FLY TIMES

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Welcome to the latest issue of *Fly Times*! Let me first 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. *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, and to report on or announce meetings relevant to the community. This is also a great place to report on your interesting (and hopefully fruitful) collecting activities!

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. The Diptera community would greatly appreciate your independent contributions to this newsletter. For this issue, I want to again thank all the contributors for sending me so many great articles! That said, we need even more reports on trips, collections, methods, updates, etc., with all the associated digital images you wish to provide. Feel free to share your opinions or provide ideas on how to improve the newsletter (I'm still "kind of" the new guy, so I would be very happy to hear ways that I can enhance the newsletter! As this is my 6th newsletter as editor, I can probably drop the "new guy" routine!).

The *Directory of North American Dipterists* is constantly being updated and is currently available at the above website. Please check your current entry and send all corrections to Jeff Cumming or Jim O'Hara. There is a form for this on the last page of the newsletter.

Issue No. 46 of the *Fly Times* will appear next April. If possible, please send your contributions by email, or disc, to the editor at sgaimari@cdfa.ca.gov. All contributions for the next *Fly Times* should be in by 10 April 2011 – don't worry – I'll send a reminder!

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NEWS

A Society for all Dipterists!?

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There has been a growing opinion both within and outside the ICD Council, that the Diptera community is vibrant and sustainable enough to set off on what could be seen as a transformation to the next organisational level. That would mean the establishment of an international, taxon-specific scientific society, which for arthropods has already happened for arachnids, mites, crustaceans, true bugs, beetles, butterflies and moths, hymenopterans, neuropterans, and probably even others.

As you can read from the minutes of the two recent ICD Council meetings, it was decided that the new Council officers shall look into the possibilities of establishing an international society of dipterology. Accordingly, we are now in a process of focused brainstorming, looking broadly on society-related issues like scope, purpose, constitution, bylaws, etc. We should very much like to hear your opinion on establishing a society for dipterology—do you think this is a good idea at all? What would you expect from such a society?—and we have put up a forum on The new Diptera Site, where you can write your opinion, ideas, suggestions, etc. To write a contribution, either create your own user account or log in under username “Society” and login “Diptera!”

We feel that, besides embracing the present ICD Council and its duties relating to the continuity and well-functioning of the Diptera Congresses, a new society would be able to take on a suite of important tasks, like for example:

- Speak for (and increase the visibility of) the international community of all dipterists,
- Edit and disseminate Resolutions and Recommendations,
- Write letters of support (for projects, applications, etc) and in other ways facilitate and/or encourage work on Diptera,
- Support and integrate various organs (new or already existing) such as websites, newsletters, journals, databases,
- Attract sponsorships for projects, student travel grants, etc.,
- Provide a charitable roof organisation for endowment funds (similar to the Williston Fund),
- Provide a roof organisation for regional groups such as NADS, Dipterists Forum, Malloch Society, Arbeitskreits Diptera, etc. depending on the interest in such an affiliation from their side.

Among the foremost things a new society would need are means to communicate with the prospective members. We feel that instead of starting something from scratch, the society would serve its

community better by using some of the already well established organs for communication such as Fly Times and The new Diptera Site. Although presently having a predominantly North American scope, Fly Times is already of supraregional importance and distribution. Letting Fly Times more formally serve our world-wide community would seem a simple endorsement of what has essentially already happened. One assurance that can be made regarding Fly Times is that it will remain a free newsletter to anyone interested in Diptera, regardless of formal membership in the proposed international society.

Needless to say, a society will be no stronger and carry no more potential than the community behind it, and we are therefore very interested in getting as much feedback as possible. Tell us if (and why) you think the idea of a society for dipterology sounds promising, or if you feel such is not needed. Tell us what you would expect from a society for all of Diptera: how such a society could help you in your daily work, and how such a society could promote dipterology at large. Please share your thoughts and considerations with us by using the above-mentioned forum, which will be open to everybody, or by contacting any or all of us directly.

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Thomas Pape[1] & F. Christian Thompson[2]

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***Systema Dipterorum*—a Scientific Resource used Globally**

