, and have since maintained an emeritus status at the museum. Please continue addressing future loan inquiries regarding specimen based research projects to me at my current museum email address youngc@carnegiemnh.org, but add dolichopeza@gmail.com as an alternative email, and please also add Dr. John Rawlins, rawlinsj@carnegiemnh.org, at the Carnegie Museum as an additional recipient until further notice.
Thanks,
Chen Young

****

Request for Specimens: Neriidae of the world

Tatiana Sepúlveda

Department of Zoology, Universidade Federal do Paraná
C.P. 19020, Curitiba, 81531-980, Paraná, Brasil; tatiana.sepulveda@ufpr.br



Figures. A. *Nerius pilifer*; B. *Glyphidops* sp.; C. *Longina anguliceps*.

In the past years, Sepúlveda, Wolff and de Carvalho have published several revisions of the New World Neriidae. Since then, we have been gathering more material and a new revision is coming, with the complete list of species known for the Americas. As we successfully concluded our task of revision of neriids on that continent, now we have new goals in mind: to revise Neriidae worldwide, in order to conduct a phylogenetic analysis, using morphological and molecular characters.

These two goals have been incorporated in my PhD. project: Revision and Phylogenetic Analysis of Neriidae (worldwide), which I started the last year with Dr. Claudio de Carvalho and now I intend to develop the molecular part of the project along with Dr. Rudolf Meier in Singapore by next year. We already have many of the known species in the American continent, but our sampling of other parts of the world is not as good. So we are particularly in need of material from outside the New World, but are grateful for specimens from anywhere (any Neriidae is very welcome!). Neriidae are easily collected near exudates, decaying plant tissues and also are often present in Van Someren-Rydon traps (widely used in collecting of Lepidoptera). I would very much like to invite anyone to send me material in either alcohol solution (for DNA sequencing) or dry (to complete the morphological revision). Please contact me before sending the specimens on. I am willing to sort material and will return the determined specimens to you as soon as I finish my thesis. I appreciate your help, and thanks in advance! (Photographs by C. Bota-Sierra; Grupo de Entomologia, Universidad de Antioquia, Colombia.)

****

Madagascar made easy: Arthropod research, surveys, ecotourism and filming

Martin Hauser & Stephen Gaimari

Plant Pest Diagnostics Branch, California Department of Food & Agriculture,
3294 Meadowview Road, Sacramento, California 95832, USA;
phycus@gmail.com, stephen.gaimari@cdfa.ca.gov

Ever thought of going to one of the strangest and most remote places on earth? Filming, studying or collecting the most unusual life forms on this planet? Madagascar surely is on the top of every nature enthusiasts list, but because of its remoteness it is very difficult to organize a successful trip. How to find safe accommodation, where to get a vehicle, which permit do I need and where can I get it, how do I pay for it? Which are good places to find my target organisms, which is the right season?

The solution to all the problems and obstacles is Rin'ha Harinhala, who has 15 years of experience with Diptera research and surveys, and 20 years of experience with various other researchers. He was trained by dipterists and other zoologists, and has been working with different researchers from various universities and other institutions (including Stony Brook University, Omaha Zoo, Duke University, California Academy of Sciences, University of Illinois, California Department of Food and Agriculture), as well as film producers from National Geographic and the BBC. Everyone who is involved in research in Madagascar knows Rin'ha or at least has heard of him, while on the other hand it seems that Rin'ha knows everybody else on his island. He has unparalleled knowledge of habitats and localities for various arthropods in Madagascar, and has great knowledge of Madagascar's fauna, flora, ecosystems (Rainforest, spiny forest, dry Forest, coral reef, Tsingy, etc.) and cultures. Rin'ha can facilitate all logistics while in Madagascar from hotel reservation, car rental, guides to the difficult and involved permit process. He speaks fluently Malagasy, English and French, and has spent, on two occasions, months in the USA. One of his specialties is to cater the trip towards the needs and expectations of the client – if you want fancy, he knows the most amazing resorts and the best French or international cuisine. If you are more on the frugal side, he surely will find budget accommodation which is safe and reliable, if you want to camp in the wilderness or be part of

Rin'ha (middle), with Martin (left), Steve (right), and Daniela Takiya (front).

the local community, he will surely make it happen. His driving experiences for expeditions even include very difficult conditions. He is in close collaboration with a Malagasy NGO, to facilitate research, collect and export permits. Many scientists have already had the pleasure to travel with Rin'ha, who is always easy going, enthusiastic and very positive, very reliable and on time, with boundless energy – ask around, and you will hear many amazing positive stories about being in the field with him.

Madagascar is rapidly losing its biodiversity – do not put it off until it is too late.

Please contact Rin'ha (rinha75@hotmail.com) for details, and to discuss your interest in setting up an expedition to Madagascar!

****

Reprints, et cetera

Chris Thompson

Ponte Vedra, Florida, USA; xelaalex@cox.net

Long before Xerox and now digital copying methods, the only access workers had to earlier literature was to have "reprints," or access to the original source. For most earlier workers, the access was the original work itself, from which they either own a copy or they copied by hand the critical portions. Then in the late 19th century, authors begin to ask the printer of the original to make separate copies of their contributions, which we now call reprints. The authors then distributed those copies to their colleagues.

Reprints are not only useful reference materials, but in some cases the original source of validation of new taxonomical information. This is because printers frequently generated "reprinted" material immediately as that generated payment, where as the larger comprehensive work would be delayed until the last included article was submitted or the publication date was reached. So, until the *International Code of Zoological Nomenclature* ruled that the earlier publication (preprints) were not valid, these "preprints" remain critically important. And there are a few cases, such as Nowicki (1875) in which only the reprint exist as the formal publication never appeared.

I write this preamble as I have now passed on to Steve Gaimari what is perhaps the best Diptera reprint file that exists in private hands. That is, the Natural History Museum (BMNH) and Smithsonian (USNM) both have larger and more complete reprint files. But there are a few unique items that I have retained (here highlighted) and there are likely more in the reprints that Steve Gaimari now has.

My reprint library was built from what I received from colleagues as well as what I purchased from Elwood Zimmerman in the 1970s. Elwood Zimmerman, well known for his work on weevils and as the original editor of the *Insects of Hawaii* series, acquired the library of J. E. Collin, which contained the library of G. H. Verrall, his uncle. This was undoubtedly the best private library of entomological literature in existence, being close to a mile of shelf feet of books, including all the major entomological serials and other works. Zimmerman eventually sold the library to the Australian government, part going to the National Library and the rest going to CSIRO. But the "reprints" were not included, so "Zimme" sold them to me. I received some 24 boxes of them in 1974. The history of this transfer is illustrated with two "reprints."

A most interesting "reprint" is in fact a manuscript that was written by Macquart on behalf of Rondani (Fig 1). This manuscript is mentioned by Osten Sacken (1903: 153), who obtained the manuscript from a book dealer in Italy. The Osten Sacken library was broken up after his death and sold (Weg 1907). Apparently, Verrall purchased the Macquart/Rondani manuscript and, hence, that was passed on to me.

Another is a reprint of a paper by Theobald (Fig. 2). Theobald was an earlier taxonomist, who was hired to monograph the mosquitos of the World after Manson documented that they transmitted diseases like Malaria. Theobald quickly produced a monograph of five volumes and more than 2,500 pages, including some 120 new genera and 550 new species. For his times, some viewed his work as excessive splitting, just like Robineau-Desvoidy's work (Robineau-Desvoidy 1830) on muscoid flies. But as it clear from this reprint, Theobald considered his splitting to be a JOKE! He hand wrote on his own reprint: "Another stumbling block for a generation! With the authors best wishes to the fools who stumble!"

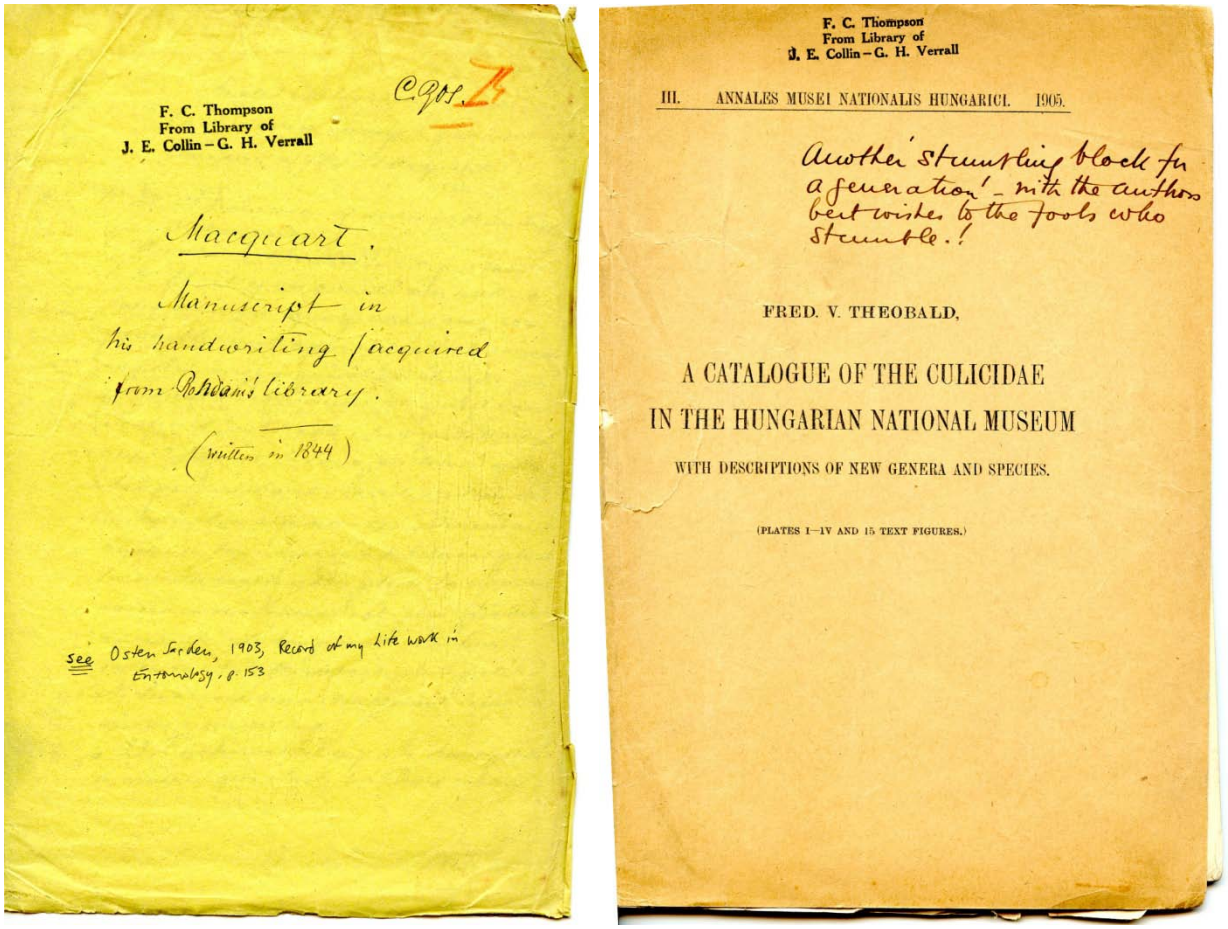


Figure 1 (left). A manuscript that was written by Macquart on behalf of Rondani.
Figure 2 (right). A reprint of a paper by Theobald, where he writes a comment about his own work.

The bottom line is simple. Reprints today may not seem important, but for the past and current appreciation of valid nomenclature and taxonomy reprints remain critical.

References

Nowicki, M. S. 1875. Beitrage zur Kenntniss der Dipterenfauna Neu-Seelands. 29 pp, privately published, Krakau

Osten-Sacken, C. R. von 1903. Record of my life work in entomology. 204 pp. Cambridge, (Massachusetts) [NB: this is not a comprehensive reference to this work]
Robineau-Desvoidy, A. J. B. 1830. Essai sur les myodaires. Mem Pres Div Sac Acad R Sci Inst France 2(2), 813 p.
Theobald, F. V. 1901-1910. A monograph of the Culicidae or mosquitoes. 5 vols., British Museum (Natural History), London
Weg, M. 1907. Bibliotheca Zoologica. IVa. Diptera. Hierin die Bibliothek der † Herrn Barons C. R. v. Osten-Sacken, Heidelberg. Antiquariats-Katalog 105, 34 pp.

NOTE added by Steve Gaimari:
So this large collection now resides at my home in Davis, California, thankfully with a very understanding wife, Helen. In late October, I flew out to Florida with Chris Borkent, to make the drive back to California. We spent a couple of days visiting with Chris and Betty, and I want to thank them both for their hospitality. We had great fun on our visit! Due to the weight, certainly not the volume, we needed to rent a 14' U-haul, which can be seen fully loaded in Fig. 1. That is a TON of books! (actually more than a ton, with 60 banker boxes at 40-50 lbs. each). I want to express my deep gratitude to Chris for entrusting this resource to me!

I plan to keep the entire collection together as a single resource, and grow this resource as more and more Diptera papers are published. To that end, I would encourage anyone who still gets paper reprints for their publications to get in touch with me - I would love to add these to this resource! Of course PDF's are also welcome (please send PDF's or links to them to sgaimari@gmail.com, so as to avoid my work email from getting overrun!), which I will print and add to the library. Please keep in mind that if you just can't find some particular rare paper, I might have it for you!

Figure 1. The U-haul loaded with books and reprints, and ready to roll.

Our ride took us through some beautiful country, on both the lower left and lower right sides of the USA, with the vast expanse of Texas desert in between. We were very happy to have stopped to visit Mike and Bonnie Irwin, and spend the night at their home in Vail, Arizona. We thank Mike and Bonnie for their great hospitality, and a really fun time, and in addition, Mike parted with another 12 boxes of books and reprints towards the cause of having a large, diverse Diptera literature collection in one place! In Fig. 2, you can see the 70+ boxes of books and reprints, all on our favorite subject, in my home, waiting to be sorted! Fig. 3 shows the state of sorting. Again, it is very clear that I have a very understanding wife!

Figure 2 (above). The stacks of boxes of books and reprints - all from Chris, except the three stacks on the front right corner.

Figure 3 (right). The current state of sorting. Fortunately, my table is big enough for all letters of the alphabet (as long as I combine Q, X, Z into one pile).

****

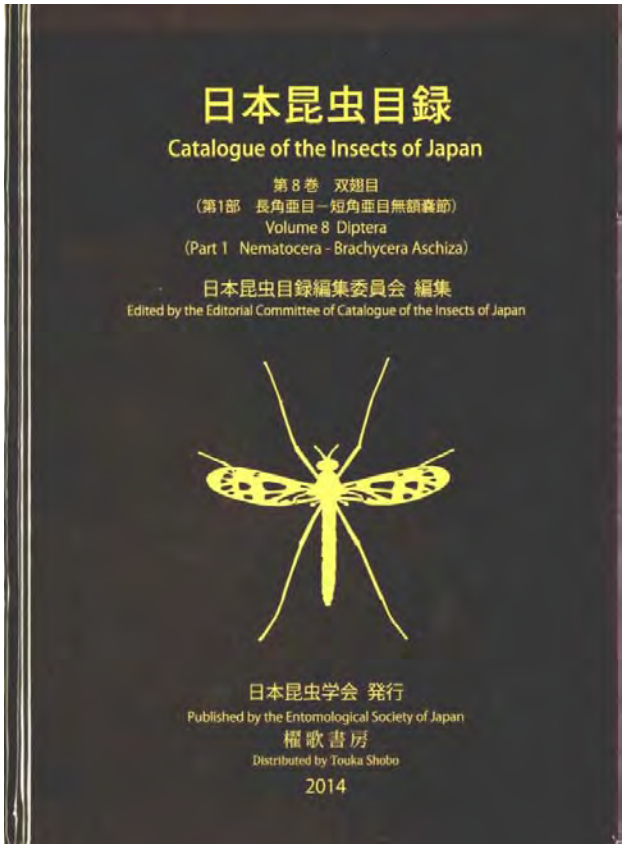
Catalogue of Japanese Diptera is now available

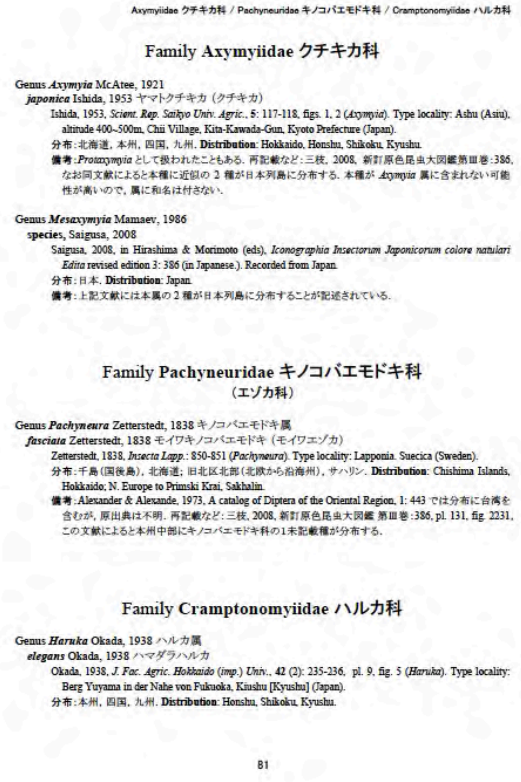
Takeyuki Nakamura

The Shirakami Institute, Hirosaki University
Bunkyo-cho 3, Hirosaki City, Aomori, 036-8561 Japan; craneflyheaven@ybb.ne.jp

A catalogue of Japanese Diptera was published by The Entomological Society of Japan as the eighth volume of “Catalogue of the Insects of Japan” on September 1st, 2014.

This is a compilation of works of 31 Japanese dipterists, published in two parts, and deals with all Diptera species ever recorded from Japan (124 families, 1,668 genera and 7,658 species, in 1,101 pages). The first part gives Nematocera, Brachycera-Orthorrhapha and Aschiza, and the second part Schizophora and indexes.





Axymyiidae クチキカ科 / Pachyneuridae キノコバエモドキ科 / Cramptonomyiidae ハルカ科

Family Axymyiidae クチキカ科

Genus ***Axymyia*** McAtee, 1921
japonica Ishida, 1953 ヤマトクチキカ（クチキカ）
Ishida, 1953, *Scient. Rep. Saikyo Univ. Agric.*, 5: 117-118, figs. 1, 2 (*Axymyia*). Type locality: Ashu (Asiu), altitude 400–500m, Chii Village, Kita-Kawada-Gun, Kyoto Prefecture (Japan).
分布：北海道，本州，四国，九州. **Distribution**: Hokkaido, Honshu, Shikoku, Kyushu.
備考：*Protaxymyia* として扱われたこともある．再記載など：三枝，2008，新訂原色昆虫大図鑑 第III巻：386，なお同文献によると本種に近似の 2 種が日本列島に分布する．本種が *Axymyia* 属に含まれない可能性が高いので，属に和名は付さない．

Genus ***Mesaxymyia*** Mamaev, 1986
species, Saigusa, 2008
Saigusa, 2008, in Hirashima & Morimoto (eds), *Iconographia Insectorum Japonicorum colore naturali Edita* revised edition 3: 386 (in Japanese.). Recorded from Japan.
分布：日本. **Distribution**: Japan.
備考：上記文献には本属の 2 種が日本列島に分布することが記述されている．

Family Pachyneuridae キノコバエモドキ科
（エゾカ科）

Genus ***Pachyneura*** Zetterstedt, 1838 キノコバエモドキ属
fasciata Zetterstedt, 1838 モイワキノコバエモドキ（モイワエゾカ）
Zetterstedt, 1838, *Insecta Lapp.*: 850-851 (*Pachyneura*). Type locality: Lapponia. Suecica (Sweden).
分布：千島（国後島），北海道；旧北区北部（北欧から沿海州），サハリン. **Distribution**: Chishima Islands, Hokkaido; N. Europe to Primski Krai, Sakhalin.
備考：Alexander & Alexande, 1973, A catalog of Diptera of the Oriental Region, 1: 443 では分布に台湾を含むが，原出典は不明．再記載など：三枝，2008，新訂原色昆虫大図鑑 第III巻：386, pl. 131, fig. 2231，この文献によると本州中部にキノコバエモドキ科の1未記載種が分布する．

Family Cramptonomyiidae ハルカ科

Genus ***Haruka*** Okada, 1938 ハルカ属
elegans Okada, 1938 ハマダラハルカ
Okada, 1938, *J. Fac. Agric. Hokkaido (imp.) Univ.*, 42 (2): 235-236, pl. 9, fig. 5 (*Haruka*). Type locality: Berg Yuyama in der Nahe von Fukuoka, Kiushu [Kyushu] (Japan).
分布：本州，四国，九州. **Distribution**: Honshu, Shikoku, Kyushu.

81

Though it is made mainly in Japanese, scientific names, original descriptions, original combinations, type localities, and distributions for all species are given in English (or at least in Roman alphabet), I am sure it is worth purchasing for non-Japanese entomologists.

Price and how to order
“Catalogue of the Insects of Japan, volume 8 Diptera”
Published by the Entomological Society of Japan
Part 1, Nematocera - Brachycera Aschiza.
xxxii＋539 pp., ISBN 978-4-434-19718-5
15,700 Yen
Part 2, Brachycera Schizophora and indexes.
xiv＋562 pp., ISBN 978-4-434-19719-2
15,700 Yen

Orders will be accepted at JPT (Japan Publications Trading Co., Ltd.) web-site (https://jptco-s.cms2.jp/business/export/contact_e.html), when you fill the “Contact Us” form and state your request to purchase the catalogue in the “Tell us the details of your inquiry” box.

****

Flies and midges ... A family album

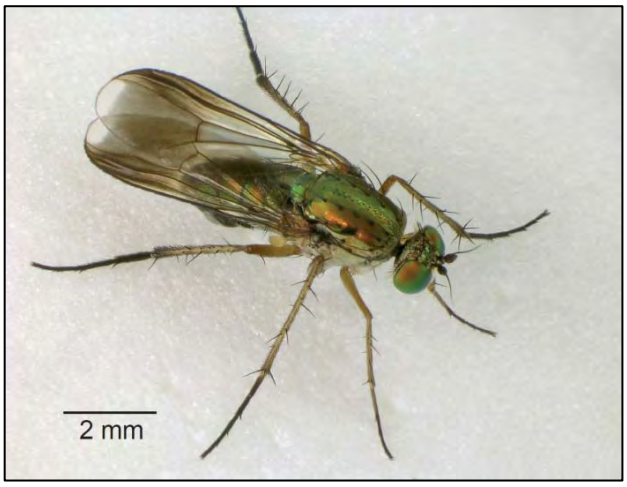
Marion Kotrba (ed.) 2014

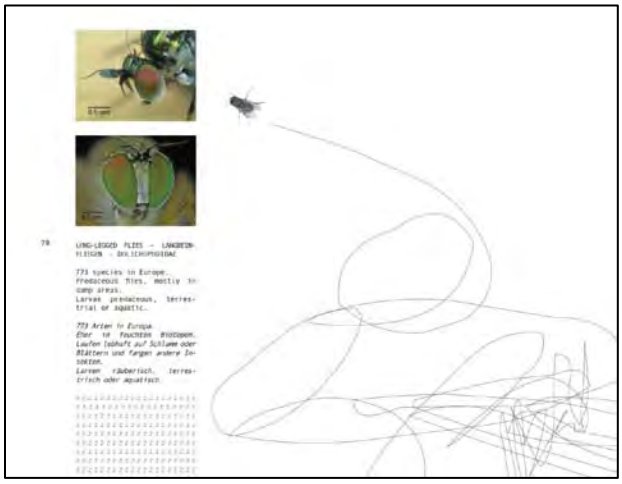
The book contains a compilation of excellent live photographs of representatives of 92 dipteran families. The information on each facing page gives an English and German vernacular name and the scientific name as well as a very brief characterisation for each family.

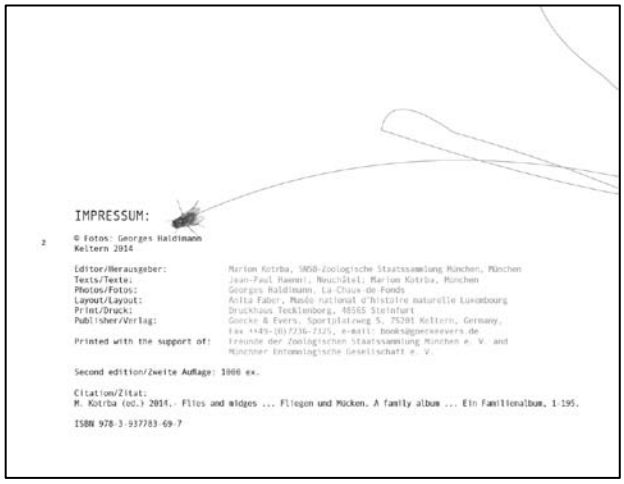
Apart from being a lovely picture book for those who love Diptera, this is particularly useful for showing to friends and the general public, explaining how beautiful and diverse these insects are (and why we dedicate our working life to them).

A great and affordable gift! Available at:

http://www.insecta.de/shop/openstore.htm
http://www.nhbs.com/title/view/199927







****

An artist's perspective of flies

Martin Hauser

Plant Pest Diagnostics Branch, California Department of Food & Agriculture,
3294 Meadowview Road, Sacramento, California 95832, USA; phycus@gmail.com

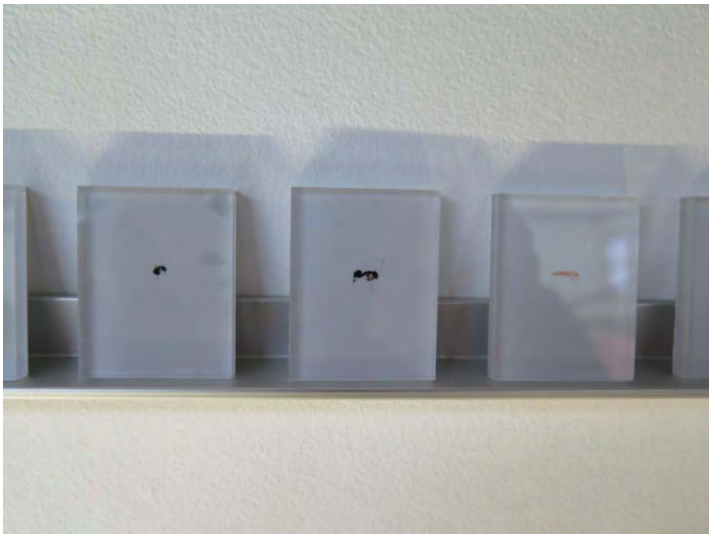
This might have been the first time a Malaise trap was presented in an art exhibition (if not, I would really like to know where it happened before!). Not only a Malaise trap, but all kinds of fly and other insect traps are part of the exhibition "Flies Prefer Yellow" by Singaporean artist Robert Zhao Renhui at the Kadist Art Foundation in San Francisco. Beside the traps, the exhibition included installations and photographic work, to "*explores boundaries, systems, neuroses, and control through the artist's encounters with one of the most inconspicuous insect species on earth: flies*" (Kadist).

All of this started a few years ago when I purchased a Discover magazine ("Evolution") featuring a photograph of a leaf-insect, which won a leaf-insect breeders competition according to the legend. While in the airplane, I tried to find the insect in the photo to no avail. Needless to say, this made me feel embarrassed and frustrated, because spotting insects is part of my job and one of the things I considered myself proficient in. Then my mood switched to being upset when I realized that there was no insect – I felt like somebody played a trick on me, which is what actually happened. It took a few days until I searched the internet for the photographer to figure out who fooled me – I came across the website of the "critical zoologist", and was relieved to realize that the picture was part of an art project, and that the editors of the Discover magazine never realized that this picture had no leaf-insect in it at all. Knowing that it was not only me who was fooled, I emailed the artist congratulating him for this work, successfully pretending to be a scientist, about insects successfully pretending to be leaves.

Fast forward a few years, and I finally received an answer from the artist that he is spending a three month residency in nearby San Francisco, and he wanted to know what is so cool about flies. Glad he asked. This resulted in several fruitful meetings, with Robert asking me lots of questions about flies, which I have never been asked before, and me telling him things about flies he never heard about. During our conversations, he became fascinated with this unnoticed world around us, and the way we encounter this world: by the use of traps, as mutch on the windshield, and as cohabitants in our houses.

Therefore, part of the exhibition are small insects he collected from his car grill (displayed in genitalia vials, right figure), as well as a collection of dead insects found in his apartment, suspended in nicely illuminated glass vials (left figure).

Fascinated with the hastily taken pictures of small insects sent to us from the border stations (part of our job at the California Department of Food and Agriculture), he placed some of these pictures behind a passport format sized piece of plexiglass, highlighting the identification aspect (figure right).

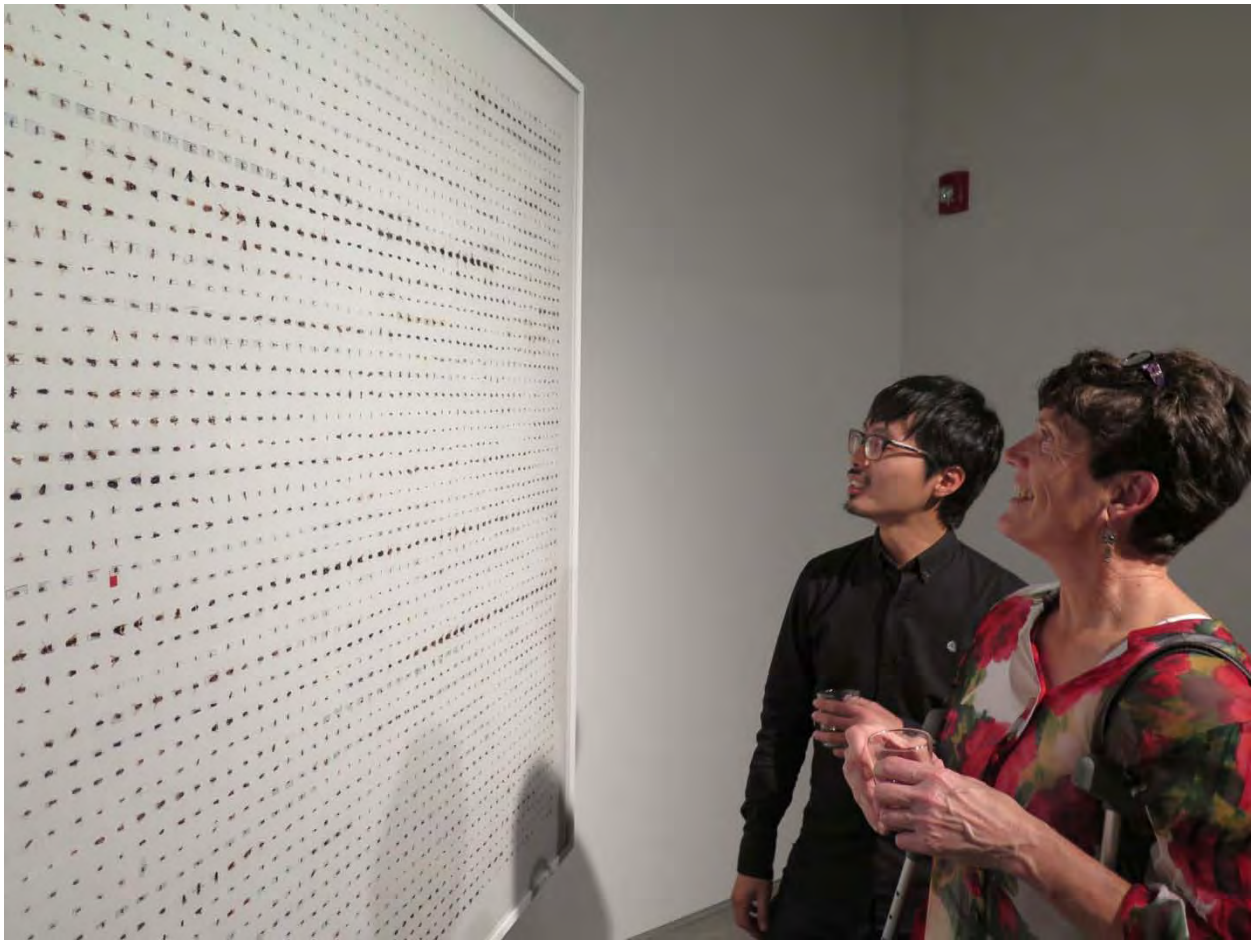


The central part of the exhibition is a yellow painted room with all kinds of insect traps suspended from the ceiling, emphasizing the strange forms designed to interact with (a.k.a. kill) insects (figure below).

Left to right: Darolyn Striley, Robert Zhao Renhui, Martin Hauser.

In the last room is a very large poster of 4578 syrphid flies from my voucher collection. All artistically arranged with great photographic detail. I was personally very moved seeing the last 25 years of my life in one picture. For the opening night of the exhibition, we set up some microscopes displaying strange flies for the public and Monica Martinez, of Don Bugito, served insect burritos, while Helena

Keeffe invented a amazingly delicious drink which would be liked by humans and flies alike (after reading a lot about the booze preferences of *Drosophila*).



The (art) audience was very interested in the science aspect, while I was very intrigued by the artist's view of flies and what we dipterists are doing every day. It was a fun and enlightening collaboration, and boy, I am really glad I picked up that magazine at the airport!

Robert's web page:
http://www.criticalzoologists.org/main.html

Kadist Art Foundation:
http://kadist.tumblr.com/post/103061421445/upsidedown-preview-fly-eye-view-of-flies-prefer#notes
http://www.kadist.org/en/programs/all/2083

****

A poem

George Foster

On the study of flies:

Every specimen closely examined
is something no one has seen before,
just you, just now. Every specimen captured in the net
is new,
to you,
to science,
because this individual has never been observed before
by a human.
Every one is new information.
It doesn't get old because it is constantly new.
This specimen, collected by you
just now,
has never been seen. Even if thousands of individuals of the same species have been collected in the past,
this one,
this individual,
is fresh and new.

****

***MYIA – A Publication of Entomology*, Volumes 1–4 and 6 available for sale**

USNM Diptera Unit

Department of Entomology, National Museum of Natural History, Smithsonian Institution,
PO Box 37012, MRC 169, Washington, DC 20013-7012, USA;
contact: Torsten Dikow, DikowT@si.edu

The USNM Diptera reference library has a large stack of *MYIA* volumes, and due to space constraints we are hoping that the volumes will find a new home in your office or library. We are offering the volumes listed below for a small contribution, with all proceeds going to the S.W. Williston Diptera Research Fund endowment. This endowment benefits research and travel of dipterists who engage in the "increase and diffusion of knowledge about Diptera."

The easiest way to purchase any number of volumes would be to e-mail Torsten Dikow with the list of volumes and mail a personal check made out to the "Smithsonian Institution" with "Williston Endowment Fund" in the purpose field to Torsten Dikow. The volumes will be mailed to you at no additional cost shortly thereafter.

Volume 1. US$10
: A Catalog of the Types of Diptera in the Collection of the California Academy of Sciences, 1979 (18 copies available)

Volume 2. US$10
: Charles Howard Curran (1894–1972), 1981 (49 copies available)

Volume 3. US$10
: Contributions to the Study of Tabanidae (Diptera) in Honor of Cornelius Beck Philip, 1985 (58 copies available)

Volume 4. US$5
: Autobiographical Anecdotes (I Was a Preacher's Kid) by E.L. Kessel, 1989 (12 copies available)

Volume 6. US$10
: Miscellaneous Contributions, 2001 (76 copies available)

****

HISTORICAL DIPTEROLOGY

Maligned and forgotten: the short-lived scientific career of naturalist Élie Jean François Le Guillou (1806–1894)

Neal L. Evenhuis

J. Linsley Gressitt Center for Entomological Research, Bernice Pauahi Bishop Museum
1525 Bernice Street, Honolulu, Hawaii 96817-2704; NealE@bishopmuseum.org

Le Guillou may have only described seven species of Diptera in only one publication in 1842, but he had tremendous potential as a scientific explorer and naturalist. Unfortunately, his contributions to geology, malacology, and entomology had a history of difficulties and his works have long been forgotten. Maligned in life and forgotten in death — all because he was doing his duty.

Trained as a medical doctor to accompany French war ships, Élie Le Guillou eventually turned to natural history and, after a successful arctic voyage in a few years before, became in 1837 the chief surgeon and naturalist on board the ship *Zélée* during the *Voyage au pôle Sud* sailing alongside the main vessel of the expedition, the *Astrolabe*, captained by the expedition leader and famed explorer, Jules Sébastian César Dumont d'Urville. Unfortunately, Le Guillou was beset with dire circumstances during that voyage that led to him being embroiled in a battle of honor between he and d'Urville as soon as the expedition returned to France. And after d'Urville died tragically in a train accident in 1842, the battle continued with he and other officers of the *Voyage*. As a result of the dispute, Le Guillou was specifically not selected by d'Urville to join the other scientists in the production of the sumptuous 24-volume results of the *Voyage* (despite initial votes of support of his work by the Académie and their hopes for him being selected) and his name was excised from those published volumes, and his presentations to the Académie des Sciences on scientific results and new species descriptions were never published by them. After a number of years of attacks and counter-attacks, the dispute ended up in the courts where a settlement was made for all parties (Clark & Crosnier 2000). But for all intents and purposes, the scientific career of Le Guillou was ruined forever. His name was excised from the published results of the *Voyage* in the *Zoologie* volumes and it only survives today because a friend and colleague, F.E. Guérin-Méneville, decided to publish, in his journal, the papers that Le Guillou presented to the Académie. Accounts of the voyage have ever since portrayed Le Guillou as difficult, temperamental, hard to deal with, unfriendly, and even paranoid and prone to attacking verbally anyone who disagreed with him. During the dispute, d'Urville was strongly defended by his officers; and subsequently by historians, none of whom probably ever fully researched what really happened. This study will hopefully put the actions of both parties into proper context. Neither party apparently was totally innocent, but the repercussions of Le Guillou's attempts to let the truth be known were immense and, despite the initial promise of a successful scientific career, he disappeared from the stage of natural history. [*Much of the biographical material presented here was gleaned from the little-known and (apparently) only biography of him (Boudin 1876) as well as French archival records obtained during this study*.]

Élie-Jean-François Le Guillou was born on 30 June 1806 in Quimerplé, in Brittany, France. His father, Henri Le Guillou was a medical doctor who had served briefly as a Naval surgeon but spent most of his life working at the hospital in Quimerplé; his mother was Jeanne-Jacquette Mollié. His two brothers were well-known and highly decorated: his older brother, the Abbé Corentin-Marie, who was the

author of numerous religious tracts and even one book on horticulture, became a canon of Notre Dame in Paris; and his younger brother, François-Jules, a physician like his father, received the gold medal from France for his work during a cholera epidemic in nearby Concarneau in 1866. The biography of the Abbé Le Guillou by Barbier (1844) indicated that there were sisters too but they are unnamed.

Figure 1. Élie Jean François Le Guillou (1806–1894). Photo taken in 1860.

As a child, and with his brothers, Le Guillou studied religion, morals, and literature at the home of his father, and then attended medical school, which soon landed him positions as a medical officer on board fighting ships. He began in 1824 aboard the frigate the *Armide* and in 1830 he was on board the *Guerrière* under the command of Admiral Duperrey during the bombardment of Algiers. He finally obtained a medical degree in 1834, publishing his thesis on treating smallpox on board ships of war. While serving as medical doctor for the French Navy, Le Guillou started his studies of natural history following such notables as de Blainville and Geoffroy St.-Hilaire; and studying geology following the examples set by Prévost and Brogniart.

In March of 1834 he was appointed by the French government as *chirurgien* [surgeon] *3^{me} classe*. The following year at the age of 29, he assisted chief surgeon and naturalist Joseph-Paul Gaimard on board the *Recherche* under the command of François Thomas Tréhouart as they traveled to the Arctic in search of Jules de Blosseville, the ill-fated commander of the *La Lilloise*, who had been lost in the ice in 1833 on an exploring expedition to Iceland and the Arctic. On their way to and from the Arctic circle, the expedition explored Iceland and Newfoundland, and upon their return to France, Le Guillou presented numerous new geological samples from previously unknown areas. Gaimard reported to the Académie des Sciences that he was ably assisted during the voyage by Le Guillou, who possessed "*beaucou de zèle et de talent*" (Gaimard, 1835: 25).

Le Guillou's credentials were increasing and this got him his next position, that of chief surgeon and naturalist on board the *Zélée*, which would be part of a two vessel expedition (*Astrolabe* and *Zélée*) to the Antarctic and south Pacific. The commander of the expedition, d'Urville had previous success in his voyages to other parts of the world and had heard that Sir Richard Ross would be captaining a British expedition (the *Erebus* and *Terror*) to the southern seas and Antarctica and wanted France to get to these areas first. This zeal for beating Ross's ships to the Antarctic would ultimately lead to the unfortunate affair involving Le Guillou.

The voyage had incredible difficulties during its voyage, including one of the ships having to be hauled off a reef near Tudu Island in the Torres Straight, weathering storms in the Straits of Magellan, and enduring high seas in the Java Straits. However, it was scurvy and dysentery that would be the main culprit during this voyage—for both the officers and crew. Many of the crew came down scurvy before docking in Valparaiso (with five of the crew dying) and Le Guillou had recommended that they stop the expedition to care for the crew. His complaint was dismissed by d'Urville who said it is part of the job of the chief surgeon to deal with deaths on board ship. They continued on and subsequently dealt with more disease, death and severe illness. This time it was bad cases of dysentery after they had quitted Java and were heading south to Perth on their way to the seas south of Tasmania and eventually to the Antarctic continent. Almost 20 of the crew had now died and d'Urville's chief surgeon on the *Astrolabe*, Honoré Jacquinot, was seriously ill himself.

Le Guillou could not stand to witness the ever increasing sickness and death and went to the *Astrolabe* to meet with d'Urville. He said that he and the officers agreed that one of the vessels cease the expedition and return to Mauritius. Dumont d'Urville was well aware that the health of his crew was deplorable (he even wrote a will thinking he might not survive), but he was left with two losing choices: either ruin his expedition (and by association his reputation) by stopping it altogether and failing to make it to Antarctica before the British; or press on with the ill and dying crew and hope things got better. Because he said he needed both ships for the expedition, he decided to continue on and even had the temerity to write in his journal that everything was going well and the crew were fine and in good spirits (Dunmore, 2007). But d'Urville, concerned that his officers would decide to quit the expedition, went to the *Zélée* to speak to its commander, Charles Hector Jacquinot and other officers of that ship. He quickly and surprisingly discovered that Le Guillou's recommendation to d'Urville had been unilateral and was not with the support or knowledge of any of the officers. This information of Le Guillou's insubordination infuriated d'Urville to the point that the relationship between he (and also the officers) and Le Guillou was forever damaged.

The vessels did eventually stop off in Hobart-Town for supplies, and many of the ill crew disembarked there and other new crew were taken on, but the actions of Le Guillou to unilaterally decide to tell d'Urville to quit the expedition (doing so as a conscientious doctor, whose primary responsibility was for the health and safety of the men aboard ship) caused him no end of grief after his return to France. Upon the return to France, d'Urville was very concerned about how his expedition would be received and delayed entering Toulon until evening of 8 November 1840 so that no one could see how bad the condition of the ship and crew actually were.

The strong-willed d'Urville made it a point to make Le Guillou's life miserable and wasted no time in doing so. He began by explicitly passed him over when selecting members of the scientific team and also barred him from examining collected specimens that were to be deposited with the scientific team.

However, d'Urville's actions to keep Le Guillou from being a part of the official scientific team gathered at the natural history museum in Paris did not stop him from publishing. Le Guillou had an advantage over d'Urville's scientific team in that he did not have to wait to work on specimens that had to be sent from Toulon to Paris. Le Guillou had already sorted out his own collected material while on board ship during the voyage and was ready to present his papers as soon as they landed in Toulon. Unattached to the scientific team, Le Guillou could essentially publish whenever and wherever he wanted (although there were some differences of opinion as to who his collected material legally belonged). Knowing of d'Urville's actions toward him, Le Guillou made every effort to publish his results before they did. He presented papers on new species of insects and mollusks at the meetings of the Académie des Sciences urging them to publish his papers quickly so that they would take priority.

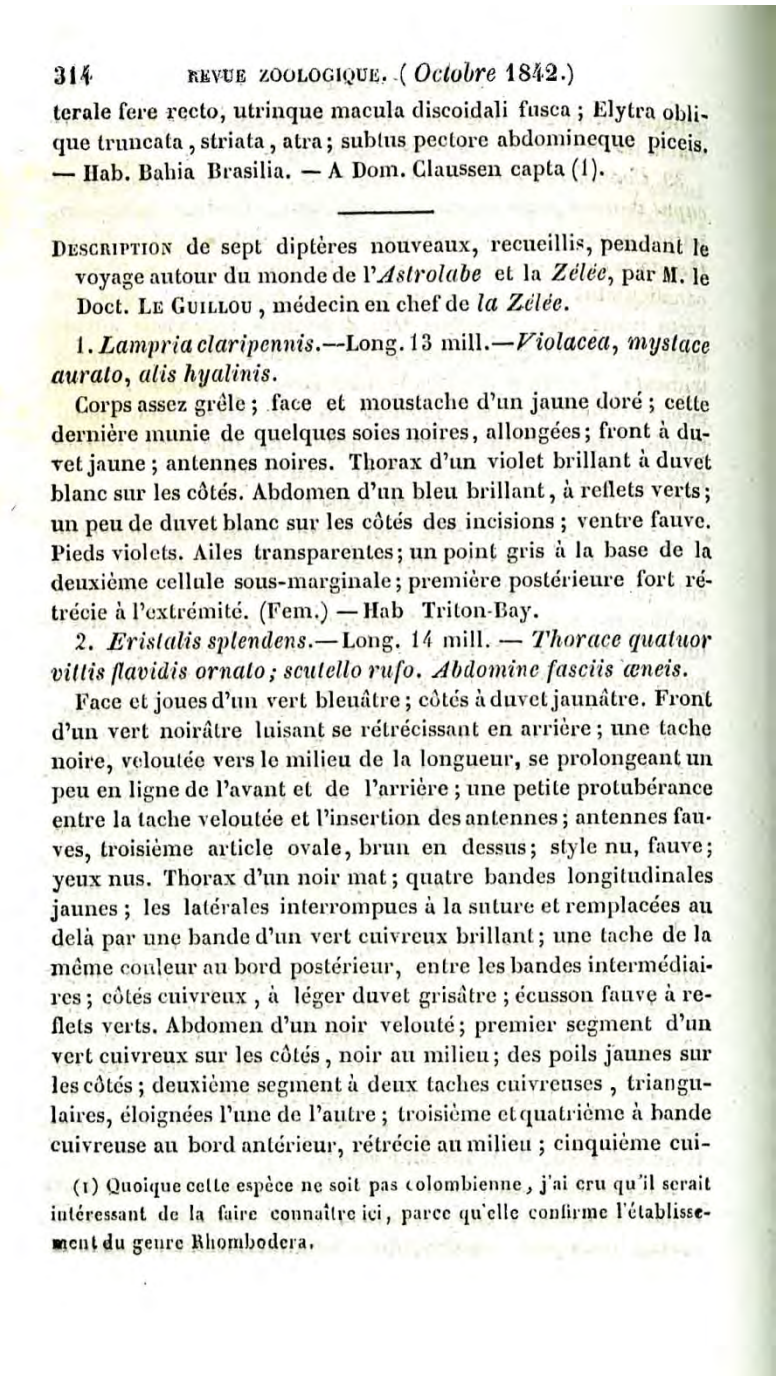
The minutes of one meeting of the Académie was reported by Guérin-Méneville in Le Guillou's paper on new species of Orthoptera in his journal:

> "*M. Le Guillou désirant conserver la priorité pour le travail auquel il se livre avec un zèle digne d'éloges, a obtenu de la société philomatique de Paris , que les descriptions des 18 espèces nouvelles de Coléoptères qu'il a envoyées à l'Académie des sciences, le 26 juillet dernier, seraient insérées dans le journal l'Institut, ce qui a eu lieu. Depuis ce temps, il a présenté à l'Académie les descriptions des Lépidoptères et des Hémyptères nouveaux de son voyage (séances des 16 et 3o août 1840, et il nous a remis des copies de ces descriptions, en nous priant de les insérer, ce que nous avons fait en rendant compte de ces séances. Aujourd'hui il adresse son travail sur les Orthoptères du voyage, et voici ses descriptions, dont il nous remet copie, avec prière de les publier afin de prendre date, comme il l'a fait pour ses travaux précédents*." [Mr. Le Guillou wishing to preserve the priority for the work he is engaged, with a zeal worthy of praise obtained from the Société Philomatique of Paris, made descriptions of 18 new species of Coleoptera which he sent to the Academy of Sciences on July 26, to be included in the journal of that Institute, which took place. Since that time, he presented to the Academy descriptions of Lepidoptera and new Hémyptères from his trip (meetings of 16 and 30 August 1840), and he gave us copies of these descriptions, begging us to insert it as we have done in reporting on these meetings. Today he addresses his work on the Orthoptera of the trip, and here are his descriptions, he gives us a copy, with a request to publish in order to take dates, as it has been done for his work of the preceding ones]. (Guérin-Méneville *in* Le Guillou, 1841c: 292).