On the 10th of August 2010, we launched *Systema Dipterorum* (SD), which with a new, fresher and more appealing interface provides continuity from the now defunct *BioSystematic Database of World Diptera* (BDWD). *Systema Dipterorum* (http://www.diptera.org) is currently running in version 1.0, for which the contents were produced in April 2010. Version 2.0 is planned for December. Continued support from the Schlinger Foundation is allowing us to revise and enhance our underlying FileMakerPro software, so look for a greatly improved *Systema Dipterorum* in the coming new year! We remain content to notice, that with *Systema Dipterorum*, the dipterist community is leading among nomenclatural/taxonomic databases for megadiverse taxa. Diptera represent almost 10% of Planetary Life, and we are accordingly serving humanity with the names plus the most important associated information for this large slice of our biodiversity. Most encouraging, our service is being widely used on a regular basis. We have been tracking the use of *Systema Dipterorum* with Google Analytics, which is a service offered by Google at no charge to generate detailed statistics about the visitors to a website. Below is given a map showing visitor frequency for the last two months, and although many of the small dots may represent mere 'tourists' (cities from which only one visit has been made), some eight hundred visits from 73 cities were made by returning visitors. Table 1 gives the 51 cities from which four or more visits have been recorded. Naturally, we hope to see many more users coming to visit the *Systema Dipterorum*. Whether you deal with curatorial duties, phylogenetic research,

ecological issues, faunistics, forensics, history or any other matter where names and naming of Diptera are involved, we are convinced that you will benefit from the high-quality data provided by our database.

Fig. 1. Statistics; visits per city for the period 25 August – 25 October 2010 for *Systema Dipterorum* (http://www.diptera.org).

Honolulu	160	Chicago	19	Lund	6
Copenhagen	106	Munich	19	Ribeirão Preto	6
Guelph	63	Quito	18	Aldershot	6
Sacramento	52	Palmerston North	18	Athens	6
Ottawa	43	Jaén	15	Buenos Aires	5
Raleigh	36	Wrocław	15	Shenyang	5
Paris	35	São Paulo	14	St Petersburg	5
London	33	Campinas	13	Jakarta	5
Hobart	32	Columbus	12	Umeå	5
Québec	32	Encino	10	Brisbane	5
Barquisimeto	29	São Carlos	10	Puyallup	4
Bonn	25	Guayaquil	9	Northridge	4
Zürich	25	Porto Alegre	8	Düsseldorf	4
Washington	24	Rio de Janeiro	8	Cali	4
Novosibirsk	23	Auckland	8	Viseu	4
Ishøj	22	Medellín	7	Bogotá	4
Berlin	21	Alicante	7	Richmond	4

Table 1. Names of the 51 cities from which four or more visits to *Systema Dipterorum* (http://www.diptera.org) have been recorded since 25 August 2010.

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TachImage Gallery

Jim O'Hara & Shannon Henderson

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Type "*Bombyliopsis abrupta*" into your favorite web browser, click "Images", and you will see lots of thumbnail images of a large bristly tachinid fly with a fat orange abdomen. Trouble is, the correct name for over twenty years has been *Hystricia abrupta* (Wiedemann) and a good portion of the images are misidentified specimens of *Adejeania vexatrix* (Osten Sacken) – a similar-looking large bristly tachinid with a fat orange abdomen. The clearly visible elongate maxillary palpi of *A. vexatrix* (Tachininae: Tachinini) are a dead giveaway that some of the flies are not *H. abrupta* (Tachininae: Polideini).

Given the plethora of insect images that are popping up all over the place on the Internet, it seemed to us a good idea to expand on the existing online Tachinid Resources site by adding web pages of properly identified tachinid flies. As the saying goes, "If you build it, they will come". We are not interested in policing the Internet to expose or expunge misidentifications, but we are interested in offering an alternative place for people to view tachinids. Web surfers, interested amateurs, and professional entomologists alike can now visit our fledgling TachImage Gallery to see images of about 50 species of Tachinidae. We plan to add images to this site at a fairly regular rate. That being said, this is a "technology transfer" project and we do not want it to impact significantly on our tachinid research activities. Now that we have a species page template and a quick setup for taking pictures, we can add new species pages relatively quickly.

One of our species pages from the TachImage Gallery is shown in Fig. 1. The key features of these pages are identified by numbers, as follows:

1) Navigation to other web products on the Tachinid Resources site.
2) Return to homepage of TachImage Gallery, where all taxa in the gallery are listed according to subfamily, tribe, and genus.
3) Species name, author and date.
4) Thumbnails of available images. Click an image and it appears in the larger frame to the left and associated data appears in the smaller frame below it. There will generally be at least a lateral and dorsal view of one sex. Some species will have images of both sexes, and additional images of certain features may be provided.
5) Image frame of standard size throughout gallery.
6) Images can be zoomed to full size using the Zoomify bar, and moved around within the frame using the cursor to view parts of the body in greater detail. Images load quickly because Zoomify has broken the original large image into about a hundred smaller "tiles", and only the tiles needed to show the parts visible in the frame are active.
7) Classification hierarchy for the species imaged.
8) Scrollable data frame giving view, body length, specimen identifier number, label data, depository, and photographer. Each image has a unique identifier number; each specimen imaged is labelled accordingly and all data associated with the images are managed in a dedicated FileMaker Pro database. Labels are either imaged and shown in the data frame or label data are written out.