The Académie, possibly due to the hostile affair between he and d'Urville, never published any of the papers that Le Guillou's presented [the minutes of the Académie published in the *Comptes Rendus* and in *L'Institut* make no mention of scientific names but only the title of the papers he presented]. Noting this, Le Guillou continued to appeal to Guérin-Méneville, who duly published them in his *Revue et Magasin de Zoologie*. These names were indeed published before any of the *Zoologie* volumes of the *Voyage* were published. Le Guillou published 146 new species and 3 new genera of insects and snails in 11 short papers from 1841–1845 based on specimens he collected during the voyage (Le Guillou, 1841a, 1841b, 1841c, 1841d, 1841e, 1841f, 1842a, 1842b, 1842c, 1842d, 1844, 1845); as well publishing as his own two-volume account of the voyage (Le Guillou, 1842e).

With regard to this last publication listed above, Le Guillou expressed his dissatisfaction with d'Urville in a special 12-page section at the end of the second volume. This attack prompted a response from the officers of the voyage, which was published in the *Annales Maritimes et Coloniales* (Vincendon-Dumoulin *et al*., 1842). It also led to a special "Avertissement", which was inserted at the beginning of the fifth volume of the "official" *Histoire du Voyage* (Jacquinot 1843) consisting of complaints against Le Guillou by officers of the voyage. Although d'Urville was labeled some contemporary biographers (e.g., Bourdon, 1853) as a misanthrope and difficult to serve under, his officers were defending d'Urville's (and ultimately their) reputation more than his personality.

A further difficulty for Le Guillou arose after the first *Zoologie* volumes of the *Voyage* appeared in 1846. He there saw that his name was not mentioned in connection with any of the material that had been studied by him. This matter was voiced in a complaint to the Académie des Sciences at their 22 May 1848 meeting (Le Guillou, 1848). The complaint was acknowledged and a committee of the Académie was formed consisting of such luminaries as de Blainville, Brogniart, Geoffroy Saint-Hilaire, Audouin, and Milne Edwards., They were tasked with investigating the matter and presenting its findings to the Académie with recommendations. The results of the committee's



314 REVUE ZOOLOGIQUE. (*Octobre* 1842.)

terale fere recto, utrinque macula discoidali fusca ; Elytra oblique truncata, striata, atra; subtus pectore abdomineque piceis. — Hab. Bahia Brasilia. — A Dom. Claussen capta (1).

DESCRIPTION de sept diptères nouveaux, recueillis, pendant le voyage autour du monde de l'*Astrolabe* et la *Zélée*, par M. le Doct. LE GUILLOU, médecin en chef de *la Zélée*.

1. *Lampria claripennis*.—Long. 13 mill.—*Violacea, mystace aurato, alis hyalinis.*

Corps assez grêle ; face et moustache d'un jaune doré ; cette dernière munie de quelques soies noires, allongées; front à duvet jaune ; antennes noires. Thorax d'un violet brillant à duvet blanc sur les côtés. Abdomen d'un bleu brillant, à reflets verts; un peu de duvet blanc sur les côtés des incisions ; ventre fauve. Pieds violets. Ailes transparentes; un point gris à la base de la deuxième cellule sous-marginale; première postérieure fort rétrécie à l'extrémité. (Fem.) — Hab Triton-Bay.

2. *Eristalis splendens*.— Long. 14 mill. — *Thorace quatuor vittis flavidis ornato; scutello rufo. Abdomine fasciis æneis.*

Face et joues d'un vert bleuâtre ; côtés à duvet jaunâtre. Front d'un vert noirâtre luisant se rétrécissant en arrière ; une tache noire, veloutée vers le milieu de la longueur, se prolongeant un peu en ligne de l'avant et de l'arrière ; une petite protubérance entre la tache veloutée et l'insertion des antennes ; antennes fauves, troisième article ovale, brun en dessus; style nu, fauve; yeux nus. Thorax d'un noir mat ; quatre bandes longitudinales jaunes ; les latérales interrompues à la suture et remplacées au delà par une bande d'un vert cuivreux brillant ; une tache de la même couleur au bord postérieur, entre les bandes intermédiaires ; côtés cuivreux, à léger duvet grisâtre ; écusson fauve à reflets verts. Abdomen d'un noir velouté ; premier segment d'un vert cuivreux sur les côtés, noir au milieu ; des poils jaunes sur les côtés ; deuxième segment à deux taches cuivreuses, triangulaires, éloignées l'une de l'autre ; troisième et quatrième à bande cuivreuse au bord antérieur, rétrécie au milieu ; cinquième cui-

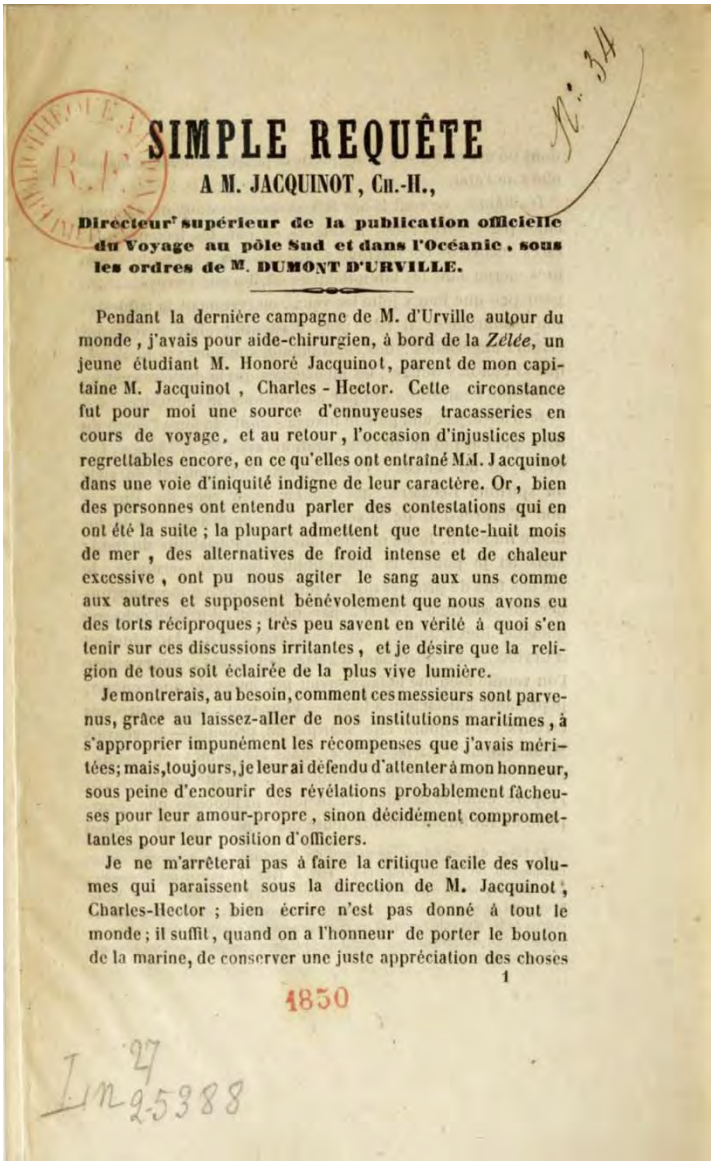
(1) Quoique cette espèce ne soit pas colombienne, j'ai cru qu'il serait intéressant de la faire connaître ici, parce qu'elle confirme l'établissement du genre Rhombodera.

Figure 2. Page from Le Guillou (1842c) describing new species of Diptera collected on the voyage of the *Astrolabe* and *Zélée*.

investigation were made public at the 14 August meeting (Arago *et al*., 1848). Their investigations discovered that the various zoology manuscripts initially had Le Guillou's name mentioned but that his name was deliberately excised by the editors Jacques Bernard Hombron and Charles-Hector Jacquinot (brother of Honoré Jacquinot) before final publication. The committee ultimately decided in favor of Le Guillou and concluded that the editors Hombron and Jacquinot had misrepresented the facts of the expedition, the major responsibility for which they were given. The committee further requested that the first volume of the *Zoologie* be removed and re-written to include Le Guillou's name where it was necessary in order to accurately reflect the results of the *Voyage*. Apparently no action was ever taken by the Ministère de Marine or the editors Hombron or Jacquinot as the published volumes were never re-printed nor was any information inserted into introductions of subsequent volumes regarding such corrections.

As Clark & Crosnier (2000) indicated through their archival research, the polemics and responses between Le Guillou and the officers, the *Voyage* Editorial Committee, and the Ministère de la Marine (who subsidized the publication) went back and forth for a time and the situation eventually ended up as a lawsuit in the courts, where a decision was ultimately made settling the matter on behalf of all parties. But even this did not stop Le Guillou from getting the last word—and getting it out to the public. In August 1849, he published his version of the accounts of the disputed affair in a privately printed 16-page pamphlet entitled "*Simple Requête à M. Jacquinot*" (Le Guillou, 1849). In it, he pleaded to Jacquinot for a response to his accounts of matters. It is not known if Jacquinot ever bothered to do so.

There is no record of what Le Guillou did scientifically before or after the voyage. He published one medical tract in 1834 (his thesis) on treating smallpox on board ships of war. Immediately after the d'Urville affair, he continued to serve the Navy as a medical doctor aboard war ships and, shortly before obtaining his pension in 1860, he was the chief physician at the penitentiary on Devil's Island off the coast of French Guiana.



SIMPLE REQUÊTE

A M. JACQUINOT, Ch.-H.,

Directeur supérieur de la publication officielle du Voyage au pôle Sud et dans l'Océanie, sous les ordres de M. DUMONT D'URVILLE.

Pendant la dernière campagne de M. d'Urville autour du monde, j'avais pour aide-chirurgien, à bord de la *Zélée*, un jeune étudiant M. Honoré Jacquinot, parent de mon capitaine M. Jacquinot, Charles-Hector. Cette circonstance fut pour moi une source d'ennuyeuses tracasseries en cours de voyage, et au retour, l'occasion d'injustices plus regrettables encore, en ce qu'elles ont entraîné MM. Jacquinot dans une voie d'iniquité indigne de leur caractère. Or, bien des personnes ont entendu parler des contestations qui en ont été la suite ; la plupart admettent que trente-huit mois de mer, des alternatives de froid intense et de chaleur excessive, ont pu nous agiter le sang aux uns comme aux autres et supposent bénévolement que nous avons eu des torts réciproques ; très peu savent en vérité à quoi s'en tenir sur ces discussions irritantes, et je désire que la religion de tous soit éclairée de la plus vive lumière.

Je montrerais, au besoin, comment ces messieurs sont parvenus, grâce au laissez-aller de nos institutions maritimes, à s'approprier impunément les récompenses que j'avais méritées; mais, toujours, je leur ai défendu d'attenter à mon honneur, sous peine d'encourir des révélations probablement fâcheuses pour leur amour-propre, sinon décidément compromettantes pour leur position d'officiers.

Je ne m'arrêterai pas à faire la critique facile des volumes qui paraissent sous la direction de M. Jacquinot, Charles-Hector ; bien écrire n'est pas donné à tout le monde ; il suffit, quand on a l'honneur de porter le bouton de la marine, de conserver une juste appréciation des choses

1

1850

Figure 3. Title page of Le Guillou's (1849) plea to Charles Hector Jacquinot, commander of the Zélée and co-editor of the results of the *Voyage*.

Apparently Le Guillou had some hope that he could continue with natural history explorations and planned a scientific expedition to Madagascar in the mid-1840s. The planning got as far as scientific committees being formed by the Académie des Sciences, which published instructions and recommendations on collecting both botanical (Jussieu, 1846) and zoological (Valenciennes, 1846) specimens. However, the expedition never came to fruition, most probably because of the d'Urville affair and its pending court proceedings.

From his publication record, the papers he published during that 5-year period after the ships returned to France from the voyage were apparently his only primary scientific work. He is found to have authored a few biological entries in the "*Dictionnaire de la conversation et de la lecture*" (e.g., Le Guillou, 1853), of which the publisher paid minimal sums of money to authors for their entries (see Evenhuis 2003 for details on how 18th and 19th century *dictionnaires* were organized by publishers). Perhaps this was a way to help him obtain some supplemental funds in his later years since his scientific career had been undoubtedly ruined by the difficulties with the *Voyage* officers.

Despite his failed scientific career, Le Guillou's medical profession was well-received. He obtained a military pension and was knighted by France in 1860. After his Devil's Island work, he returned to France and continued practicing medicine at his home in Ternes, France; and at the battle of Ternes in 1870 he was the medical officer to the famed Tirailleurs des Ternes. His service during that battle was recognized by the French government with him being awarded the Légion d'Honneur in October 1875. In addition to many society memberships, he was a life-member of the Société Géologique de France; they announced his passing at the meeting on 8 January 1894 (he died on 1 January 1894).

References

Arago, J., Beautemps-Beaupre, C.-F., Blainville, H.M.D. de, Serres, M., Beaumont, L.E. de, Brogniart, A., Geoffroy Saint-Hilaire, I., Audouin, V. & Milne Edwards, H. 1848. Voyages scientifiques. Rapport sur des réclamations adressées à l'Académie par M. Leguillou, chirurgien de la Marine. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences* 1848(2): 192–194.

Barbier, H. 1844. *Biographie du clergé contemporain par un solitaire*. Tome septième. A, Appert, Paris. xxxvi + 432 pp.

Boudin, A. 1876. *Panthéon de la Legion d'Honneur*. *Élie Le Guillou*. Bureaux, Paris. 6 pp.

Bourdon, I. 1853. Dumont d'Urville, pp. 157–159. *In*: Duckett, M.W., *Dictionnaire de la conversation et de la lecture, inventaire raisonné des notions générales les plus indispensables a tous, par une société de savants et de gens de lettres. Seconde édition, entièrement répondue, corrigée, et augmente de plusieurs milliers d'articles tout d'actualité.* Tome huitième. Comptoirs de la Direction, Paris. 800 pp.

Clark, P., & Crosnier, A. 2000. The zoology of the *Voyage au pôle sud et dans l'Océanie sur les corvettes l'Astrolabe et la Zélée exécuté par ordre du roi pendant les années 1837–1838–1839–1840 sous les commandement de M. Dumont-d'Urville* (1842–1854): titles, volumes, plates, text, contents, proposed dates and anecdotal history of the publication. *Archives of Natural History* 27: 407–435.

Dunmore, J. 2007. *From Venus to Antarctica. The life of Dumont d'Urville*. Exsile Publishing, Auckland. 389 pp.

Evenhuis, N.L. 2003. Dating and publication of the *Encyclopédie Méthodique* (1782–1832), with special reference to the parts of the *Histoire Naturelle* and details on the *Histoire Naturelle des Insectes. Zootaxa* 166, 48 pp.

Gaimard, P. 1835. Voyage à la recherche de la *Lilloise*. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences* 1835(2): 24–25.

Jacquinot, C.-H. 1843. *Voyage au pôle Sud et dans l'Océanie sur les corvettes* l'Astrolabe *et la* Zélée *exécuté par ordre du Roi pendant les années 1837-1838-1839-1840, sous le commandement de M. J. Dumont d'Urville, capitaine de vaisseau, publié par ordonnance de sa Majesté sous le direction supérieur de M. Jacquinot, capitaine de vaisseau, commandement de la* Zélée. Histoire du voyage. Tome cinquième. Gide, Paris. viii + 428 pp.

Jussieu, A. de. 1846. Voyages scientifiques. — Instructions pour M. Le Guillou en mission à Madagascar. Partie botanique. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences*, 1846(1): 203–205.

Le Guillou, E.J.F. 1841a. Note: [Catalogue des insectes recueillis pendant le voyage de circumnavigation des corvettes *l'Astrolabe* et la *Zélée* avec un lettre qui accompagne ce travail]. *Revue et Magasin de Zoologie Pure et Appliquée* 4: 237–238.

Le Guillou, E.J.F. 1841b. Note: [Description de huit espèces de lépidoptères découvertes pendant le voyage de la *Zélée*]. *Revue et Magasin de Zoologie Pure et Appliquée* 4: 257–258.

Le Guillou, E.J.F. 1841c. Note: [Description des Hémyptères nouveaux qu'il a recueillis pendant son voyage de circumnavigation sur la corvette la *Zélée*]. *Revue et Magasin de Zoologie Pure et Appliquée* 4: 260–263

Le Guillou, E.J.F. 1841d. Note: [Description de 23 espèces nouvelles d'orthoptères, recueillis pendant son voyage autour du monde sur la Zélée]. *Revue et Magasin de Zoologie Pure et Appliquée* 4: 291–295

Le Guillou, E.J.F. 1841e. Description de quatorze Nerites nouvelles. *Revue et Magasin de Zoologie Pure et Appliquée* 4: 343–347.

Le Guillou, E.J.F. 1841f. [*Navicella macrocephala*], p. 374; [*Navicella apiata*], p. 376. *In*: Récluz, C., Prodrome d'une monograph du genre Navicelle. *Revue et Magasin de Zoologie Pure et*

Appliquée 4: 369–382.
Le Guillou, E.J.F. 1842a. Description de quelques espèces nouvelles des genres *Natice*, *Sigaret* et *Ampullaire*. *Revue et Magasin de Zoologie Pure et Appliquée* 5: 104–105.
Le Guillou, E.J.F. 1842b. Description de vingt-sept espèces *d'Hélices* nouvelles. *Revue et Magasin de Zoologie Pure et Appliquée* 5: 136–141.
Le Guillou, E.J.F. 1842c. Description de sept diptères nouveaux, recueillis, pendant le voyage autour du monde de *l'Astrolabe* et la *Zélée*. *Revue et Magasin de Zoologie Pure et Appliquée* 5: 314–316.
Le Guillou, E.J.F. 1842d. Catalogue raisonné des insectes hyménoptères recueillis dans le voyage de circumnavigation des corvettes *l'Astrolabe* et de la *Zélée*. *Annals de la Société Entomologique de France* 10[1841]: 311–324.
Le Guillou, E.J.F. 1842e. *Voyage autour du monde de l'Astrolabe et de la Zélée, sous le ordres du contre-amiral Dumont-d'Urville, pendant les années 1837, 38, 39, 40. Ouvrage enrichi de nombreux dessins et de notes scientifiques; mis en ordre par J. Arago*. 2 vols. Berquet et Pétion, Paris. 381 + 382 pp.
Le Guillou, E.J.F. 1844. Description de vingt insectes coléoptères recueillis pendant le voyage autour du monde de *l'Astrolabe* et la *Zélée*. *Revue et Magasin de Zoologie Pure et Appliquée* 7: 220–225.
Le Guillou, E.J.F. 1845. Description de six Hélices nouvelles. *Revue et Magasin de Zoologie Pure et Appliquée* 8: 187–188.
Le Guillou, E.J.F. 1848. Note: [Une réclamation relative à la suppression de son nom et de ses travaux faite, par les éditeurs du Voyage]. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences* 1848(1): 548.
Le Guillou, E.J.F. 1849. *Simple Requête a M. Jacquinot, Ch.-H., Directeur supérieur de la publication officielle du Voyage au pôle Sud et dans l'Océanie, sous les ordres de M. Dumont d'Urville.* Privately published, Paris. 16 pp.
Le Guillou, E.J.F. 1853. Ceratites, p. 23. *In*: Duckett, M.W., *Dictionnaire de la conversation et de la lecture, inventaire raisonné des notions générales les plus indispensables a tous, par une société de savants et de gens de lettres. Seconde édition, entièrement répondue, corrigée, et augmente de plusieurs milliers d'articles tout d'actualité.* Tome cinquième. Comptoirs de la Direction, Paris. 800 pp.
Valenciennes, A. 1846. [Voyages scientifiques. — Instructions pour M. Le Guillou en mission à Madagascar.] Partie zoologique. *Comptes Rendus Hebdomadaires des Séances de l'Académie des Sciences* 1846(1): 205–207.
Vincendon-Dumoulin, C.A., Hombron, J.B., Ducorps, L.-J., Desgraz, C., Dumoutier, P.M.A., Jacquinot, H., Lebreton, L., & Jacquinot, C.-H. 1842. Protestation des membres de l'expédition au Pôle austral et dans l'Océanie contre une attaque injurieuse à la mémoire du contre-amiral Dumont-d'Urville. *Annales Maritimes et Coloniales* 2(2): 1395–1396.

****

Necrology

The North American Dipterists' Society regrets to inform its members of the recent loss of several of our esteemed colleagues. Since there was no report in the last Fly Times, following is a list of the dipterists who passed this year, in chronological order. And thank you to the writers of the two heartfelt remembrances (with * below) giving us all more perspectives on the lives of a couple of our deceased friends.

- Kenneth James Kraft (March 3, 1930 – January 12, 2014)
- David Wilson Crumpacker (March 29, 1929 – January 16, 2014)
- Derek Anthony Duckhouse (1933 – January 2014)
- Sidney Camras (April 22, 1919 – February 5, 2014)
  (see Fly Times, issue 49, for an article about Sid by Skevinton, Thompson & Gibson)
- Andy Z. Lehrer (May 16, 1930 – February 2014)
- Mark A. Jervis (1951–March 11, 2014)
  (see Kidd 2014 for an obituary)
- Harry Davis Pratt (April 13, 1915 – March 31, 2014)
- Richard Floyd Darsie, Jr. (January 28, 1915 – April 10, 2014)
- Edmundo Ferraz Nonato (June 1, 1920 – April 14, 2014)
- Eberhard Plassmann (November 3, 1938 – June 12, 2014)
- *Benjamin Archer Foote (October 25, 1928 – July 6, 2014)
- Lewis Thomas Nielsen, Jr. (September 6, 1920 – July 25, 2014)
- Marian Adachi Kohn (March 1, 1929 – August 29, 2014)
- Jermy Tibor (January 31, 1917 – September 23, 2014)
- Barry Thomas Owen Lee (February 25, 1935 – October 5, 2014)
- *Evert Irving Schlinger (April 17, 1928 – October 8, 2014)
- Pavel Láska (1934 – September 30, 2014)
- Vu Thi Phan (1931 – 2014)

****

Benjamin Archer Foote
October 25, 1928 – July 6, 2014

Bill Murphy

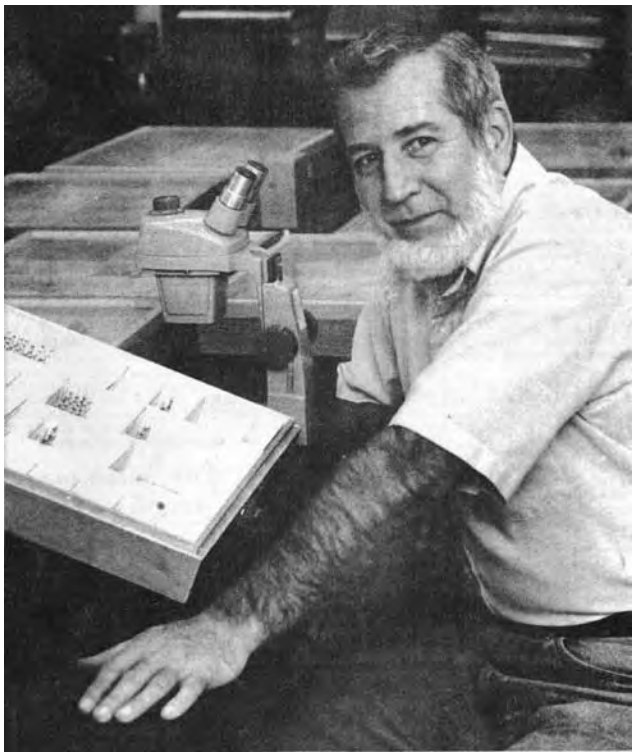
Fishers, Indiana, USA;
billmurphy8@sbcglobal.net

Ben Foote was born and raised in Delaware, Ohio. In 1950 he received his B.A. degree in zoology at Ohio Wesleyan University under Dr. Clifford O. Berg, one of the fathers of sciomyzidology. In 1952 he earned his M.S. degree in entomology at The Ohio State University. After serving two years driving a tank for the U.S. Army in Germany and then serving on the faculty at the University of Idaho, Ben returned to college and in 1961 earned his Ph.D. in entomology at Cornell University, again under the guidance of Cliff Berg. At Cornell he associated with Berg's group of students, which at that time included the future sciomyzidologists Stuart Neff and Lloyd Knutson. Foote and Neff were Berg's first two graduate students studying sciomyzids, but that elite club would later include such productive dipterists as Jay Abercrombie,

Ben Foote (left) with Lloyd Knutsen at Cornell University, 1962

Stephen Arnold, Jeffery Barnes, Jack Bath, Albertus Bratt, James Eckblad, Jeannette Gower Teece, Steve Juliano, Vic Kaczynski., Stuart Neff, Bill O'Neill, Denny Trelka, Karl Valley, and Jan Zuska. For the next 35 years, Ben was a professor of biology at Kent State University in Kent, Ohio, where he mentored more than 50 graduate students. During many summers, he taught at the University of Montana's Biological Research Station on Flathead Lake. He retired in 1996 but continued his research as Emeritus Professor until shortly before his death.

At Kent State he developed a group of M.S. students with whom he shared his knowledge and love of sciomyzids. Among them were Denny Trelka and Karl Valley, both of whom completed their M.S. degrees in 1968 and went on to produce outstanding Ph.D. theses on Sciomyzidae at Cornell under the guidance of Dr. Berg.



During his 60-year career, Ben published more than 150 papers on 17 different families of flies, including 30 papers on Sciomyzidae, as well as on Ephydridae, Tephritidae, and other acalyptrates. He focused primarily on life cycles and descriptions of immature stages (34 species in nine genera) and faunistics. He was the first to demonstrate that certain sciomyzids attack submerged operculate snails, slugs, and fingernail clams. For Fred Stehr's 1991 book *Immature Insects*, Ben coordinated the chapter on Diptera and wrote many of the family sections. During the last decade, he was particularly interested in the biology of Tipulidae, especially species found in Ohio. He published his last paper in April of this year, describing a new species of sciomyzid, *Pherbellia anitae*, naming it after his beloved wife of 60 years.

Dr. Foote was a generous man. He contributed to his community as a founding member of the Kent Environmental Council, serving as its president for 18 years. Upon retiring, he donated his personal library of scientific papers and specimens to the Carnegie Museum. His passion for learning, love of his family, and dedication to leaving the world a better place were the driving forces in his rich and wonderful life.


Left: Three sciomyzid guys (left to right): Bill Murphy, Jay Abercrombie and Ben Foote, 2009; Right: Ben Foote, 2012.

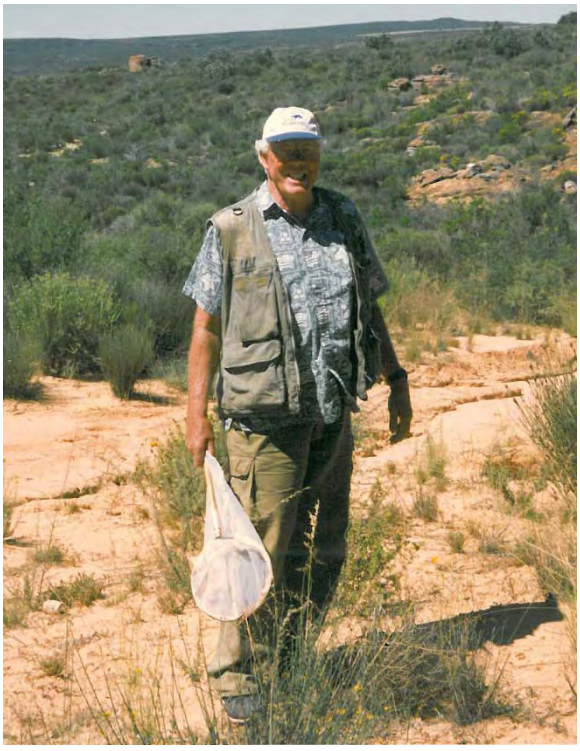
****

Evert Irving Schlinger
April 17, 1928 – October 8, 2014
A Personal Tribute

Michael E. Irwin

Vail, Arizona, USA; meirwin@illinois.edu

Following a long and difficult battle with Alzheimer's disease, Evert Irving Schlinger passed away during a spectacular lunar eclipse in the early morning hours of Wednesday, October 8, 2014. Ev was peacefully resting at the home of his daughter Jane and son-in-law Brad Omick in Lafayette, California. He is survived by his brother Warren and sister-in-law Katie Schlinger, his four children Pete, Mathew, Jane and Brian, and 11 grandchildre.



Ev in South Africa, 1996 (photo: SD Gaimari)

Ev earned a B.S. degree from the University of California, Berkeley in 1950 and, under the mentorships of Richard Bohart, Harry Lange, and others, a Ph.D. from the University of California, Davis, in 1957. Ev was a member of Calpha fraternity, a life and charter member of the Cal Aggie Alumni Association, and a recipient of the Award of Distinction by the College of Agriculture and Environmental Sciences, UC Davis; an Honorary Member of the Council of the International Congresses of Dipterology; and a Fellow and Trustee of the California Academy of Sciences.

Ev was a giant of a man in both stature and accomplishment. He had a noble heart, held a deep trust in people, and participated fully in life. Perhaps one might call him a gentle giant. Over his career, Ev was instrumental in advancing the sciences of biology, agriculture, biodiversity, and sustainability. His research focused on two diverse yet complimentary areas of science: an innovative approach to biological control of agricultural pests, and the biology, taxonomy, and evolutionary ecology of parasitic flies belonging to the dipterous family Acroceridae, commonly referred to as spider flies, small-headed flies, or, as Ev preferred to call them, "Acros."

His research into biological control began after receiving his Ph.D., when he accepted a position as a research entomologist with the biological control unit at the University of California Citrus Experimental Station, Riverside. Teaming up with Professor Robert van den Bosch and with the critical assistance of two research associates, Jack Hall and Evert Dietrich, his activities involved a multi-year effort to control the newly introduced and highly destructive spotted alfalfa aphid. This pest had no effective natural enemies, was spreading like wildfire in the southern half of the state, leaving in its wake decimated fields as far as the eye could see, and the agricultural sector of the state was in utter panic. The van den Bosch/Schlinger team pinpointed areas in the Middle East where appropriate parasitoids of this pest existed, located and collected them through foreign exploration, guided the parasitoids through strict quarantine, reared them in captivity, tested them on target and nontarget pests under laboratory conditions, released them, and followed their movements and impact in the field. This colossal effort brought the aphids under control. The effort was so successful that, some 55 years later, the spotted alfalfa aphid, although still existing in Southern California, no longer causes problems and is not considered a pest. The amount of money this team saved the alfalfa industry of California certainly adds up to many hundreds of millions of dollars. Moreover, the methodologies Ev and Van developed during this project proved so effective that, to this day, they form an indispensable part of any classical biological control toolbox.

During his time with the biological control unit at UC Riverside, he, van den Bosch, and their team explored ways to keep a long list of alfalfa pests in check and, in that process, developed and tested a wide array of pest management tools. Their main focus was on manipulating and concentrating naturally occurring predators and parasitoids in the field to reduce pest populations. As an example, by manipulating habitats, they conceived and honed the concept of strip cropping, where harvesting an alfalfa field would be done in stages to provide refuges in the un-mown strips where natural enemies could accumulate and thrive. The next time the field was mown, the previously uncut areas would be harvested. These field experiments helped solidify such far-ranging concepts as cropping systems and intercropping to reduce pest stress, concepts that now underpin the vary foundation of agro-ecology. His perceptive knowledge of agricultural ecology, his deep understanding of natural enemy biology, and his native curiosity provided much of the driving force behind the team's pioneering efforts in biological control. Ev and Van were among the early architects of conservation biological control.

The UC Riverside team worked closely with a team at the University of California, Berkeley, which was, at that time, exploring the concept of "supervised control." The Berkeley team, headed by Professor Ray F. Smith, with assistance from Vernon M. Stern, was in the midst of a spectacular breakthrough. The two teams worked collaboratively in developing the emerging science of integrated pest management (IPM). Ev's concepts of cultural manipulation were instrumental and focal in the conception and evolution of the integrated pest management paradigm. Ev's specific contributions are now long forgotten, but during the course of his seven years in the biological control unit at UC Riverside, he played a robust role in the creation of the IPM paradigm. In my opinion, the conceptual framework for IPM was very much in part a product of Ev's inquiry and innovation.

His research focus pivoted in 1963, when he was awarded a professorship in systematics in the newly formed Department of Entomology at UC Riverside. That proved a milestone in his career, directing his thoughts and energies into systematic research, teaching, and administration.

His study of spiders and acrocerid flies, their obligate parasites, began when he was a child and has been a driving force throughout his career and life. His Ph.D. dissertation delved into the systematics of Ogcodes, a genus of Acroceridae found throughout the world. His research on acros was aimed at understanding big-picture questions about them: their evolution, biogeography, and their fastidious and intricate relationships with spiders. He approached the problem of understanding these flies from multiple perspectives, each complementing the other. He strived to develop a basic phylogeny. Towards the end of his career, he began to preserve material for DNA analyses because, in his forward-thinking way, he believed that might uncover additional clues for understanding their evolution. He was concerned with the evolution of the entire family, and, because the Acroceridae is an extremely old family of flies, he examined them from around the world. Acros are rare in collections, so he organized and participated in numerous large-scale expeditions to areas where these flies occur. These expeditions were mostly geared to the world's biologically diverse "hot spots," such as New Caledonia, Australia, New Zealand, Chile, Madagascar, South Africa, and Fiji, to name a few. He enjoyed fieldwork and was continually searching out unexplored places for collecting. Until he was overtaken with Alzheimer's, he suggested venues and was an active participant on these expeditions. I consider myself fortunate to have been a member of most.

Ev (far right) in South Africa, 1996, with (left to right) Don Webb, David Yeates, Mike Irwin, Kevin Holston and Mark Metz. (photo: SD Gaimari)

Acrocerids are not only rare in collections, they are also difficult to collect as adults in the field. One of his approaches to obtain adult flies was to rear them from spiders, not a quick or easy task given that some spiders take several years to mature. Throughout his career, he maintained thousands of spiders in captivity. His passion for acros was so overpowering that he reared spiders during the seven years he pursued a career in biological control and even after he retired. I recall one three-month expedition he

and I took that circled Australia and probed the center of the continent. We did so in a small campervan, and he stashed thousands of spiders in individual vials in every niche conceivable. He would catch flies to feed the spiders almost daily. Sometimes the spiders escaped and were occasionally found crawling across my face while I was attempting to sleep. When I complained, he doggedly said, "Get used to it." Ev was the recognized world authority on acrocerid flies for well over half a century. He relentlessly gathered specimens, organized them, and published on them. In the end, he left a structured, well-conceived framework upon which new workers are beginning to build.

Ev compiled a collection of historically rich and extremely rare literature on flies, spiders, biogeography, evolution, and the geological forces that shaped the flies' evolution: orogenesis, plate tectonics, continental drift, and terranes. He also assembled significant literature holdings on the biota of special environments and had expanded his literature collection to include biodiversity and topics associated with conservation biology. In the end, he had a vast, focused, and inspiring collection of books. What is more, he read them and was on top of all these subjects. I believe Ev to have been one of the most broadly informed researchers in the natural sciences.

Ev was modern in approach and anticipatory in his thinking. Methods that constitute modern systematics were, to some degree, pioneered by Ev and his students. He inspired all students towards innovation in their research. Before the term "informatics" was coined, before "databasing" was a regularly used tool in systematics, and during the early years of computers when bulky mainframe giants started to appear at the larger universities, Ev inspired his students to delve into those areas while conducting their dissertation research. He led graduate seminars that probed the philosophical underpinnings of cladistics and the phylogenetic approach developed by Willi Hennig, even before the concept was formally translated into English. He made sure his students were aware of the latest information and the most forward-looking and modern innovations in technology.

He was an inspiring teacher and mentor. Ev's deep understanding of the natural world, coupled with his wide-ranging generosity and captivating yet resolute traits, made him a powerful magnet for students from the time he first joined the Entomology faculty at UC Riverside. I will not discuss his formal teaching and how important it has been to the shaping of numerous careers in the biological sciences; I instead dwell on his skills at mentoring graduate students.

I can imagine no better mentor than Ev: understanding, interactive, knowledgeable, yet unassuming. He was the mentor who gently pushed but never shoved. His personal knowledge base inspired those around him to become more informed, not just about science, but about all aspects of life. He made learning exciting and inspired students to new heights, to arm themselves with new knowledge and honed skills. He brought pertinent knowledge to bear on problems of the day and conveyed this to students. Ev was so convinced that knowledge of the outdoors is critical to making sound decisions regarding the environment that he actively organized and led field trips for students, even though those activities took time from his personal life. His students are now professors in esteemed universities, systematists in the nation's most prestigious museums, and prominent in a variety of other positions. Students of his students, his grand-students you might say, are among the most respected of the current dipterological and arachnological communities.

Ev was a charismatic leader. Wherever he went, whatever he did, people looked to him for advice and leadership. Perhaps that is why, quite early in his career, he became the Chair of the Department of Entomology at UC Riverside. While in that position, he was able to convince two separate, somewhat antagonistic units to amalgamate into a single, more robust department. This was no easy task, but his persuasive powers were great and his perseverance resolute. When he transferred to UC Berkeley, he

was soon asked to chair their Department of Entomology. During his tenure as chair, he made substantial progress in advancing the biological sciences. Against odds, he formed and chaired a new unit, the Department of Conservation and Resources Studies, at UC Berkeley. This new unit allowed him to expand his formal mentorship to undergraduate students.

Ev was passionate about life. He had the mental and physical capacity to do almost anything he wanted. He was an enthusiastic and excellent gardener. He loved food and wine, especially wine. He took joy from listening to classical music and to opera in particular. He had an enormous collection of records, tens of shelf feet of them, from 78's through to 33 1/3, all on vinyl. He played them often and sang along with them with what I thought was a good voice. The few times I heard him play the piano, I was impressed, particularly so because I don't think he ever practiced. The guy was plain talented!

He had a worldwide stamp collection that he had worked on for most of his young life. When his mother died, he inherited her U.S. stamp collection that contained many rare stamps; he was very proud of it. During the 51 years I knew him, Ev routinely bought mint US stamps as they were released. He placed thematic commemorative stamps on envelopes he sent to colleagues and friends, believing they should have an opportunity to collect these stamps too. He told me he wanted to curate and add to his mother's collection, but he never did. At one point after he retired, the stamps were placed in a rented shipping container, along with many of his books, and left to deteriorate.

He was a determined, talented athlete. During his undergraduate days at UC Davis, he was on the track team and played end for the football team. He was so talented and so well appreciated at football that his jersey shirt number was retired. To my knowledge, that is the only jersey number to be retired in the entire history of UC Davis football. When, in the fall of 1963, I arrived in Riverside as Ev's first graduate student, he played badminton over the noon hour. A few other entomologists took part, including Roy Fukuto and Jack Hall. I joined the group, as did Peter Rauch, and found that although Ev was a gracious sport, he was an even more awesome competitor; he almost never lost. No one I knew was as physically gifted as he. And he had willpower. He smoked for much of his early life. By the time I got to UC Riverside, he, like van den Bosch, smoked cigars more than cigarettes. One day, towards the end of his stay at UC Riverside, he simply quit, cold turkey, and never smoked again.

The competitive streak emerging from Ev's athletic prowess manifested itself in another aspect of Ev's character. He was a fierce debater, arguing over almost anything. As the years went by, his argumentative streak increased. In the later years, he argued to the point that his opponent simply gave up, allowing Ev to win by default. He prided himself on this trait and once told me that his mother taught him how to debate and to stick with it until he came out ahead. It simply didn't matter which side of the issue he was on.

Ev's father was one of the original founders of United Parcel Service, who, during WWII, was often paid in preferred stock rather than cash. Ev did not grow up in a prosperous household. By the time Ev was a faculty member at UC Riverside, the stock began to soar, split, and soar some more, and the Schlinger family became quite well off. Ev's parents eventually placed some of the preferred stock into a family foundation. They endowed the Schlinger Chair of Systematics at Berkeley and another chair at Cal Tech, where Ev's older brother, Warren, had studied. When Ev's parents died, the Foundation was passed down to Ev and Warren. They ran it jointly for a while, but Ev preferred it be used to support research, while Warren wanted it to fund higher education, including scholarships. They eventually split the foundation in two, with each controlling one of the two new foundations.

As President of the newly formed Schlinger Foundation, Ev ensured that funds were made available for research in diperology, arachnology, biodiversity, biosystematics, and evolutionary biology. Over the years, the foundation awarded five endowed chairs to institutions in California (arachnology and dipterology at the California Academy of Science; systematic entomology at the University of California, Berkeley [funded by Ev's parent foundation]; systematic entomology at the University of California, Davis; systematic entomology at the Santa Barbara Museum of Natural History), and one in dipterology at the Australian National Insect Collection, CSIRO, Canberra. It funded research programs in Diptera systematics; helped in the construction and running of biological stations in remote but biologically important parts of the globe; initiated an internship program to train young scientists in the skills of field entomology and arthropod curation from countries with severely threatened biota; and provided support for the International Congresses of Dipterology and treatises on Diptera. He encouraged and initiated long-term insect surveys in Madagascar, Fiji, New Caledonia, Australia, India, and elsewhere. These activities bode well for the sciences of arachnology and dipterology and for systematics and entomology as a whole. Ev can take full credit for all the good this small family foundation has done. He most certainly held the long-term health of planet Earth front and center.

Ev spent a lifetime in the dedicated service of entomology, agriculture, biological control, and systematics. This service is punctuated with inspiration, dedication, and vision, and with important and lasting innovation and discovery. He was an inspiring teacher and mentor, has served key leadership roles in entomology and the broader science arena, and, through his research foundation, has provided resources to enrich the prospects of systematics and biodiversity well into the future. He ushered in a new generation of dipterists, arachnologists, educators, entomologists, and conservation biologists who have collectively built onto the foundations he laid, and his second-generation students are currently becoming today's leaders. The impact his students and their students have had and are having on science, agriculture, and systematics is substantial.

Ev was unquestionably among the most talented, innovative, and inspiring of entomologists; his reputation is broad-based, widespread, and stellar. His family, students, and colleagues all find in Ev a life-long friend whose parting has left a deep void. He will long be remembered by all of us. To me, he will always remain a great mentor and my best friend.

****

MEETING NEWS

"THE GORGE"
RED RIVER GORGE AND
ASSOCIATED NATURAL AREAS IN
EASTERN KENTUCKY

PROPOSED LOCATION FOR THE
2015 NADS FIELD MEETING
Sunday June 7 – Thursday June 11

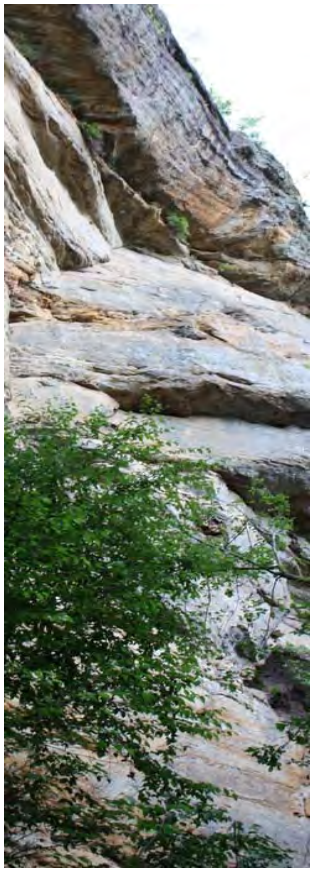
Organizers:

Dr. Gregory A. Dahlem
Department of Biological Sciences, Northern Kentucky University, Nunn Dr.,
Highland Heights, KY 41099; (859) 572-6638; dahlem@nku.edu

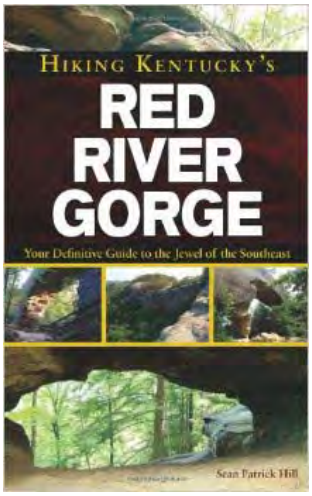
Dr. John O. Stireman III
Department of Biological Sciences, Wright State University, 3640 Colonel Glenn Hwy.,
Dayton, OH 45435; john.stireman@wright.edu

Dr. Ronald W. DeBry
Department of Biological Sciences, University of Cincinnati,
Cincinnati, OH 45221; (513) 556-9743; debryrw@ucmail.uc.edu

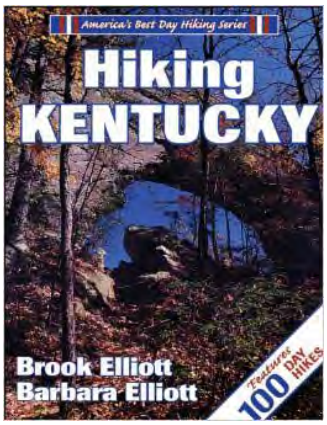
We would like to invite everyone to a very special location in the Eastern Highlands of Kentucky for the North American Dipterists Society Field Meeting – summer 2015. The Red River Gorge Geologic Area is best known for the number, size, and variety of natural stone arches and other amazing rock formations. The area includes a variety of different habitats that should provide excellent collecting for a wide variety of taxa. For those interested in aquatic taxa, you can spend your time at the edges of some of the lakes and ponds or splashing along the scenic creeks with occasional waterfalls. If you are interested in more terrestrial taxa, you will find the forests and rock escarpments serve as fantastic habitats in this geologic wonderland. While this area is well known to Kentuckians, very little collecting (that I am aware of) has ever been done in this area, so who knows what you might be able to find!



The forests include a wide diversity of trees, including magnolias, tulip poplars and mighty hemlocks. Rhododendrons and mountain laurels are common residents of the understory, much like you might imagine from locations much further south in North Carolina or Georgia. Rotting tree trunks with spectacular fungi in patches of ferns are often encountered along the trails.



Located about an hour's drive east of Lexington (closest airport) along I-64, the region is located in the western foothills of the Appalachians. Plug in "Slade, KY" into Google Earth to get a bird's-eye view of the area. Two excellent books are available that show detailed trail routes for those of you who might like to research the area a little more. The best is "Hiking Kentucky's Red River Gorge" by S. P. Hill which provides GPS based trail maps and elevation profiles along with ratings for scenery, difficulty, solitude, etc. At only $9.96 from Amazon, you can have a copy in 2 days if you are an Amazon Prime member. Also valuable is "Hiking Kentucky" by Elliott & Elliott at $14.37 from Amazon.



We have gotten off to a late start for planning this event, so we do not have definite food and lodging worked out yet for the meeting. This is a pretty remote location without nearby city-type

accommodations. For lodging and a meeting site, we are looking into renting a couple of large vacation-type cabins in the area at Cliffview Resort (http://www.cliffviewresort.com/cabin-rentals/). A typical 4 bedroom with 6 beds and 2 bathrooms cabin goes for about $300/weeknight (or about $50/night/person). A 2 bedroom, 1 bath cabin goes for about $150/weeknight. I have had a number of great recommendations for these cabins from people who have stayed there. All seem to be in beautiful locations and have full kitchens, hot tubs and other amenities. We will look into other motels in the area that may offer a cheaper room to sleep in, for those on a tight budget.

There are only about 7 smallish restaurants in the immediate area, including a couple of pizza places and a Subway. With that in mind we are planning on getting grocery supplies for packing lunches (much like was done at the last meeting in Mississippi). If we stay in the cabins, we can make our own breakfast and can get together for dinner and drinks (and processing of specimens we collect) at the main cabin in the evenings. We are thinking of a Kentucky themed cookout for our conference dinner.

We are working on collecting permits for everyone at the three main locations in the area: Red River Gorge Geological Area; Natural Bridge State Resort Park, and the Clifty Wilderness.

For the meeting, we will be able to supply things like dissecting scopes, alcohol, a projector for presentations, etc. If there is something special you would like us to get for you (e.g. ethyl acetate, microcentrifuge tubes, etc.), just let us know and we will see what we can do.

As you can tell, we still have a lot of work ahead to put this all together. All three of the organizers have hiked in this region, but none of us have intimate associations with the people or locations. We think we can put together an interesting meeting at an interesting place and we hope that many of you will be able to come.

What we need from you –
If you are interested in coming to this meeting, please contact the organizers. We will send out new information dealing with food, lodging, etc. as that becomes available to all who are interested. We wanted to post this proposal in this issue of Fly Times so that people could reserve those days for this special meeting. We are planning to post a more detailed agenda in the April 2015 Fly Times issue.

****

Meeting Report for the
8th International Congress of Dipterology
10-15 August, 2014, Potsdam, Germany

Marion Kotrba, ICD8 chair

Sektion Diptera, SNSB Zoologische Staatssammlung München
Münchhausenstr. 21, 81247 München, Germany

The 8th International Congress of Dipterology was held in Potsdam, Germany, from August 10 to 15. With 368 delegates from 46 countries, it was the largest ICD to date.

ICD8 group photo. Submitted by Art Borkent.