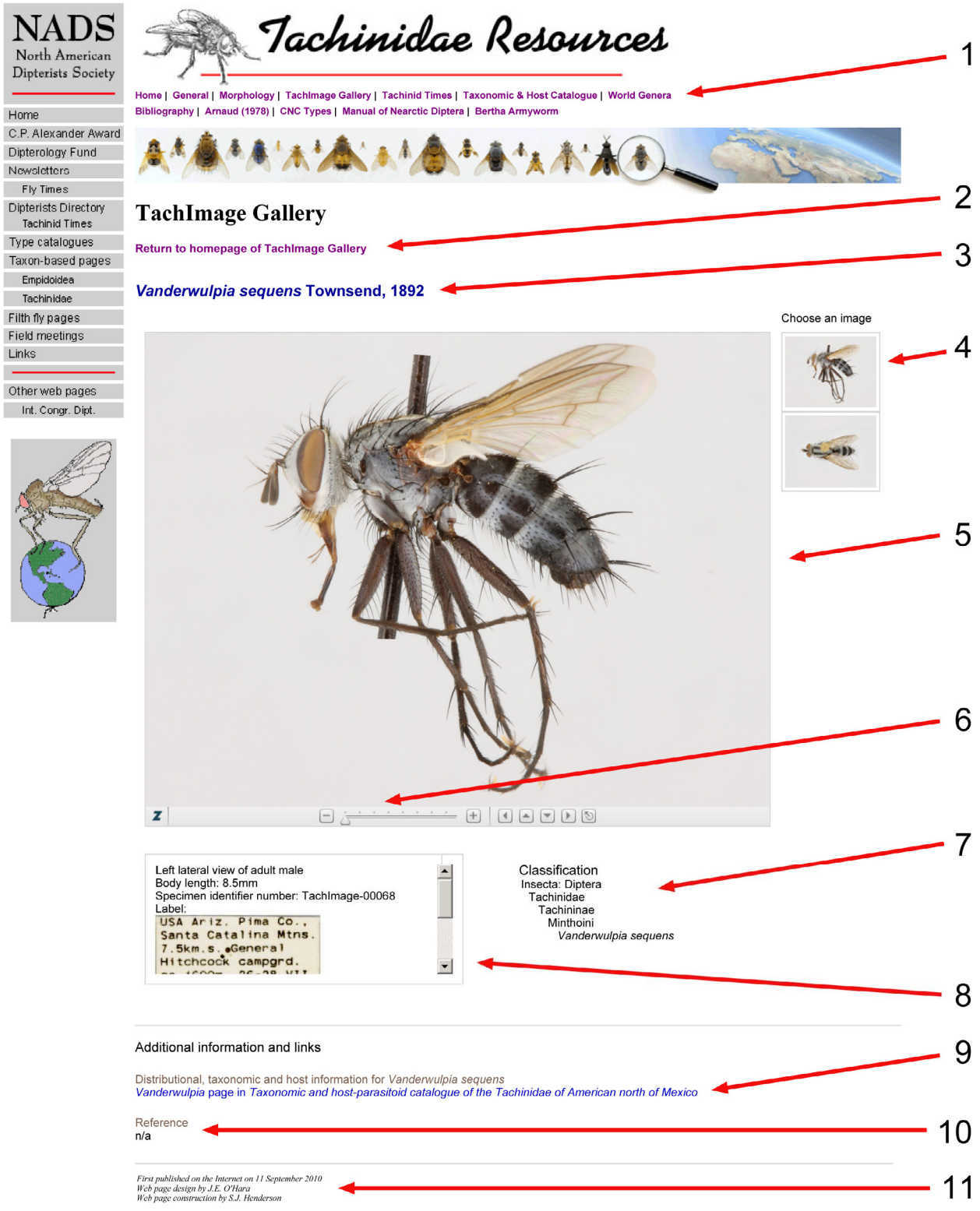

Fig. 1. Species page for *Vanderwulpia sequens* Townsend in TachImage Gallery, with features of page indicated by numbers.

9) For species known from America north of Mexico, a link is provided to the appropriate genus page in the taxonomic and host-parasite catalogue. On the genus page are given the known distribution of the species, name-bearing type information, synonyms, and known hosts.
10) References are given for taxa that have been recently revised or have been the subject of some other scientific study.
11) Date published on the Internet. If the page has been updated, then that date appears below the "First published on..." date.

By the way, if you would like to see properly identified images of *Hystricia abrupta*, the species mentioned in the first paragraph as frequently misidentified on the Internet, go to: http://www.nadsdiptera.org/Tach/Tachgallery/Tachininae/Polideini/Hystricia_abrupta.html.