In the weeks that followed, it was a great joy for us as the local organizers, to pass the many incoming thanks and congratulations amongst us. They assured us that everything was taken care of and that delegates generally perceived the Congress as a success. We also received very positive feedback from our organizing agency and the Congress hotel, who let us know that our delegates had been an exceptionally pleasant crowd, friendly, disciplined, generous and, above all, enthusiastic.

The scientific program consisted of 5 plenary talks, 285 talks in 25 symposia (for which we ran 4 parallel sessions for most of the Congress), 127 posters, and a panel discussion. The Congress website is still online at www.icd8.org. The Congress photo, abstract volume and other information can be viewed or downloaded there. Printed abstract volumes can be purchased from Andreas Stark (a.stark@druck-zuck.net). A second article in this issue of Fly Times, with some delegate statistics, follows this one. Here I present some additional information on the Congress, focusing on special features and funding.

Special features

For the first time, a panel discussion was included in the ICD. The main topic was "The future of Diptera taxonomy and systematics." It was organized by Rudolf Meier, chaired by Thomas Pape, and very well attended. Seven panelists, Shaun Winterton (USA), Dalton Amorim (Brazil), Brian Brown (USA), Torbjørn Ekrem (Norway), Dan Bickel (Australia), David Grimaldi (USA), and Keith Bayless (USA), stated their views on various aspects of the topic, followed by a general discussion with questions and comments from the audience.

There was a student competition for poster prizes including 26 submissions. The poster-competition committee consisted of Martin Hauser (USA), Pierfilippo Ceretti (Italy), Martin Ebejer (UK), Ho-Yeon Han (Korea) and Brad Sinclair (Canada). The 1st prize went to Michaela Purcell (Australia), 2nd prize to Daichi Kato (Japan), and 3rd prize to Edina Török (Hungary).

Three ICD Honorary members were present, Emilia Nartshuk, Monty Wood and Chris Thompson, and two new ones, Neal Evenhuis and Adrian Pont, were chosen by the CICD during the Congress. Information about honorary members, as well as Council minutes, new CICD members, and other information on the Council for the International Congresses of Dipterology can be viewed, as always, on the ICD Webpage at http://www.nadsdiptera.org/ICD/ICDhome.htm.

The 250th anniversary of J. W. Meigen was celebrated during the Congress dinner with a toast and a very entertaining and informative presentation by Adrian Pont. Moreover, a special postal stamp had been produced on this occasion and was available for sale during the congress. Also dealing with the historical aspects of dipterology, a beautiful calendar of dipterists, edited and generously donated by Neal Evenhuis, was included in every delegate bag.

Several exhibitors on site offered a diversity of entomological products and publications, as well as amber and other souvenirs. A new edition of the photo booklet "Flies and midges - a family album" was introduced at the Congress and sold at the reception desk. (see the announcement for this, and purchasing information, in this issue of Fly Times!).

The Congress ended on Friday evening with a last highlight at the opening reception for the special exhibition "Flies" at the Museum für Naturkunde in Berlin. Negotiations for this exhibition, as well as the new book edition, the postage stamp, the successful promotion of a dipteran as the insect of the year 2014 (Tachinidae, *Phasia aurigera*) and a number of press releases, were all part of a concept of public outreach. Some nice newspaper articles and TV shows about the Congress were the first results.

Funding

The overall budget ran to roughly 200,000 €, of which about 40% was covered by extensive funding from the Senckenberg Society for Natural History (30,000), which adopted our congress as the 25th

International Senckenberg Conference, the German Scientific Foundation (30,000), the Leibniz Center for Agricultural Landscape Research (5,000), the International Union of Biological Sciences (3,000), the German Society of general and applied Entomology (2,000), and a number of sponsors listed in the program booklet.

The total expenses per delegate were just above 500 €. More than half of this (286 € per person) was charged by the Congress Hotel for refreshments and food during the welcome reception, coffee and lunch breaks. About 90% of the received registration fees thus went directly into personal consumption of the delegates.

After two rounds of applications for financial support, we were able to support 17 delegates, mostly from developing countries, with a total of 6,300€. We closed our account soundly balanced.

****

ICD8 delegate statistics reveal trends in the availability of dipterological expertise

Marion Kotrba, ICD8 chair

Sektion Diptera, SNSB Zoologische Staatssammlung München
Münchhausenstr. 21, 81247 München, Germany

Statistical analysis of ICD registration data may be informative with respect to the development of dipterological expertise worldwide and in individual countries.

With 368 delegates from 46 countries, the 8th International Congress of Dipterology in Potsdam, Germany, 10-15th August, was the largest ICD to date (Fig. 1). Obviously the location of the Congress in the heart of Europe made it rather easily and affordably accessible for delegates in general, and particularly for those from European countries. It also appears that, so far, dipterological expertise remains consistently available on a worldwide scale.

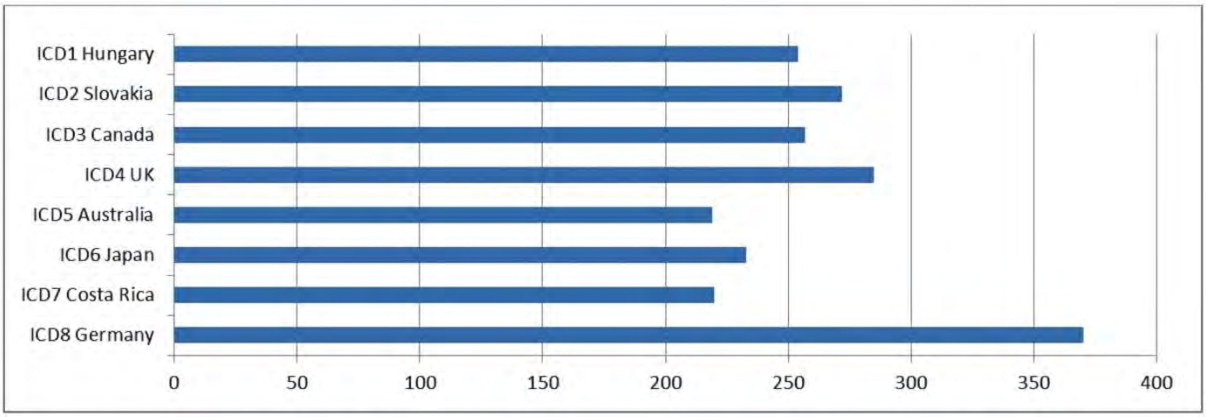


Figure 1: Number of delegates for all ICDs to date

A more detailed analysis of the data reveals that this expertise is not evenly distributed among the nations. Other than Germany, for which the ICD8 was obviously a home game, the country with the greatest number of delegates was Brazil, followed, with a large gap, by the US, the UK and Japan (Fig 2). 50% of all ICD8 delegates came from these five countries alone.

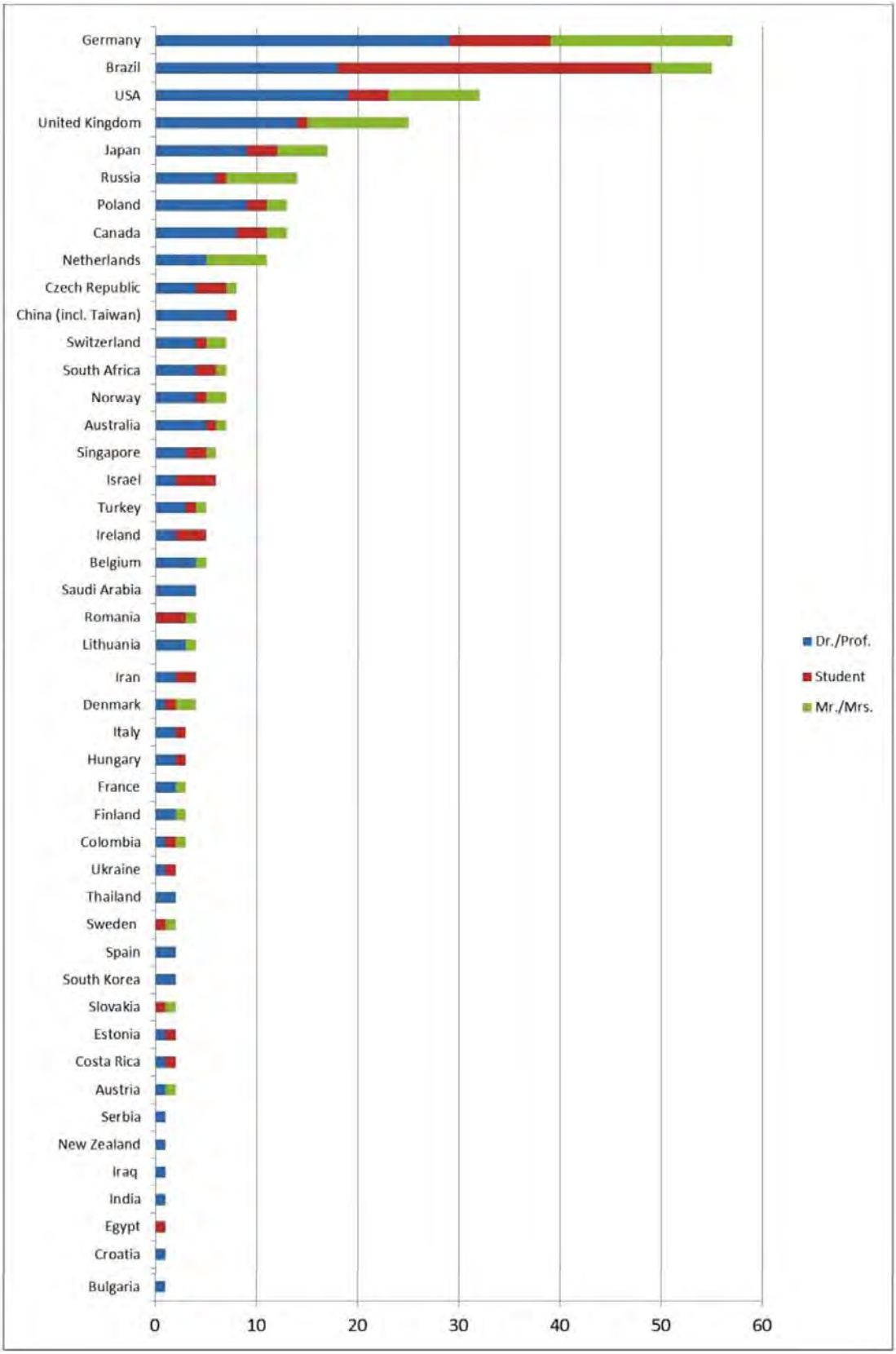


Figure 2: Numbers of ICD8 delegates for all attending countries, differentiated by career status as student, academic, or other (stacked).

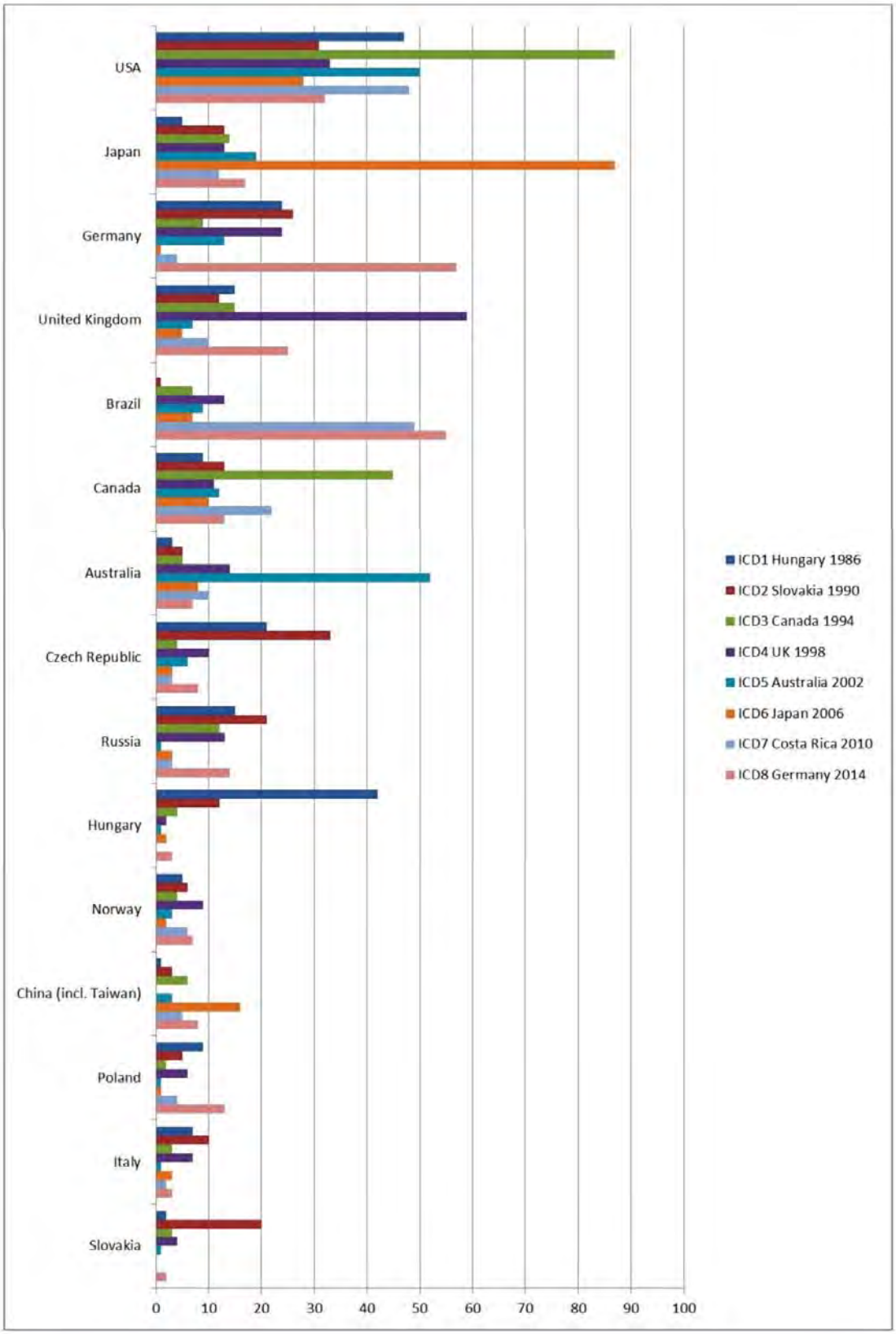


Figure 3: Numbers of delegates per country across all ICDs sorted by average attendance (values 4 and above).

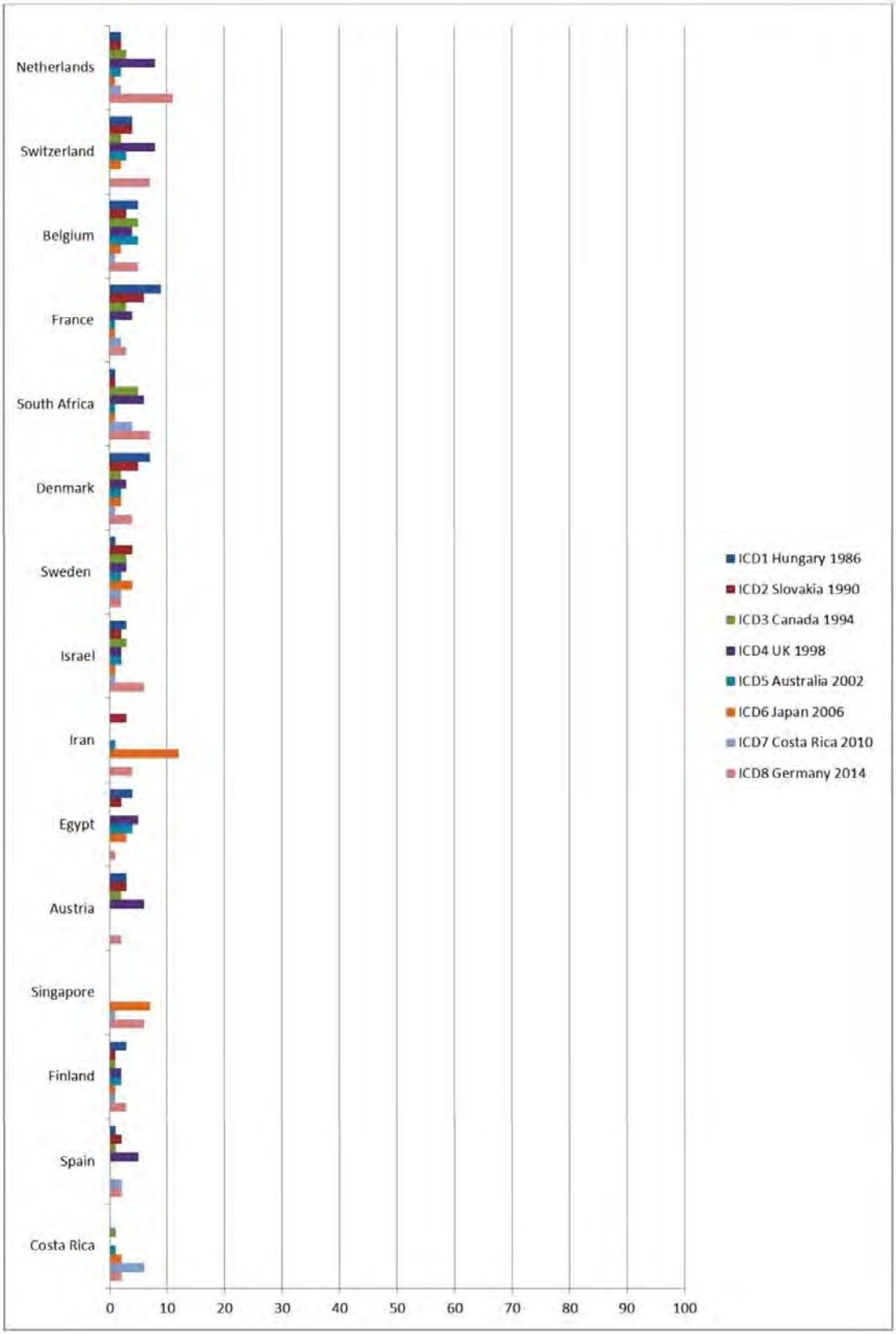


Figure 3 continued : Numbers of delegates per country across all ICDs sorted by average attendance (values 1.5 to 3.9).

We were very pleased to see our eastern neighbors, such as Russia, Poland, and the Czech Republic, well represented again, as they had been at the first European ICDs (Fig. 3). At the same time, attendance from other large European countries such as Italy, France and Spain was remarkably low.

Apart from the high general attendance, Brazil also stood out with respect to the high percentage of student delegates (56%) as opposed to the average percentage of student delegates across all other countries (19%), with the UK (4%) and the Netherlands (0%) bringing up the rear. Some countries such as the Germany, the UK, Russia and the Netherlands, had an especially large proportion of delegates, who registered as neither academics (Dr./Prof.) nor students.

Of course the indication of an academic degree in the ICD8 registration form allows no inference regarding the status of a delegate as a professional or an amateur dipterist. The proportion of students among the delegates is partially dependent on financial restrictions. Bearing this in mind, the numbers might still be taken into consideration as rough indicators of national trends. E. g. some countries might have a particularly strong need for for recruiting young dipterists, and some may have a particularly active "amateur" community which presently covers much of the countries expertise.

Figure 3 presents the main proveniences of the delegates for all ICDs, providing further insight into the national distribution of the world's dipterological expertise and its changes over time. Naturally, the longest bars in the diagram mostly refer to congresses within or adjacent to the respective countries. In these cases, the outliers should be disregarded when interpreting trends within individual nations.

Concerning the average attendance at ICDs, the US remains the unchallenged leader, followed by Japan, Germany, the UK, Brazil, and Canada. Congress attendance remained more or less stable in some countries such as the US, Japan and Canada. In some other countries, the attendance might be indicative of growing or falling trends, but shall not be interpreted in detail here. Most remarkably, within the last decade the top position was matched and taken over by Brazil, for which neither of the respective two congresses was a "home game". Examples for apparently falling trends are e. g. Italy, France and Denmark.

81% of all ICD8 delegates submitted one or more abstracts. The proportion is lowest for delegates who were neither academics nor students, followed by graduate academics and professors (Fig 4). It was highest among the student delegates (96%). These numbers indicate a high and gratifying productivity. Undoubtedly they are also a result of the high publication pressure and oftentimes strict obligation for accepted presentations in order to get any financial support for congress attendance.

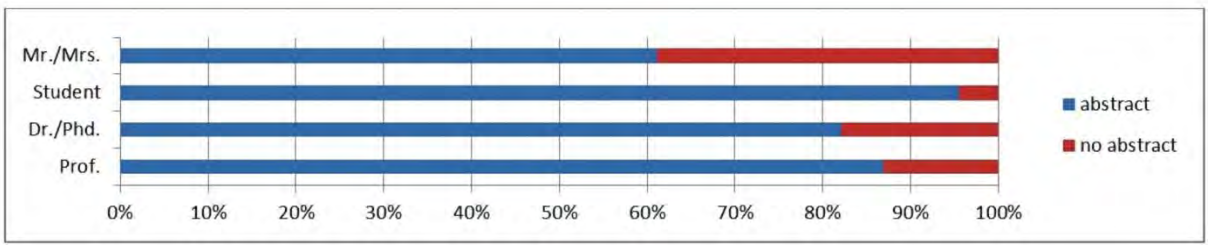


Figure 4: Proportion of delegates with abstract submissions in the different career stages.

Last but not least, the ICD8 data show that the proportion of female delegates decreases from students (52%) through graduate academics (26%) to professors (18%) (Fig.5). This is common knowledge, but still sad to see. It is unclear, what part of this trend is due to continuing gender discrimination. But

surely another factor is the harsh requirements of a scientific career today, which oftentimes seem downright incompatible with leading a healthy and balanced life, particularly for a woman with family plans.

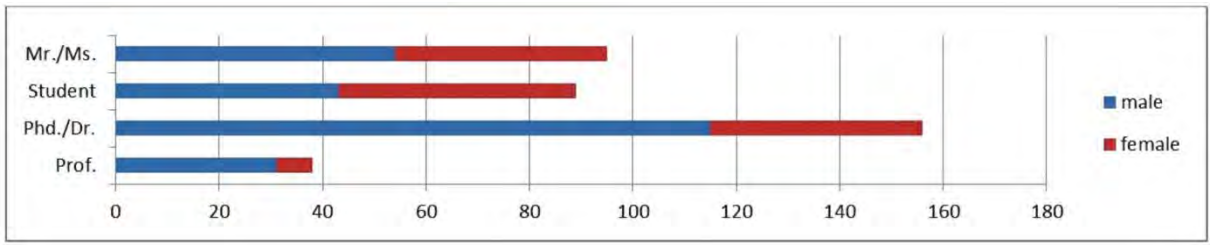


Figure 5: Numbers of male and female delegates in the different career stages.

Conclusions

The presented statistics mostly speak for themselves and only some very obvious trends have been pointed out. Some of the results may come in handy as arguments for discussions on a national basis. Please feel free to use the data and diagrams for this purpose.

If congress attendance is in any way related to the actual number of dipterological experts, then the numbers of delegates, and particularly student delegates, indicate an urgent need for the promotion of young dipterists in some countries, especially in light of the recent progress of dipterological vectors of plant, animal, and human diseases in some parts of the world. While some of the "Old World countries" appear to see falling trends in dipterological expertise with poor attendance at the last ICDs, a positive example is set by Brazil. The high proportion of Brazilian delegates in the last two ICDs and the high proportion of students among the Brazilian ICD8 delegates, seem to indicate particularly strong support for dipterological research in this country, placing it amongst the "global players" of dipterology in the last decade.

Dipterological experts need to be consistently available in every country. These experts require a long and expensive academic training. They should be recognized as an invaluable resource and should be treated accordingly in terms of more adequate and stable funding conditions, more reliable employment prospects, and less pressure for number of publications, third-party fund raising, evaluations, etc.

****

OPPORTUNITIES

Opportunities at the National Museum of Natural History, Smithsonian Institution, Washington DC, USA

Torsten Dikow

Department of Entomology, National Museum of Natural History, Smithsonian Institution
PO Box 37012, MRC 169, Washington, DC 20013-7012m USA; DikowT@si.edu

Research Entomologist / Curator position available at the Smithsonian
The Department of Entomology at the National Museum of Natural History, Smithsonian Institution in Washington, DC is inviting applications for a Research Entomologist / Curator. Even though I was hired as a dipterist two years ago, the department is looking to hire the best systematic entomologists and it would be great if another dipterist would be selected. If you are a U.S. citizen, please consider applying. Application deadline is December 5th.
Details: https://www.usajobs.gov/GetJob/ViewDetails/382649800 .

New and exciting Global Genome Initiative postdoctoral fellowship at the Smithsonian
In addition to the regular postdoctoral fellowships at the Smithsonian Institution, the National Museum of Natural History just announced a new postdoctoral fellowship program combining genomic research and outreach. The funding comes from the Global Genome Initiate (GGI, http://www.mnh.si.edu/ggi/) and the Buck Endowment. If you are interested in conducting phylogenomic research on flies and would like to help spread the word about GGI by doing outreach, please feel free to contact me to talk about proposal ideas. Application deadline is December 1st.
Details: http://www.smithsonianofi.com/blog/2014/10/08/calling-all-gene-genies/.

****

Tenure-track position at the Universidade Federal do Paraná (UFPR), Curitiba, Brazil

Claudio J. B. de Carvalho

Departamento de Zoologia, Universidade Federal do Paraná, C.P. 19020,
Curitiba, 81531-980, Paraná, Brasil; cjbcarva@ufpr.br

The Zoology Department of the Universidade Federal do Paraná (UFPR), located in Curitiba, Brazil, invites applications for a tenure-track position at the Full Professor level. Eligible candidates must have received a PhD before 2005 and must be fluent in Portuguese.

We are looking for a highly motivated, senior investigator with an outstanding publication record in systematics, taxonomy and/or biogeography of Hexapoda (http://www.pgento.ufpr.br/?page_id=134), excellent interpersonal and teamwork skills. The successful candidate is expected to teach classes and supervise students at the undergraduate and graduate levels. Hence he/she is also expected to fulfill the necessary requirements to work as a graduate school advisor through the Entomology Graduate Program. CAPES (Brazilian Ministry of Education) ranked the Graduate Program in Entomology of

UFPR among the top 10% among all 125 graduate programs in Brazil in the field of biodiversity.

Curitiba is a beautiful, multicultural city that ranks among the top ten cities to live in Brazil. Surrounded by lush Atlantic Forest, it enjoys easy access to an international airport and it is linked by major highways to the scenic beaches of Paraná and Santa Catarina states. UFPR is a centenary institution and one of the top Brazilian research universities. The Graduate Program in Entomology is also one of the oldest in the country and home to the Pe. Jesus Santiago Moure Insect Collection, the third largest in Brazil, with over three million specimens. UFPR's benefits include health insurance, retirement plans, paid sick-leave, holidays and vacations.

For further information, please contact Dr. Mário Navarro (mnavarro@ufpr.br) or Dr. Claudio Carvalho (cjbcarva@ufpr.br).

****

Fellowship Opportunities at the Smithsonian Institution

Torsten Dikow

Department of Entomology, National Museum of Natural History, Smithsonian Institution
PO Box 37012, MRC 169, Washington, DC 20013-7012m USA; DikowT@si.edu

The Smithsonian Institution's National Museum of Natural History (NMNH), and the Office of Fellowships & Internships (OFI), have an active and diverse program to support interns, predoctoral fellows (graduate students not having finished their degree), and postdoctoral fellows to allow scientists to visit our collections and conduct research here. I would like to take the opportunity to provide information on those fellowships that are of interest to dipterists and hope that some of you who are students or recently defended your dissertation think about applying to work for some time at the NMNH and utilize the outstanding USNM Diptera collection.

National Museum of Natural History undergraduate summer internship
The National Museum of Natural History runs a U.S. National Science Foundation-funded Research Experience for Undergraduates program called Natural History Research Experiences (NHRE). This 10-week, paid summer internship is a great opportunity for sophomore, freshman, and junior students at U.S. colleges and universities to work with a curator on a collections-based research project. Researchers from across the museum suggest projects and the applicants can rank the projects that sound most interesting to them. The program is very competitive as there are limited internships available (usually 15 per summer across the entire museum in the departments of Anthropology, Botany, Entomology, Invertebrate Zoology, Mineral Sciences, Paleobiology, and Vertebrate Zoology) and entomology will likely only get one intern (if there are qualified applicants).

I have had interns the past two summers working with me on a taxonomic revision of the robber-fly genera *Leptopteromyia* and *Acronyches* (information about these projects from 2013 and 2014). I will be submitting a new project, the revision of the Mydidae: Cacatuopyginae genus *Cacatuopyga*, for the 2015 internship program and would appreciate if you could encourage outstanding entomology students who are interested in collections-based research on Diptera to apply.

This internship and its predecessor, the *Research Training Program (RTP)* in which a number of dipterists have participated over the years, can be a great opportunity to get into Diptera research and

start a career in this field. I myself worked as an RTP-intern with Wayne Mathis on a revision and phylogenetic study of an Ephydridae genus (Dikow and Mathis 2002) back in 2000, met my later Ph.D. advisor David Grimaldi during that summer, and I am now Wayne's successor as Smithsonian dipterist.
Application deadline: most likely January 31, 2014.

Smithsonian Institution fellowships:
For general information about the fellowships below and guidelines of the application process please see the OFI web-site. All proposals dealing with entomological projects are first reviewed by the Smithsonian Department of Entomology and ranked within their respective categories (graduate, predoctoral, and postdoctoral). The top-ranked applications are then forwarded to the museum-wide competition including all of the biological departments (*i.e.*, Botany, Entomology, Invertebrate Zoology, Paleobiology, and Vertebrate Zoology). These fellowships are very competitive because applicants have to compete not just with other entomology proposals, but with applicants in other fields of systematic biology and taxonomy, too. Especially the postdoctoral fellowship, which receives the largest number of applications, will be the toughest one to succeed in. However, the Department of Entomology has in recent years at least obtained funding for its top-ranked candidate and in 2012 and 2013 even obtained funding for two postdocs each. These programs are open to students and researchers from around the world.

While the regular Smithsonian predoctoral and postdoctoral fellowships are only for 12 months, the NMNH has additional funds in the Peter Buck Fellowship Program to award two-year fellowships. Basically, the top-ranked museum-wide candidates will be given the two-year fellowship while one-year fellowships will be offered to as many proposals as funds allow. Especially for postdoctoral proposals, it would be advisable to submit a research proposal and budget for a two-year project to take advantage of the Peter Buck Fellowship Program.
Application deadline: December 1st, 2014.

10-week Graduate Student Fellowship
This fellowship is a great opportunity for graduate students to spend 10 weeks at the NMNH to study and work in our collection during this time period and incorporate the findings in their Masters or Ph.D. dissertation. (Note that only those Ph.D. students who have not yet advanced to candidacy are eligible.)
Fellowship funding: up to US$ 7,000.

3–24 Month Predoctoral Fellowship
This program supports those Ph.D. students who have fulfilled the requirements of candidacy (or its equivalent internationally) and who intend to spend up to 24 months working in our collection and utilize our facilities for their research for inclusion of the findings in their dissertation. This fellowship could be seen as providing a stipend for up to 24 months, which could be spent entirely or at least in part at the NMNH.
Fellowship funding: US$ 32,700 annually plus a research budget of up to US$ 4,000 annually.

12–36 Month Postdoctoral Fellowship
Young scientists who have completed their Ph.D. within the past five years and who are interested in conducting research at the NMNH in close collaboration with one of the curators can apply to this fellowship program. The project proposals need to be cutting-edge and use the latest tools and methods in phylogenetic systematics in order to be competitive. A straight morphological taxonomic proposal will most likely not be competitive although proposing a taxonomic and phylogenetic project utilizing

a diversity of approaches including morphology and molecular data on a large scale can be competitive.
Fellowship funding: US$ 48,000 annually plus a research budget of up to US$ 4,000 annually. Note that health insurance coverage is not included in the fellowship and is the personal responsibility of the fellow with Smithsonian Institution healthcare options being available.

I am happy to discuss project ideas and proposals with graduate students and postdocs who are interested to apply to the above fellowships. It would be great to see several fellows in the Diptera unit at the NMNH.

Short-Term Visitor Program
This program is available for a scholarly visit to the NMNH for research or collaboration of up to 21 days (funding of US $2,000) or 30 days for scientists from developing regions of the world (funding of up to US $4,000). Note, the application deadline is not fixed and submissions are welcome year round.

Links to further information:
Smithsonian OFI Fellowships
Smithsonian OFI application procedure
NMNH Peter Buck Fellowship information
Smithsonian application system SOLAA

****

S.W. Williston Diptera Research Fund at the National Museum of Natural History, Smithsonian Institution

Torsten Dikow, and S.W. Williston Fund committee

Department of Entomology, National Museum of Natural History, Smithsonian Institution
PO Box 37012, MRC 169, Washington, DC 20013-7012m USA; DikowT@si.edu

The S.W. Williston Diptera Research Fund is a Smithsonian Institution administered endowment fund established for the *increase and diffusion of knowledge about Diptera*. Samuel Wendell Williston was a distinguished biologist who made significant contributions to paleontology, entomology, medicine, and education. He was the first native dipterist in the U.S., the first to produce generic monographs of Nearctic Diptera, the first to curate and study the Diptera of the USNM, and the first to make a contribution to that collection (his types of Nearctic Syrphidae).

To explore S.W. Williston's life in greater detail please consult these references:

- Aldrich, J.M. 1918. Samuel Wendell Williston. *Entomological News* 29: 322–327. http://biostor.org/reference/73380.
- Shor, E.N. 1971. *Fossils and Flies: The Life of a Compleat Scientist, Samuel Wendell Williston (1851–1918)*. University of Oklahoma Press, Norman, 285 pp.
- Beckemeyer, R. 2009. Samuel Wendell Williston – the first and foremost Kansas dipterist. *Transactions of the Kansas Academy of Science* 112(3-4): 225–228. http://dx.doi.org/10.1660/062.112.0412 (currently not open-access).

The Williston Fund is administered by a committee of at least three members, two of whom (the majority) must be systematists actively working on Diptera, and one who must be a scientist affiliated with, but not necessarily employed by, the Smithsonian Institution (for example, a dipterist of the United States Department of Agriculture Systematic Entomology Laboratory). The current committee consists of: Wayne Mathis, Chris Thompson, Gary Hevel, and Torsten Dikow.

About US $6,000 are available from the endowment annually. To this day, the fund has supported the travel of graduate students and dipterists to the *International Congresses of Dipterology* and to our museum for collections-based research as well as field work.

The requirements for support are minimal: contact any of the committee members with a synopsis of what you need to increase and diffuse knowledge about Diptera. Summarize your research goals into a short proposal in PDF format (1–2 pages maximum) with a separate, itemized budget (anticipated transportation costs, *per diem* costs for lodging and food, and any other items). Proposals are reviewed annually in December, so submit by November 30th. Note that every awardee will need to comply with the rules of the Smithsonian Institution regarding travel and reimbursements, which require several forms to be filled out prior to any travel.

Please consider donating to this endowment fund to support the increase and diffusion of knowledge about Diptera and particularly the research and travel of a new generation of dipterists.

“The happiest hours of my life were those spent on the Diptera.” Shor 1971: 163.

DIPTERA ARE AMAZING!

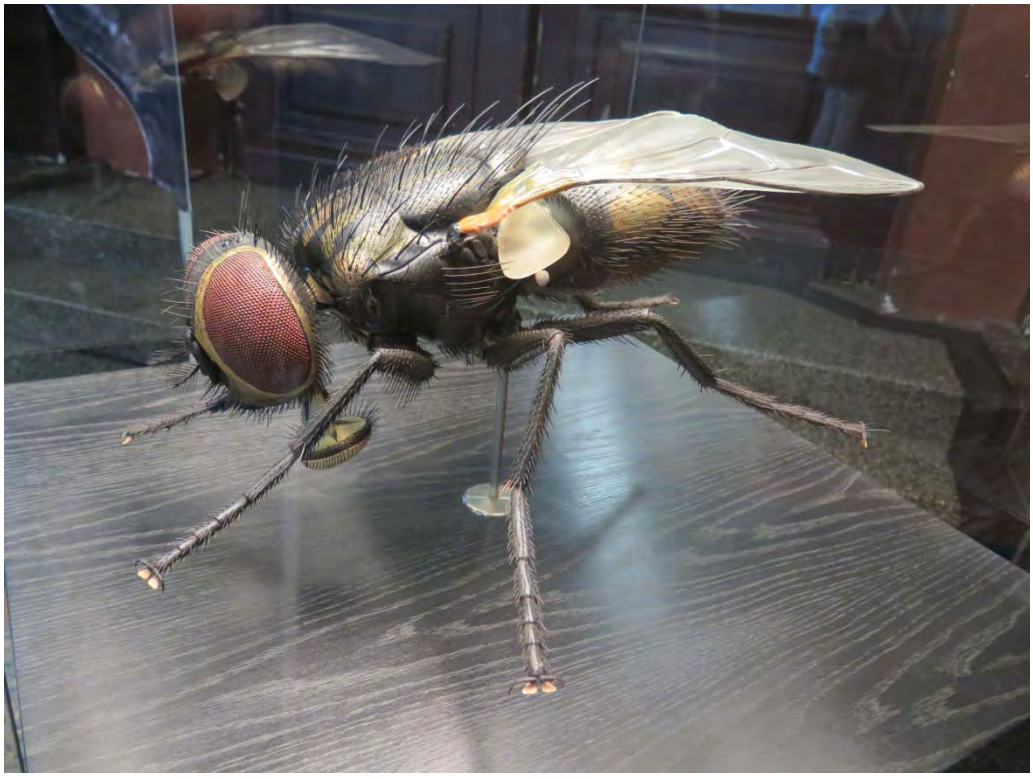
Thank you very much to the several folks who sent such excellent photographs for your enjoyment! We'll start off with a couple of very cool larval photos submitted by Greg Courtney - the top one being Blepharoceridae, and the bottom Tanyderidae (if the families are wrong - it is my error! -editor).

The following two tachinid photos were submitted by Alan Windham, taken along the Gunnison River in southwest Colorado, in the Curecanti National Recreation Area in late July, 2014. Thanks go to Jim O'Hara for telling us their names! The top one is *Adejeania vexatrix* (Osten Sacken), and the bottom one is *Paradejeania rutilioides* (Jaennicke).

Following are two photos of the tephritid *Euaresta aequalis* (Loew), submitted by Bob English.

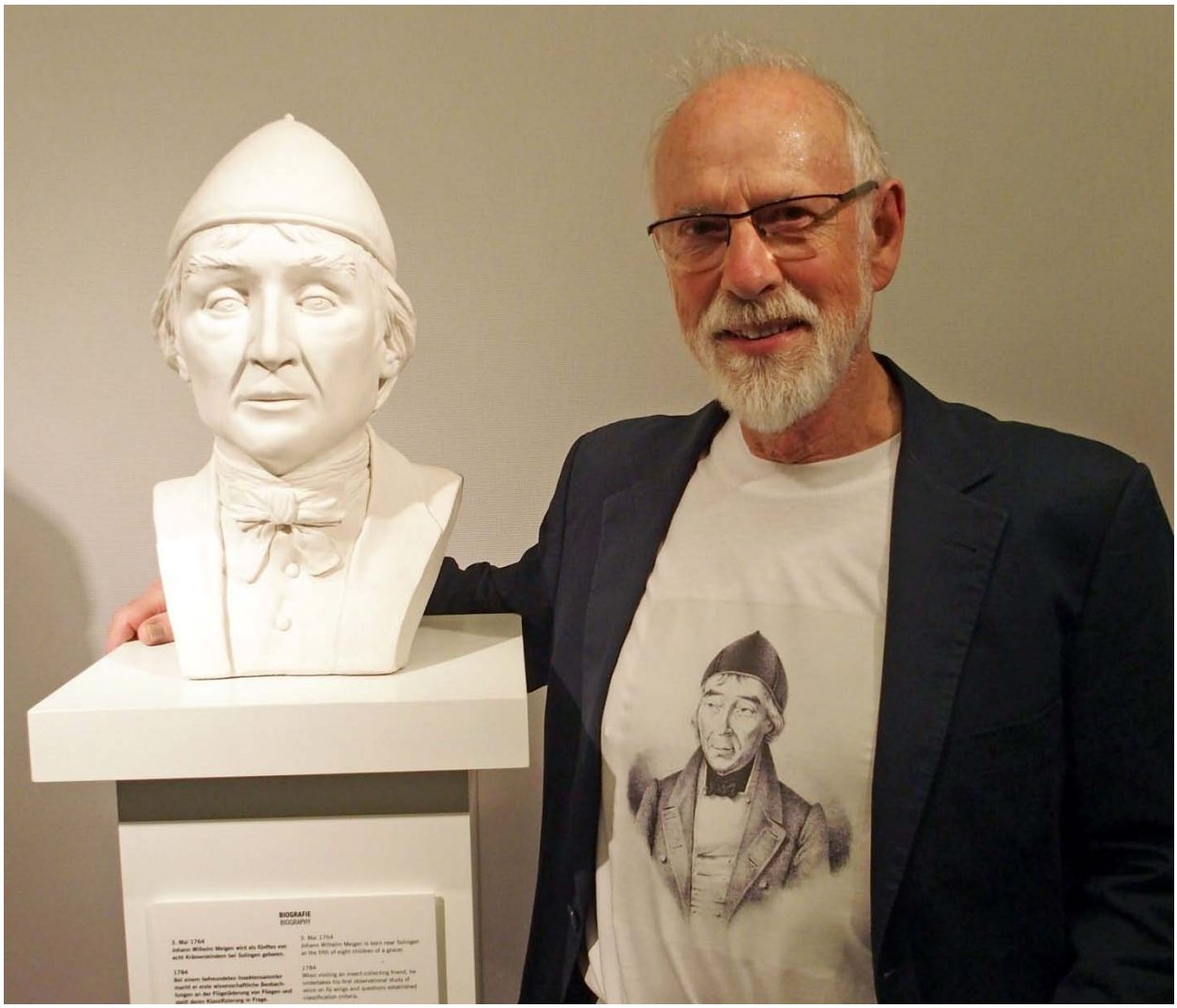
The asilid *Hodophylax aridus* James, feeding on a small wasp. Bob Parks photographed this scene at the San Pedro Riparian Area, Cochise County, Arizona, in a grassland habitat on 12 September 2014.

This gem was submitted by Martin Hauser, from the exhibit associated with the ICD8.



DIPTERISTS ARE PRETTY COOL TOO!

The response to my call for photos from ICD8 was great! Far too many to deal with, but I should have known what I was asking for! In any case, here is a smattering of the photos that were submitted, and it looks like a great time was had by all! It has elicited much jealousy from this Fly Times editor! Please pardon any errors - any that might creep in are entirely my own.



A friendly moment between the father of European dipterology, Johann Meigen, and newly elected Honorary Member of the Congresses of Dipterology, Adrian Pont. Submitted by Jim O'Hara.

The Culicomorpha group. Submitted by Art Borkent.

Left to right: Jade Savage, Jeff Cumming and Brad Sinclair, conversing over wine. Submitted by Art Borkent.

Monty and Grace Wood. Submitted by Art Borkent.

Left to right: Dan Bickel, Marc Pollet, ?? (sorry!), Jan Ševčik, Jindřich Roháček, Michael Tkoč. Submitted by Marc Pollet.

Left to right: Faye Whitworth, Riley Nelson, Riley's wife (sorry, don't know her name!), and Chris Thompson. Submitted by Terry Whitworth.

Terry Whitworth (right) with James Wallman. Marion Kotrba center background. Submitted by Terry Whitworth.

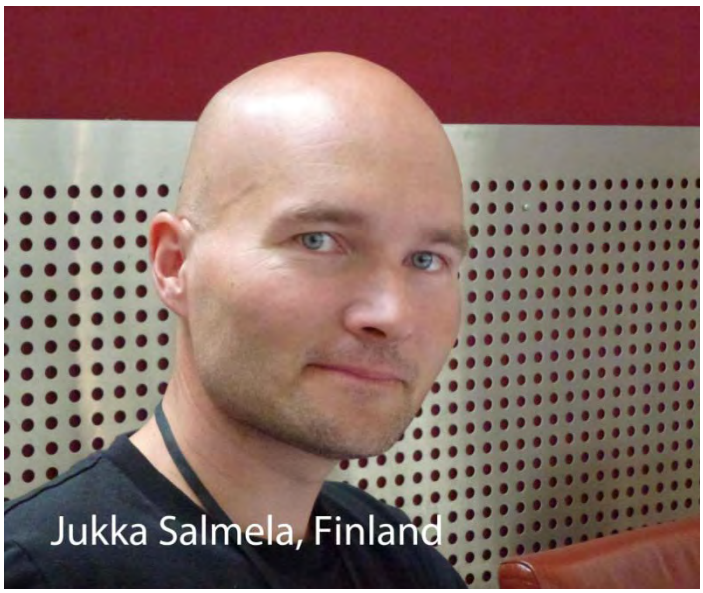
Left to right: seated, Agnete Rognes, Davinder Kaur, Mary Smart; standing, Bonnie Irwin, Yoko ? (sorry!). Submitted by Terry Whitworth.

Knut Rognes (laughingly) explains how Knut the polar bear was named after him. Submitted by Terry Whitworth.

Brian Wiegmann and Shaun Winterton. Submitted by Martin Hauser.

Art Borkent + guitar. Submitted by Fenja Brodo.

Herman de Jong. Submitted by Fenja Brodo.



Jukka Salmela (left), and Pjotr Oosterbroek (right). Submitted by Fenja Brodo.

Left to right: Steve Marshall, Eric Fisher, Shaun Winterton. Submitted by Martin Hauser

Martin Hauser (left) and Ashley Kirk-Spriggs. Submitted by Martin Hauser.

Left to right, Farzaneh Kazerani, Babak Gharali, Chris Thompson. Submitted by Martin Hauser.

The pipunculid was THIS big! Jeff Skevington. Submitted by Martin Hauser.

Martin Hauser (left) and Hans-Peter Tschorsnig. Submitted by Martin Hauser.

Ximo Mengual. Submitted by Martin Hauser.

Left to right: Frank Menzel, Sara Bazyar, Michael von Tschirnhaus, Jonas von Tschirnhaus. Submitted by Martin Hauser.

This one makes your editor extremely jealous - lauxaniid workers from three continents (North America notably absent). Left to right: Vera Silva, Li Shi, Ray Miller. Submitted by Martin Hauser.

Brad Sinclair (right) and Josenir Câmara. Submitted by Martin Hauser.

Left to right: Roger Thomason, Vladimir Blagoderov, David Cheung. Submitted by Martin Hauser.

Tachinid workers! Left to right: John Stireman III, Pierfilippo Ceretti, Monty Wood, Diego Inclan, Jim O'Hara. Submitted by Martin Hauser.

Christian Kehlmaier. Submitted by Martin Hauser

Thomas Pape with dinosaur. Submitted by Martin Hauser.

Steve Marshall with a clusiid. Submitted by Martin Hauser.

Around the table, starting front left: Gunnar Kvifte, Shaun Winterton, Torsten Dikow, Chris Borkent, Lyubomir Penev, Pierfilippo Ceretii, Rudolf Meier, Daniel Whitmore, Jukka Salmela, Martin Hauser. Submitted by Martin Hauser.

End of the show! Left to right, Netta Dorchin, Marion Kotrba, Frank Menzel. Submitted by Martin Hauser.

BOOKS AND PUBLICATIONS

Below, as usual, is a list of the major Diptera related paper from the last six months. It includes a range of articles on taxonomy, phylogeny and systematics, as well as more unique papers like the use of renaissance painting to determine the initial introduction of black soldier flies to Europe, how flies get at bodies in a suitcase, or the effect of bird versus fly pollination in the evolution of floral morphology. I hope they will prove interesting!

As usual if we have not included a paper that you think should have been here, please feel free to pass it along to Chris (chris.borkent@gmail.com) and we will include it in the next issue. Unfortunately the online resources do not always catch everything and are a couple of months behind. We also apologize for the missing diacritics in some author's names, unfortunately this is a product of searching in Zoological Record and Web of Science, where they are removed.

Ale-Rocha, R. and De Freitas-Silva, A.P. 2014. New species of *Oropezella* Collin (Diptera, Hybotidae, Ocydromiinae) from Brazil and Costa Rica, with comments on the relationships among species-groups. Zootaxa **3852(5)**: 501-539.

Ale-Rocha, R., Freitas, G. and Mathis, W.N. 2014. Revision of the Neotropical genus *Marbenia* Malloch (Diptera: Periscelididae). Zootaxa **3872(4)**: 365-375.

Alvim, E., Ale-Rocha, R. and Bravo, F. 2014. Taxonomic revision of *Neodiogmites* Carrera, 1949 (Diptera, Asilidae) and description of two new species. Zootaxa **3861(2)**: 101-126.

Anbalagan, S., Prasanna, V.A., Dinakaran, S. and Krishnan, M. 2014. Two new species of *Simulium* (*Gomphostilbia*) (Diptera: Simuliidae) from Peninsular India with keys to Peninsular Indian members of the genus *Simulium*. Zootaxa **3861(5)**: 451-465.

Andrews, E.S., Schoeler, G.B., Gozalo, A.S., Carbajal, F., Lopez-Sifuentes, V. and Turell, M.J. 2014. Species diversity, seasonal, and spatial distribution of mosquitoes (Diptera: Culicidae) captured in *Aotus* monkey-baited traps in a forested site bear Iquitos, Peru. Journal of Medical Entomology **51**: 1127-1135.

Andrić A., Šikoparija B., Obreht D., Đan M., Preradović J., Radenković S., Perez-Bañon C. and Vujić A. 2014 DNA barcoding applied: identifying the larva of *Merodon avidus* (Diptera: Syrphidae). Acta Entomologica Musei Nationalis Pragae **54(2):** 741-757.

Archibald, S.B., Kehlmaier, C. and Mathewes, R.W. 2014. Early Eocene big headed flies (Diptera: Pipunculidae) from the Okanagan Highlands, western North America. Canadian Entomologist **146(4)**: 429-443. doi:10.4039/tce.2013.79.

Barr, N.B., Ledezma, L.A., Leblanc, L., San Jose, M., Rubinoff, D., Geib, S.M., Fujita, B., Bartels, D.W., Garza, D., Kerr, P., Hauser, M. and Gaimari, S. 2014. Genetic diversity of *Bactrocera dorsalis* (Diptera: Tephritidae) on the Hawaiian Islands: Implications for an introduction pathway into California. Journal of Economic Entomology **107(5)**: 1946-1958.

Bartak, M., Kubik, S., Civelek, H.S. and Dursun, O. 2014. New species of *Rhamphomyia* (Diptera: Empididae) from Turkey with a key to species of the Middle East and adjacent territories. Zootaxa **3815(1)**: 68-78.

Baum, M. and de Castro, E.A. 2014. Defense of taxonomy, a Sisyphus task? Reply. Revista Da Sociedade Brasileira De Medicina Tropical **47(4)**: 539-539. doi:10.1590/0037-8682-0018-2014.

Benelli, G., Bonsignori, G., Stefanini, C. and Raspi, A. 2014a. First Quantification of Courtship Behavior in a Silver Fly, *Leucopis palumbii* (Diptera: Chamaemyiidae): Role of Visual, Olfactory and Tactile Cues. Journal of Insect Behavior **27(4)**: 462-477. doi:10.1007/s10905-014-9443-7.

Benelli, G., Canale, A., Raspi, A. and Fornaciari, G. 2014b. The death scenario of an Italian Renaissance princess can shed light on a zoological dilemma: did the black soldier fly reach Europe with Columbus? Journal of Archaeological Science **49**: 203-205. doi:10.1016/j.jas.2014.05.015.

Benelli, G., Giunti, G., Canale, A. and Messing, R.H. 2014c. Lek dynamics and cues evoking mating behavior in tephritid flies infesting soft fruits: implications for behavior-based control tools. Applied Entomology and Zoology **49(3)**: 363-373. doi:10.1007/s13355-014-0276-9.

Bhadra, P., Hart, A.J. and Hall, M.J.R. 2014. Factors affecting accessibility to blowflies of bodies disposed in suitcases. Forensic Science International **239**: 62-72.

Boerstler, J., Luehken, R., Martin, R., Steinke, S., Melaun, C., Becker, S., Garms, R. and Krueger, A. 2014. The use of morphometric wing characters to discriminate female *Culex pipiens* and *Culex torrentium*. Journal of Vector Ecology **39(1)**: 204-212.

Bomfim, Z.V., Lima, K.M., Silva, J.G., Costa, M.A. and Zucchi, R.A. 2014. Morphometric and molecular characterization of *Anastrepha* species in the *spatulata* Group (Diptera, Tephritidae). Annals of the Entomological Society of America **107(5)**: 893-901. doi:10.1603/an13183.

Borkent, A. 2014. World catalog of extant and fossil Chaoboridae (Diptera). Zootaxa **3796(3)**: 469-493.

Boykin, L.M., Schutze, M.K., Krosch, M.N., Chomic, A., Chapman, T.A., Englezou, A., Armstrong, K.F., Clarke, A.R., Hailstones, D. and Cameron, S.L. 2014. Multi-gene phylogenetic analysis of south-east Asian pest members of the *Bactrocera dorsalis* species complex (Diptera: Tephritidae) does not support current taxonomy. Journal of Applied Entomology **138(4)**: 235-253. doi:10.1111/jen.12047.

Bravo, F., Cordeiro, D. and Jocque, M. 2014. A new genus of Psychodinae (Diptera, Psychodidae) from phytotelmata in a Honduran cloud forest. Zootaxa **3841(3)**: 418-428.

Brown, B.V. 2014. Revision of the *Apocephalus analis* group of ant-decapitating flies (Diptera: Phoridae). Zootaxa **3857(4)**: 551-570.

Brown, B.V. and Oliver, H. 2014. The first known ant-parasitising phorid fly (Diptera: Phoridae) from New Zealand is an invasive species. New Zealand Entomologist **37(2)**: 141-143.

Camara, J.T. and Rafael, J.A. 2014. Revision of *Opeatocerata* Melander, 1928 (Diptera: Empididae: Empidinae). Zootaxa **3846(4)**: 502-546.

Cerretti, P., Logiudice, G. and Pape, T. 2014. Remarkable Rhinophoridae in a growing generic genealogy (Diptera: Calyptratae, Oestroidea). Systematic Entomology **39(4)**: 660-690. doi:10.1111/syen.12080.

Chen, Y., Why, A., Batista, G., Mafra-Neto, A. and Keogh, E. 2014a. Flying insect classification with inexpensive sensors. Journal of Insect Behavior **27(5)**: 657-677.

Chen, Y.H., Liu, L.Y., Tsai, W.H., Haymer, D.S. and Lu, K.H. 2014b. Using DNA chips for identification of tephritid pest species. Pest Management Science **70(8)**: 1254-1261. doi:10.1002/ps.3687.

Coon, K.L., Vogel, K.J., Brown, M.R. and Strand Michael, R. 2014. Mosquitoes rely on their gut microbiota for development. Molecular Ecology **23(11)**: 2727-2739.

Cordeiro D., Bravo F., Wolff M.and Barros C.C. J. 2014. A new species of *Feuerborniella* (Diptera: Psychodidae) from the paramo of Colombia. Acta Entomologica Musei Nationalis Pragae **54(1):** 377-382.

Couri, M. and Pont, A.C. 2014. New species of Afrotropical Muscidae (Diptera: Muscoidea). Zootaxa **3852(3)**: 301-320.

David, K.J., Singh, S.K. and Ramani, S. 2014. New species and records of Trypetinae (Diptera: Tephritidae) from India. Zootaxa **3795(2)**: 126-134.

de Carvalho Gabriela, C., Malafronte Rosely dos, S., Izumisawa Clara, M., Teixeira, R.S., Natal, L. and Marrelli Mauro, T. 2014. Blood meal sources of mosquitoes captured in municipal parks in Sao Paulo, Brazil. Journal of Vector Ecology **39(1)**: 146-152.

De Jong, H. and Ciliberti, P. 2014. How cold-adapted flightless flies dispersed over the northern hemisphere: phylogeny and biogeography of the snow fly genus *Chionea* Dalman (Diptera: Limoniidae). Systematic Entomology **39(3)**: 563-589. doi:10.1111/syen.12075.

De Moraes Consuelo, M., Stanczyk, N.M., Betz, H.S., Pulido, H., Sim, D.G., Read, A.F. and Mescher Mark, C. 2014. Malaria-induced changes in host odors enhance mosquito attraction. Proceedings of the National Academy of Sciences of the United States of America **111(30)**: 11079-11084.

De Re, F.C., Gustani, E.C., Oliveira, A.P.F., Machado, L.P.B., Mateus, R.P., Loreto, E.L.S. and Robe, L.J. 2014. Brazilian populations of *Drosophila maculifrons* (Diptera: Drosophilidae): low diversity levels and signals of a population expansion after the Last Glacial Maximum. Biological Journal of the Linnean Society **112(1)**: 55-66. doi:10.1111/bij.12244.

De Souza, J.I., Gleason, F.H., Ansari, M.A., Lastra, C.C.L., Garcia, J.J., Pires-Zottarelli, C.L.A. and Maran, A.V. 2014. Fungal and oomycete parasites of Chironomidae, Ceratopogonidae and Simuliidae (Culicomorpha, Diptera). Fungal Biology Reviews **28(1)**: 13-23. doi:10.1016/j.fbr.2014.02.002.

Diaz F., Torreias S.R.S., Spinelli G.R. and Ronderos M.M. 2014 New species of *Dasyhelea* from Brazilian Amazonas and the description of the male of *D. paulistana* (Diptera: Ceratopogonidae) Acta Entomologica Musei Nationalis Pragae. **54 (2):** 715-728.

Dillon, R.J., Hynes, T.M., Mc Donnell Rory, J., Williams, C.D. and Gormally Michael, J. 2014. Influence of snail mucus trails and first snail meal on the behavior of malacophagous sciomyzid larvae. Biological Control **74**: 6-12.

Dominguez, M.C. and Aballay, F.H. 2014. An updated key to the species of *Fannia* Robineau-Desvoidy (Diptera: Fanniidae) of Southern South America, and the description of a new species from Mendoza, Argentina. Zootaxa **3795(2)**: 152-160.

Dor, R., Rosenstein, S. and Scharf, I. 2014. Foraging behaviour of a neglected pit-building predator: the wormlion. Animal Behaviour **93**: 69-76. doi:10.1016/j.anbehav.2014.04.020.

Evenhuis Neal, L. and Pape, T. 2014. Clarification of the authorship, type species, and date of the genus *Taxigramma* (Diptera: Sarcophagidae). Zootaxa **3841(1)**: 146-150.

Evenhuis, N.L. and Pape, T. 2014. Nomenclatural status of the 'pocketknife fly': *Stomoxoides* Schaeffer, 1766 (Diptera: Conopidae). Zootaxa **3861(5)**: 441-450.

Everatt, M.J., Convey, P., Worland, M.R., Bale, J.S. and Hayward, S.A.L. 2014. Are the Antarctic dipteran, *Eretmoptera murphyi*, and Arctic collembolan, *Megaphorura arctica*, vulnerable to rising temperatures. Bulletin of Entomological Research **104(4)**: 494-503.

Fachin, D.A. and Amorim, D.D. 2014. Taxonomic revision of the Neotropical genus *Arthropeina* Lindner, 1949 (Diptera: Xylomyidae). Zootaxa **3827(2)**: 231-257.

Farwig, N., Brandl, R., Siemann, S., Wiener, F. and Muller, J. 2014. Decomposition rate of carrion is dependent on composition not abundance of the assemblages of insect scavengers. Oecologia **175(4)**: 1291-1300. doi:10.1007/s00442-014-2974-y.

Ferguson, D.J., Lambkin, C.L. and Yeates, D.K. 2014. Eight new species of Australian stiletto flies in the genus *Anabarhynchus* Macquart (Diptera: Therevidae) from South East Queensland. Zootaxa **3802(4)**: 553-582.

Fitzgerald, S.J. and Kerr, P.H. 2014. Revision of Nearctic *Phthinia* Winnertz (Diptera: Mycetophilidae). Zootaxa **3856(3)**: 301-325.

Fitzgerald, S.J. and Wood, D.M. 2014. A new species of Axymyiidae (Diptera) from western North America and a key to the Nearctic species. Zootaxa **3857(1)**: 101-113.

Fleming, A.J., Wood, D.M., Smith, M.A., Hallwachs, W. and Janzen, D.H. 2014. Revision of the New World species of *Houghia* Coquillett (Diptera, Tachinidae) reared from caterpillars in Area de Conservacion Guanacaste, Costa Rica. Zootaxa **3858(1)**: 1-90.

Friedemann, K., Schneeberg, K. and Beutel, R.G. 2014. Fly on the wall-attachment structures in lower Diptera. Systematic Entomology **39(3)**: 460-473. doi:10.1111/syen.12064.

Galinskaya, T.V., Suvorov, A., Okun, M.V. and Shatalkin, A.I. 2014. DNA barcoding of Palaearctic Ulidiidae (Diptera: Tephritoidea): morphology, DNA evolution, and Markov codon models. Zoological Studies **53**: 17. doi:10.1186/s40555-014-0051-1.

Gao, Q.S. and Chen, H.W. 2014. The genera Luzonimyia and Pararhinoleucophenga from China (Diptera: Drosophilidae), with DNA barcoding information. Zootaxa **3852(2)**: 294-300.

Garcia-Romera, C. and Antonio Barrientos, J. 2014. Nine new species of Phoridae (Insecta: Diptera) from Spain. Zootaxa **3857(2)**: 244-260.

Garcia, A.C.L., Silva, D., Monteiro, A.G.F., Oliveira, G.F., Montes, M.A. and Rohde, C. 2014. Abundance and richness of cryptic species of the *willistoni* Group of *Drosophila* (Diptera: Drosophilidae) in the biomes Caatinga and Atlantic forest, northeastern Brazil. Annals of the Entomological Society of America **107(5)**: 975-982. doi:10.1603/an14052.

Gerlach, J., Samways, M.J., Hochkirch, A., Seddon, M., Cardoso, P., Clausnitzer, V., Cumberlidge, N., Daniel, B.A., Black, S.H., Ott, J. and others. 2014. Prioritizing non-marine invertebrate taxa for Red Listing. Journal of Insect Conservation **18(4)**: 573-586. doi:10.1007/s10841-014-9660-6.

Gibbs, D. 2014. A world revision of the bee fly tribe Usiini (Diptera, Bombyliidae) Part 2: *Usia sensu stricto*. Zootaxa **3799(1)**: 1-85.

Godoy, R.E., Galati, E.A.B., Cordeiro-Estrela, P., De Souza, N.A., Dos Santos, T.V., De Sousa, L.C. and Rangel, E.F. 2014. Comparative study of the phlebotomine sand fly species (Diptera: Psychodidae: Phlebotominae) of the genera *Nyssomyia* Barretto, 1962, *Bichromomyia* Artemiev, 1991, and *Migonemyia* Galati, 1995, vectors of American cutaneous leishmaniasis in Brazil. Zootaxa **3838(5)**: 501-517.

Grichanov, I.Y. and Kazerani, F. 2014. A new species of *Sybistroma* Meigen (Diptera: Dolichopodidae) from the Middle East with a key to West-Palaearctic species of the genus. Zootaxa **3866(4)**: 572-582.

Growns, I., Ryder, D., Kobayashi, T. and Garcia, A. 2014. Freshwater macroinvertebrates of Lord Howe Island. Journal of Natural History **48(43-44)**: 2675-2687. doi:10.1080/00222933.2014.946107.

Gunther, B., Rall, B.C., Ferlian, O., Scheu, S. and Eitzinger, B. 2014. Variations in prey consumption of centipede predators in forest soils as indicated by molecular gut content analysis. Oikos **123(10)**: 1192-1198. doi:10.1111/j.1600-0706.2013.00868.x.

Hancock, D.L. 2014. An annotated key to the *Dacopsis* complec of genera (Diptera: Tephritidae: Acanthonevrini), with two new genera and one new species. Australian Entomologist **41**: 163-176.

Harper, P.P. and Masteller, E.C. 2014. Five new aquatic dance flies of the genus *Hemerodromia* Meigen (Diptera: Empididae: Hemerodromiinae) from Puerto Rico. Canadian Entomologist **146(3)**: 241-247. doi:10.4039/tce.2013.59.

Harten, A. van. (Ed.) 2014. *Arthropod Fauna of the UAE. 5.* Al Amal Printing Press. Abu Dhabi, UAE. 744 pp.

Hernandez-Triana, L.M., Prosser, S.W., Rodriguez-Perez, M.A., Chaverri, L.G., Hebert, P.D.N. and Gregory, T.R. 2014. Recovery of DNA barcodes from blackfly museum specimens (Diptera: Simuliidae) using primer sets that target a variety of sequence lengths. Molecular Ecology Resources **14(3)**: 508-518. doi:10.1111/1755-0998.12208.

Hippa H. and Ševčík J. 2014 Notes on *Nepaletricha* (Diptera: Sciaroidea incertae sedis), with description of three new species from India and Vietnam. Acta Entomologica Musei Nationalis Pragae **54(2):** 729-739.

Irish, S., Lindsay, T. and Wyatt, N. 2014. Key to adults of Afrotropical species of the genus *Chrysomya* Robineau-Desvoidy (Diptera: Calliphoridae). African Entomology **22**: 297-306. doi:http://dx.doi.org/10.4001/003.022.0210.

Jaschhof, M. and Jaschhof, C. 2014. *Zadbimyia*, a new genus of asynaptine Porricondylinae (Diptera: Cecidomyiidae) with twenty-two new species from the cloud forest of Costa Rica. Zootaxa **3866(1)**: 1-29.

Jean-Paul, H. and Huerta, H. 2014. The identity of *Scatopse diabolica* Duda, 1928, with description of a new genus from Mexico (Diptera, Scatopsidae). Revue Suisse de Zoologie **121(2)**: 249-260.

Jocque, M. and Field, R. 2014. Aquatic invertebrate communities in tank bromeliads: how well do classic ecological patterns apply? Hydrobiologia **730(1)**: 153-166. doi:http://dx.doi.org/10.1007/s10750-014-1831-7.

Johnson, C.M., He, T. and Pauw, A. 2014. Floral divergence in closely related *Leucospermum tottum* (Proteaceae) varieties pollinated by birds and long-proboscid flies. Evolutionary Ecology **28(5)**: 849-868.

Kallander, H. 2014. Black-headed Gulls *Chroicocephalus ridibundus* capturing chironomids in flight: have flight costs been overestimated. Journal of Ornithology **155(3)**: 825-827.

Kang, Z.H. and Yang, D. 2014. Species of *Blephariceraa* Macquart from China with descriptions of two new species (Diptera: Blephariceridae). Zootaxa **3866(3)**: 421-434.

Kania, I. 2014. Subfamily Limoniinae Speiser, 1909 (Diptera, Limoniidae) from Baltic amber (Eocene): the genus *Helius* Lepeletier & Serville, 1828. Zootaxa **3814(3)**: 333-352.

Karimian, F., Oshaghi, M.A., Sedaghat, M.M., Waterhouse, R.M., Vatandoost, H., Hanafi-Bojd, A.A., Ravasan, N.M. and Chavshin, A.R. 2014. Phylogenetic Analysis of the Oriental-Palearctic-Afrotropical Members of *Anopheles* (Culicidae: Diptera) Based on Nuclear rDNA and Mitochondrial DNA Characteristics. Japanese Journal of Infectious Diseases **67(5)**: 361-367.

Kawarasaki, Y., Teets, N.M., Denlinger, D.L. and Lee, R.E. 2014a. Alternative overwintering strategies in an Antarctic midge: freezing vs. cryoprotective dehydration. Functional Ecology **28(4)**: 933-943. doi:http://dx.doi.org/10.1111/1365-2435.12229.

Kawarasaki, Y., Teets, N.M., Denlinger, D.L. and Lee, R.E. 2014b. Wet hibernacula promote inoculative freezing and limit the potential for cryoprotective dehydration in the Antarctic midge, *Belgica antarctica*. Polar Biology **37(6)**: 753-761.

Kechev, M., Negrobov, O. and Grichanov, I. 2014. Diversity of Long-Legged Flies (Diptera: Dolichopodidae) along the banks of the Omurovska River (Bulgaria), with the description of a new species of the genus *Teuchophorus* Loew. Acta Zoologica Bulgarica **66(3)**: 317-323.

Kehlmaier, C., Gharali, B. and Jahromi, B.M. 2014. A new *Corononcodes* Speiser from the Palaearctic Region, with a key to species (Diptera: Acroceridae). Zootaxa **3869(2)**: 171-179.

Kleindorfer, S., Peters, K.J., Custance, G., Dudaniec, R.Y. and O'Connor, J.A. 2014. Changes in *Philornis* infestation behavior threaten Darwin's finch survival. Current Zoology **60(4)**: 542-550.

Korneyev, V.A. 2014. Pyrgotid flies assigned to *Apyrgota*. II. New synonyms in *Eupyrgota* (subgenus *Taeniomastix*) (Diptera, Pyrgotidae), with key to subgenera and species. Vestnik Zoologii **48(3)**: 211-220.

Kotrba, M., Huber, J. and Feijen, H.R. 2014. Coevolution of male and female genitalia in stalk-eyed flies (Diptera: Diopsidae). Organisms Diversity & Evolution **14(2)**: 187-201.

Kumar, S., Neven, L.G. and Yee, W.L. 2014a. Assessing the potential for establishment of western cherry fruit fly using ecological niche modeling. Journal of Economic Entomology **107(3)**: 1032-1044. doi:10.1603/ec14052.

Kumar, V., Seal, D.R., Osborne, L.S. and McKenzie, C.L. 2014b. Coupling scanning electron microscopy with DNA bar coding: a novel approach for thrips identification. Applied Entomology and Zoology **49(3)**: 403-409. doi:10.1007/s13355-014-0262-2.

Kutty, S.N., Pont, A.C., Meier, R. and Pape, T. 2014. Complete tribal sampling reveals basal split in Muscidae (Diptera), confirms saprophagy as ancestral feeding mode, and reveals an evolutionary correlation between instar numbers and carnivory. Molecular Phylogenetics and Evolution **78**: 349-364. doi:10.1016/j.ympev.2014.05.027.

Lamas, C.J.E., Nihei, S.S., Cunha, A.M. and Couri, M.S. 2014. Phylogeny and biogeography of *Heterostylum* (Diptera: Bombyliidae): Evidence for an ancient caribbean diversification model. Florida Entomologist **97(3)**: 952-966.

Le Goff, G., Goodman, S.M., Elguero, E. and Robert, V. 2014. Survey of the Mosquitoes (Diptera: Culicidae) of Mayotte. Plos One **9(7)**: 1.

Lee, H.S. and Han, H.Y. 2014a. Discovery of the monotypic genus *Melinomyia* Kertesz (Diptera: Lauxaniidae) in Korea with discussion of its systematic status. Journal of Asia-Pacific Entomology **17(3)**: 577-579. doi:10.1016/j.aspen.2014.05.008.

Lee, H.S. and Han, H.Y. 2014b. A taxonomic review of the genus *Minettiella* Malloch (Diptera: Lauxaniidae) in Palearctic Region. Journal of Asia-Pacific Entomology **17(3)**: 467-472. doi:10.1016/j.aspen.2014.03.010.

LeingaeRtner, A., Krauss, J. and Steffan-Dewenter, I. 2014. Elevation and experimental snowmelt manipulation affect emergence phenology and abundance of soil-hibernating arthropods. Ecological Entomology **39(4)**: 412-418. doi:http://dx.doi.org/10.1111/een.12112.

Lemdahl, G., Buckland, P.I. and Mortensen, M.F. 2014. Late glacial insect assemblages from the Palaeolithic site Slotseng: New evidence concerning climate and environment in SW Denmark. Quaternary International **341**: 172-183.

Lessard, B.D. 2014. Revision of the austral horse fly tribe Scionini (Diptera: Tabanidae). Austral Entomology **53(2)**: 203-239. doi:10.1111/aen.12076.

Lin, X.Q., Shih, C. and Ren, D. 2014. Two new species of *Mesoplecia* (Insecta: Diptera: Protopleciidae) from the late Middle Jurassic of China. Zootaxa **3838(5)**: 545-556.

Liu, W., Song, C. and Wang, X. 2014a. Review of the subgenus *Rheocricotopus* (s. str.) Brundin, 1956 from China (Diptera: Chironomidae). The Pan-Pacific Entomologist **90**: 100-106. doi:http://dx.doi.org/10.3956/2014-90.2.100.

Liu, X.Y., Wang, M.Q. and Yang, D. 2014b. The genus *Dolichocephala* newly found in Shaanxi Province (China), with descriptions of three new species (Diptera: Empididae). Zootaxa **3841(3)**: 439-445.

Liu, X.Y. and Yang, D. 2014. Five new species of *Centorisoma* Becker from China, with an updated key to world species (Diptera, Chloropidae). Zootaxa **3821(1)**: 101-115.

Londt, J.G.H. 2014a. A revision of Afrotropical *Oligopogon* Loew, 1847 (Diptera: Asilidae) with the description of eighteen new species. African Invertebrates **55**: 269-322. doi:http://dx.doi.org/10.5733/afin.055.0201.

Londt, J.G.H. 2014b. A revision of *Millenarius* Londt, 2005 with descriptions of two new species from southern Africa and the transfer of *Neolophonotus dichaetus* Hull, 1967 to the genus (Diptera: Asilidae). African Entomology **22**: 377-387. doi:http://dx.doi.org/10.4001/003.022.0213.

Lonsdale, O. 2014a. Redefinition and synonymy of genera in the *Ophiomyia* genus group, with the description of *Euhexomyza* new genus (Diptera: Agromyzidae). Canadian Entomologist **146(5)**: 481-513. doi:10.4039/tce.2014.2.

Lonsdale, O. 2014b. World Catalogue of the Family Tanypezidae (Diptera: Schizophora). Zootaxa **3857(3)**: 412-422.

Lukashevich Elena, D. and Shcherbakov, D.E. 2014. First description of Tanyderidae (Diptera) larvae from South America. Russian Entomological Journal **23(2)**: 121-138.

Lunau, K. 2014. Visual ecology of flies with particular reference to colour vision and colour preferences. Journal of Comparative Physiology A Sensory Neural and Behavioral Physiology **200(6)**: 497-512.

Macgowan, I. 2014a. The Lonchaeidae of Fiji (Diptera: Schizophora). Zootaxa **3814(4)**: 537-552.

Macgowan, I. 2014b. Three new species of *Protearomyia* McAlpine, 1962 (Diptera: Lonchaeidae) with a key to males of the Palearctic species. Zootaxa **3796(2)**: 337-348.

Marcondes, C.B. 2014. Defense of taxonomy, a Sisyphus task? Revista Da Sociedade Brasileira De Medicina Tropical **47(4)**: 538-538. doi:10.1590/0037-8682-0256-2013.

Marshall Stephen, A. and Jackson, M.D. 2014. A redefinition of the genus *Hemichaeta* Steyskal, new status (Diptera; Micropezidae; Taeniapterinae). Zootaxa **3815(2)**: 291-296.

Martin, J. 2014. Species of the subgenus *Chaetolabis*, Townes 1945 of the genus *Chironomus*, Meigen 1803 (Diptera: Chironomidae), from a cytogenetic perspective. Zootaxa **3811(3)**: 316-324.

Martin Stephen, J. and Bayfield, J. 2014. Is the bee louse *Braula coeca* (Diptera) using chemical camouflage to survive within honeybee colonies. Chemoecology **24(4)**: 165-169.

McCreadie, J.W. and Adler, P.H. 2014. Abundance-occupancy relationships of larval black flies (Diptera: Simuliidae) in temperate Nearctic streams. Insect Conservation and Diversity **7(6)**: 523-532. doi:http://dx.doi.org/10.1111/icad.12075.

Mebs, D., Petschenka, G., Pogoda, W., Toennes, S.W., Amendt, J., Zajac, B.K. and Dobler, S. 2014. Amphibian myiasis. Blowfly larvae (*Lucilia bufonivora*, Diptera: Calliphoridae) coping with the poisonous skin secretion of the common toad (*Bufo bufo*). Chemoecology **24(4)**: 159-164. doi:http://dx.doi.org/10.1007/s00049-014-0157-2.

Men, Q.L. and Huang, M.Y. 2014. A new species of the genus *Ctenophora* Meigen (Diptera: Tipuloidea: Tipulidae) from China, with a key to the world species. Zootaxa **3841(4)**: 592-600.

Michelsen, V. and O'Hara, J.E. 2014. A review of genus-group names in Diptera (Insecta) that JC Fabricius "borrowed" from other dipterists and proposed as new in his systematic works from 1775 to 1805. Zootaxa **3873(1)**: 73-81.

Miranda, G.F.G., Marshall, S.A. and Skevington, J.H. 2014. Revision of the genus *Pelecinobaccha* Shannon, description of *Relictanum* gen. nov., and redescription of *Atylobaccha flukiella* (Curran, 1941) (Diptera: Syrphidae). Zootaxa **3819(1)**: 1-+.

Mortelmans, J., Tomasovic, G. and Nagy, Z.T. 2014. A remarkable new species of *Paraphamartania* Engel from Portugal (Diptera, Asilidae). Zootaxa **3814(3)**: 409-418.

Munari, L. and Almeida, J.M. 2014. A new species of *Canace* Haliday from Portugal, with a revised key to species (Diptera: Canacidae: Canacinae). Zootaxa **3873(2)**: 195-200.

Muniz Guinea, F., Mangano, M.G., Buatois, L.A., Podeniene, V., Vintaned Jose, A.G. and Mayoral Alfaro, E. 2014. Compound biogenic structures resulting from ontogenetic variation: An example from a modern dipteran. Spanish Journal of Palaeontology **29(1)**: 83-93.

Munoz-Munoz, F., Talavera, S., Carpenter, S., Nielsen, S.A., Werner, D. and Pages, N. 2014. Phenotypic differentiation and phylogenetic signal of wing shape in western European biting midges, *Culicoides* spp., of the subgenus *Avaritia*. Medical and Veterinary Entomology **28(3)**: 319-329. doi:10.1111/mve.12042.

Myskowiak, J. and Nel, A. 2014. A new genus and species of ibis fly in the Lowermost Eocene amber of Oise (France) (Diptera: Athericidae). Zootaxa **3869(4)**: 372-382.

Nandi, S., Aditya, G., Chowdhury, I., Das, A. and Saha, G.K. 2014. Chironomid midges as allergens: evidence from two species from West Bengal, Kolkata, India. Indian Journal of Medical Research **139**: 921-926.

Negrobov, O.P., Barkalov, A.V. and Selivanova, O.V. 2014. Two new species of *Chrysotus* Meigen (Diptera, Dolichopodidae) from Siberia, with a key to the Siberian species. Zootaxa **3815(3)**: 409-416.

Ng, V., Dear, K., Harley, D. and McMichael, A. 2014. Analysis and prediction of Ross River virus transmission in New South Wales, Australia. Vector-Borne and Zoonotic Diseases **14(6)**: 422-438. doi:10.1089/vbz.2012.1284.

Nihei, S.S. and De Andrade, M.R. 2014. Revision of *Trypetidomima* (Diptera: Rhinophoridae) with description of a new brazilian species. Florida Entomologist **97(2)**: 724-+.

Norrbom, A.L. and Neder, L.E. 2014. New neotropical species of *Trupanea* (Diptera: Tephritidae) with unusual wing patterns. Zootaxa **3821(4)**: 443-456.

Orel, O.V. 2014. To systematics of the genus *Saetheria* Jackson (Diptera, Chironomidae) from the Russian Far East. Zootaxa **3802(1)**: 65-74.

Pereira-Colavite, A. and Mello, R.L. 2014. Catalogue of the Ctenostylidae (Diptera, Schizophora) of the World. Zootaxa **3838(2)**: 215-223.

Pilskog, H.E., Solhoey, T., Gwiazdowicz, D.J., Grytnes, J.-A. and Coulson, S.J. 2014. Invertebrate communities inhabiting nests of migrating passerine, wild fowl and sea birds breeding in the High Arctic, Svalbard. Polar Biology **37(7)**: 981-998. doi:10.4039/Ent1171287-11. http://dx.doi.org/10.1007/s00300-014-1495-9.

Piwczynski, M., Szpila, K., Grzywacz, A. and Pape, T. 2014. A large-scale molecular phylogeny of flesh flies (Diptera: Sarcophagidae). Systematic Entomology **39(4)**: 783-799. doi:10.1111/syen.12086.

Podenas, S., Podeniene, V. and Gelhaus, J. 2014. A new species of *Heterangaeus* Alexander, 1925 crane flies (Diptera: Pediciidae) from north-central Mongolia with first description of the larva for the genus. Zootaxa **3814(2)**: 259-274.

Popovic, D., Djan, M., Sasic, L., Snjegota, D., Obreht, D. and Vujic, A. 2014. Usage of different molecular markers in delimitation of cryptic taxa in *Merodon avidus* species complex (Diptera: Syrphidae). Acta Zoologica Bulgarica: 33-38.

Porter, C.H. 2014. *Wyeomyia* (*Nunezia*) *Paucartamboensis*, a new species of Sabethini (Diptera: Culicidae) from the peruvian Andes with a diagnosis of the subgenus *Nunezia*. The Proceedings of the Entomological Society of Washington **116**: 311-338. http://dx.doi.org/10.4289/0013-8797.116.3.311.

Porter, T.M., Gibson, J.F., Shokralla, S., Baird, D.J., Golding, G.B. and Hajibabaei, M. 2014. Rapid and accurate taxonomic classification of insect (class Insecta) cytochrome c oxidase subunit 1 (COI) DNA barcode sequences using a naive Bayesian classifier. Molecular Ecology Resources **14(5)**: 929-942. doi:10.1111/1755-0998.12240.

Pramual, P. and Wongpakam, K. 2014. Association of black fly (Diptera: Simuliidae) life stages using DNA barcode. Journal of Asia-Pacific Entomology **17(3)**: 549-554. doi:10.1016/j.aspen.2014.05.006.

Puckett, J.G. and Ouellette Nicholas, T. 2014. Determining asymptotically large population sizes in insect swarms. Journal of the Royal Society Interface **11(99)**: 20140710.

Puniamoorthy, N., Schafer, M.A., Rombke, J., Meier, R. and Blanckenhorn, W.U. 2014. Ivermectin sensitivity is an ancient trait affecting all ecdysozoa but shows phylogenetic clustering among sepsid flies. Evolutionary Applications **7(5)**: 548-554. doi:10.1111/eva.12152.

Qi, X., Lin, X.L., Wang, X.H. and Shao, Q.J. 2014. A new species of *Nilothauma* Kieffer from China, with a key to known species of the genus (Diptera: Chironomidae). Zootaxa **3869(5)**: 573-578.

Quinto, J., Mico, E., Martinez-Falcon, A.P., Galante, E. and Marcos-Garcia, M.d.l.A. 2014. Influence of tree hollow characteristics on the diversity of saproxylic insect guilds in Iberian Mediterranean woodlands. Journal of Insect Conservation **18(5)**: 981-992. http://dx.doi.org/10.1007/s10841-014-9705-x.

Rafael, J.A. and Limeira-de-Oliveira, F. 2014. *Mitinha* and *Tamanduamyia*, two new genera of Mythicomyiinae (Diptera, Mythicomyiidae) from northeast Brazil. Zootaxa **3827(4)**: 591-598.

Ramirez-Hernandez, A., Mico, E., Marcos-Garcia, M.D., Brustel, H. and Galante, E. 2014. The "dehesa", a key ecosystem in maintaining the diversity of Mediterranean saproxylic insects (Coleoptera and Diptera: Syrphidae). Biodiversity and Conservation **23(8)**: 2069-2086. doi:10.1007/s10531-014-0705-7.

Rasic, G., Endersby, N.M., Williams, C. and Hoffmann, A.A. 2014. Using *Wolbachia*-based release for suppression of *Aedes* mosquitoes: insights from genetic data and population simulations. Ecological Applications **24(5)**: 1226-1234.

Ribeiro, G.C., Santos, C.M.D., Olivieri, L.T., Santos, D., Berbert, J.M. and Eterovic, A. 2014. The world's biogeographical regions revisited: global patterns of endemism in Tipulidae (Diptera). Zootaxa **3847(2)**: 241-258.

Robe, L.J., Machado, S., Bolzan, A.R., dos Santos, J.P.J., Valer, F.B., dos Santos, A.P., Blauth, M.L. and Gottschalk, M.S. 2014. Comparative ecological niche modeling and evolutionary ecology of Neotropical mycophagous Drosophilidae (Diptera) species. Studies on Neotropical Fauna and Environment **49(2)**: 79-94. doi:10.1080/01650521.2014.925370.

Roháček J. 2014 *Reliquantha eocena* sp. nov., first tertiary representative of an extant genus of Anthomyzidae (Diptera). Acta Entomologica Musei Nationalis Pragae **54(2):** 773-784.

Roháček J. 2014. The identity and family affiliation of *Scelomyza hirticornis* (Diptera: Opomyzidae, Anthomyzidae), with a new checklist of Afrotropical Anthomyzidae. Acta Entomologica Musei Nationalis Pragae **54(1):** 383-398.

Rohacek, J. and Tothova, A. 2014. Morphology versus DNA - what will bring clarity to the relationships of phylogenetically unclear genera of Anthomyzidae (Diptera)? Arthropod Systematics & Phylogeny **72(2)**: 165-176.

Santarem, M.C.A., Da Trindade, R.L., Da Silva, T.D., Castellon, E.G., Patiu, C.A.D. and Felippe-Bauer, M.L. 2014. New Neotropical *Culicoides* and redescription of *Culicoides reticulatus* Lutz (Diptera: Ceratopogonidae). Zootaxa **3795(3)**: 255-274.

Scheffer, S.J., Lewis, M.L., Gaimari, S.D. and Reitz, S.R. 2014. Molecular survey for the invasive leafminer pest *Liriomyza huidobrensis* (Diptera: Agromyzidae) in California uncovers only the native pest *Liriomyza langei*. Journal of Economic Entomology **107(5)**: 1959-1964.

Senatore, G.L., Alexander, E.A., Adler, P.H. and Moulton, J.K. 2014. Molecular systematics of the *Simulium jenningsi* species group (Diptera: Simuliidae), with three new fast-evolving nuclear genes for phylogenetic inference. Molecular Phylogenetics and Evolution **75**: 138-148. doi:10.1016/j.ympev.2014.02.018.

Sevcik, J., Kasprak, D., Mantic, M., Sevcikova, T. and Tothova, A. 2014. Molecular phylogeny of the fungus gnat family Diadocidiidae and its position within the infraorder Bibionomorpha (Diptera). Zoologica Scripta **43(4)**: 370-378. doi:10.1111/zsc.12059.

Shatalkin, A.I. 2014. *Chyliza gavryushini* sp.n. (Psilidae) and *Cypselosoma tibialis* sp.n. (Cypselosomatidae) - two new dipterous species from Vietnam. Russian Entomological Journal **23(2)**: 151-154.

Shi, L., Yao, G. and Yang, D. 2014. Species of *Syneches* from Tibet belonging to *S. signatus* species Group (Diptera: Empididae). Florida Entomologist **97(2)**: 710-714.

Shima, H. 2014. The parerigonine genus *Paropesia* Mesnil (Diptera, Tachinidae), with descriptions of three new species from East Asia. Zootaxa **3827(4)**: 576-590.

Shin, S., Menzel, F., Heller, K., Lee, H. and Lee, S. 2014a. Review of the genus *Cratyna* Winnertz (Diptera: Sciaridae) in Korea, including the description of a new species. Zootaxa **3794(3)**: 344-354.

Shin, S., Menzel, F., Lee, H. and Lee, S. 2014b. Review of the genus *Zygoneura* Meigen (Diptera: Sciaridae) in Korea, with an updated checklist of the World species. Journal of Asia-Pacific Entomology **17(3)**: 561-567. doi:10.1016/j.aspen.2014.05.004.

Shinonaga, S. 2014. Notes on the genus *Dichaetomyia* Malloch from Papua New Guinea and Solomon Islands (Diptera: Muscidae). Japanese Journal of Systematic Entomology **20(1)**: 119-143.

Shokralla, S., Gibson, J.F., Nikbakht, H., Janzen, D.H., Hallwachs, W. and Hajibabaei, M. 2014. Next-generation DNA barcoding: using next-generation sequencing to enhance and accelerate DNA barcode capture from single specimens. Molecular Ecology Resources **14(5)**: 892-901. doi:10.1111/1755-0998.12236.

Siri A. and Brodin Y. 2014. Cladistic analysis of *Rheochlus* and related genera, with description of a new species (Diptera: Chironomidae: Podonominae). Acta Entomologica Musei Nationalis Pragae **54(1):** 361-375.

Skibinska, K., Krzeminski, W. and Coram, R.A. 2014. Discovery of the most ancient member of family Tanyderidae (Diptera) from the Lower Jurassic (Sinemurian) of England. Zootaxa **3857(1)**: 125-130.

Smith-Ramirez, C., Ramos-Jiliberto, R., Valdovinos, F.S., Martinez, P., Castillo, J.A. and Armesto, J.J. 2014. Decadal trends in the pollinator assemblage of *Eucryphia cordifolia* in Chilean rainforests. Oecologia **176(1)**: 157-169. doi:http://dx.doi.org/10.1007/s00442-014-3000-0.

Sommaggio, D. and Burgio, G. 2014. The use of Syrphidae as functional bioindicator to compare vineyards with different managements. Bulletin of Insectology **67(1)**: 147-156.

Souza, T.A.J., Noll, F.B., Bicudo, H. and Madi-Ravazzi, L. 2014. Scanning electron microscopy of male terminalia and its application to species recognition and phylogenetic reconstruction in the *Drosophila saltans* group. Plos One **9(6)**: 12. doi:10.1371/journal.pone.0097156.

Ssymank A. and Mengual X. 2014. *Paragus caligneus* sp. nov., a new Afrotropical species of flower fly (Diptera: Syrphidae). Acta Entomologica Musei Nationalis Pragae **54(2):** 759-772.

Starý J. 2014. Two new species of *Austrolimnophila* from the Mediterranean (Diptera: Limoniidae) Acta Entomologica Musei Nationalis Pragae **54(1):** 355-360.

Stuke, J.-H. 2014a. Some remarks on rare and new Palaearctic species of the genus *Zodion* Latreille (Diptera: Conopidae). Zootaxa **3860(3)**: 235-252.

Stuke, J.H. 2014b. A new genus of Conopidae from Europe (Diptera). Zootaxa **3795(4)**: 472-482.

Sum, J.S., Lee, W.C., Amir, A., Braima, K.A., Jeffery, J., Abdul-Aziz, N.M., Fong, M.Y. and Lau, Y.L. 2014. Phylogenetic study of six species of *Anopheles* mosquitoes in Peninsular Malaysia based on inter-transcribed spacer region 2 (ITS2) of ribosomal DNA. Parasites & Vectors **7**: 8. doi:10.1186/1756-3305-7-309.

Szpila, K., Pape, T., Hall, M.J.R. and Madra, A. 2014. Morphology and identification of first instars of European and Mediterranean blowflies of forensic importance. Part III: Calliphorinae. Medical and Veterinary Entomology **28(2)**: 133-142. doi:10.1111/mve.12021.

Takaoka, H., Sofian-Azirun, M., Ya'Cob, Z., Chen, C.D., Lau, K.W. and Pham, H.T. 2014a. New species and records of black flies (Diptera: Simuliidae) from Vinh Phuc Province, Vietnam. Zootaxa **3838(3)**: 347-366.

Takaoka, H., Sofian-Azirun, M., Ya'cob, Z., Hashim, R. and Otsuka, Y. 2014b. A new species of *Simulium* (*Gomphostilbia*) (Diptera: Simuliidae) from Malaysia, with keys to 32 species of the *Simulium ceylonicum* species-group. Journal of Medical Entomology **51(3)**: 517-528. doi:10.1603/me13226.

Thompson, F.C. and Skevington, J.H. 2014. Afrotropical flower flies (Diptera: Syrphidae). A new genus and species from Kenya, with a review of the *Melanostomine* group of genera. Zootaxa **3847(1)**: 97-114.

Tkoč M., Pecharová M. and Ježek J. 2014 Catalogue of the type specimens of Diptera deposited in the Department of Entomology, National Museum, Prague, Czech Republic. Moth flies (Psychodidae). Acta Entomologica Musei Nationalis Pragae **54(2):** 789-837.

Uribe, S., Brown, B.V., Braganca, M.A.L., Queiroz, J.M. and Nogueira, C.A. 2014. New species of *Eibesfeldtphora* Disney (Diptera: Phoridae) and a new key to the genus. Zootaxa **3814(3)**: 443-450.

Ustuner, T. and Hasbenli, A. 2014. Two new species of *Lasiopa* (Diptera, Stratiomyidae) from Turkey. Zootaxa **3815(1)**: 119-130.

Vaisanen, R. 2014. New *Mycomya* species from South-East Asia (Diptera, Mycetophilidae). Zootaxa **3815(4)**: 526-540.

van Heerwaarden, B. and Sgro Carla, M. 2014. Is adaptation to climate change really constrained in niche specialists. Proceedings of the Royal Society Biological Sciences Series B **281(1790)**: 20140396.

Verboven Hans, A.F., Uyttenbroeck, R., Brys, R. and Hermy, M. 2014. Different responses of bees and hoverflies to land use in an urban-rural gradient show the importance of the nature of the rural land use. Landscape and Urban Planning **126**: 31-41.

Vislobokov, N.A., Galinskaya, T.V., Degtjareva, G.V., Valiejo-Roman, C.M., Samigullin, T.H., Kuznetsov, A.N. and Sokoloff, D.D. 2014. Pollination of Vietnamese *Aspidistra xuansonensis* (Asparagaceae) by female cecidomyiidi flies: Larvae of pollinator feed on fertile pollen in anthers of anthetic bisexual flowers. American Journal of Botany **101(9)**: 1519-1531. doi:10.3732/ajb.1400359.

Wang, A.L., Yao, Z.C., Zheng, W.W. and Zhang, H.Y. 2014a. Bacterial communities in the gut and reproductive organs of *Bactrocera minax* (Diptera: Tephritidae) based on 454 pyrosequencing. Plos One **9(9)**: 10. doi:10.1371/journal.pone.0106988.

Wang, B., Rust, J., Engel, M.S., Szwedo, J., Dutta, S., Nel, A., Fan, Y., Meng, F., Shi, G., Jarzembowski, E.A. and others. 2014b. A diverse paleobiota in early Eocene fushun amber from China. Current Biology **24(14)**: 1606-1610. http://dx.doi.org/10.1016/j.cub.2014.05.048.

Wang, G., Li, C., Guo, X., Xing, D., Dong, Y. and Zhao, T. 2014c. Molecular phylogenetic analysis of the subgenera *Anopheles* and *Cellia* (Diptera: Culicidae) based on nuclear ribosomal sequences. African Entomology **22**: 660-669. http://dx.doi.org/10.4001/003.022.0323.

Wang, Q., Wang, X. and Zhang, C. 2014d. Review of the Genus *Zambesomima* Mesnil, 1967 (Diptera: Tachinidae) from China. The Pan-Pacific Entomologist **90**: 138-146. doi:http://dx.doi.org/10.3956/2014-90.3.138.

Wang, Q.K., Yang, Y.Z., Liu, M.Q. and Zhang, D. 2014e. Fine structure of *Delia platura* (Meigen) (Diptera: Anthomyiidae) revealed by scanning electron microscopy. Microscopy Research and Technique **77(8)**: 619-630. doi:10.1002/jemt.22380.

Wang, X.W., Yan, S.C. and Yang, D. 2014f. Two new species of *Chelifera* Macquart from China (Diptera: Empididae). Zootaxa **3795(2)**: 187-192.

Wendt, L.D. and Ale-Rocha, R. 2014. Taxonomic revision of wasp-like richardiids, *Neoidiotypa* Osten-Sacken (Diptera, Tephritoidea, Richardiidae). Zootaxa **3857(4)**: 527-550.

Whitworth, T. 2014. A revision of the Neotropical species of *Lucilia* Robineau-Desvoidy (Diptera: Calliphoridae). Zootaxa **3810(1)**: 1-76.

Xue, W.-Q., Rong, H. and Du, J. 2014. Descriptions of six new species of *Phaonia* Robineau-Desvoidy (Diptera: Muscidae) from China. Journal of Insect Science **14**: 1-23. http://dx.doi.org/10.1673/031.014.132.

Zatwarnicki, T. and Ryczko, I. 2014. Phylogeny of Hyadinini (Diptera: Ephydridae) with an emphasis on structures of the proboscis. Annales Zoologici **64**: 495-515. http://dx.doi.org/10.3161/000345414X684821.

Zeegers, T. and Muller, G.C. 2014. A review of the *Tabanus semiargenteus*-subgroup as part of the *Tabanus bovinus* species-group (Diptera: Tabanidae) with the description of two new species for science. Acta Tropica **137**: 152-160. doi:10.1016/j.actatropica.2014.04.027.

Zhang, M., Chu, W.W., Pape, T. and Zhang, D. 2014. Taxonomic review of the *Sphecapatodes ornata* group (Diptera: Sarcophagidae: Miltogramminae), with description of one new species. Zoological Studies **53**: 12. doi:10.1186/s40555-014-0048-9.

****

SUBMISSION FORM
DIRECTORY OF NORTH AMERICAN DIPTERISTS

For those who have not yet sent in a synopsis of their interests for the *Directory of North America 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 mailed to the following address:

Dr. James O'Hara
Canadian National Collection of Insects
Agriculture & Agri-Food Canada
K.W. Neatby Building, C.E.F.
Ottawa, Ontario, CANADA, K1A 0C6

Tel.: (613) 759-1795
FAX: (613) 759-1927
Email: James.OHara@agr.gc.ca

****

Full name: _____

Address: _____

_____

_____ **Telephone**: _____

FAX: _____ **Email**: _____

Projects and taxa studied: _____

_____

_____

_____