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An old (but interesting) paper on *Dermatobia hominis* (the human botfly)

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I've been mulling over the possibility of writing a review of the treatment the human botfly receives in the medical literature — *every* infestation of a North American or European generates yet another paper, reporting the same thing — a degree of repetitive literature clutter I don't think would be permitted in entomological journals.

While searching the literature I came across the following paper:

Sambon, L.W. 1915. Observations on the life-history of *Dermatobia hominis* (Linnaeus Jun., 1781). Report of the Advisory Committee for the Tropical Diseases Research Fund for the Year 1914. London. Appendix VII, pp. 119–150.

This is an interesting, hard-to-find, early paper on *D. hominis*. I have had the Interlibrary Loans Department at the University of Waterloo trying to find a copy for the better part of a year — without success. I finally tracked down a copy for sale in the UK, at a book shop appropriately named *Empire Books*. I have now digitized it; given its rarity, I'm hoping that at least some *Fly Times* readers will retain a copy so that the PDF may survive my own extinction!

You can find the file ("Sambon 1915.pdf") at https://public.me.com/smith_sm. The original publication was printed on non-standard paper, almost 13 inches high. I trimmed the publication to about 12 inches to fit my scanner (you'll note that the pages have narrow top and bottom margins). The scanned pages are still of non-standard size so, if you print a copy, you'll have to set the printer to rescale the pages to fit a standard 8.5×11-inch page. If anyone wants a PDF of the entire Report for 1914 (a little more than 200 pages), feel free to contact me.

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CNC completes holdings inventory

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We have been working on an inventory of the CNC (Canadian National Collection of Insects, Arachnids and Nematodes) holdings for four years and have finally completed the first draft. The Diptera inventory is available in excel format at http://www.canacoll.org/Diptera/Main/diptera.htm. We have about 2.5 million flies of 23,788 species in our collection. Not surprisingly, almost half of these (10,155) are Nearctic. We also have 4,623 species of primary Diptera types (see the published lists at the preceding web link). Individual specimen counts were only done for some of the families and a species list was not yet generated for Tachinidae. We will continue to update this and fill in these gaps over the next few years. Note that for most families we have not updated the nomenclature so the list represents a snapshot of exactly the state of the collection. We have funding (Canacoll – http://www.canacoll.org/Misc/Pages/canacoll.htm) to bring in visitors to work on the collection. If you would like to visit to work on curation and bring one or more of our families up to date with respect to current classification, please contact us.

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M.S. opportunity in biology and systematics of neotropical Tachinidae

Dr. John O. Stireman III

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I am seeking a student to pursue a master's degree in Biological Science at Wright State University in Dayton, Ohio, focused on the systematics and biology of tachinid flies. This position is associated with a larger, collaborative, NSF funded Biological Surveys and Inventories project to document the diversity of Lepidoptera and parasitoid taxa and their interactions in the montane rainforest of Ecuador (see http://www.insectscience.org/9.26/ and http://caterpillars.unr.edu/lsacat/ecuador/index.htm).

We have collected and reared (from Lepidoptera) an impressive diversity of tachinids from Ecuador (over 200 so far), the majority of which are undescribed. The student will work with me to select a manageable taxon of interest, that is well represented in the rearings, to revise taxonomically and analyze phylogenetically.

The student will also help to develop web resources, and contribute to the analysis of ecological associations and patterns of diversity of Ecuadorian tachinids.

The project will involve travel to and collecting in Ecuador and travel to the CNC, USNM, and perhaps other museums. Funds are available to support travel and research and summer stipends. The student is also expected to serve as a teaching assistant for biology courses at Wright State University (e.g., General Entomology) and must be academically competitive to obtain these assistantships. Stipend and teaching assistantship support are ca. $4500/quarter. See http://www.wright.edu/sogs/index.html for information on graduate admissions, the GRE is required).

If interested, please send a curriculum vitae and a statement of interest to me via e-mail or regular mail.

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Request for *Ptychoptera* Material

Andrew Fasbender

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Ptychopteridae, and specifically the genus *Ptychoptera*, is a group that has received little taxonomic review, with the only serious work over the past twenty years focusing on species in Europe and Japan (Krzeminski & Zwick, 1993; Zwick & Starý, 2003; Nakamura & Saigusa, 2009). Indeed, personal observation has shown that there is great diversity within the group, particularly with regard to the structure of the genitalia.

Much of the literature has all but ignored the Nearctic *Ptychoptera*, despite its importance for analyzing the broader phylogenetic relations within the genus. My preliminary observations have shown that certain character syndromes span multiple ecozones, possibly indicating historical patterns of speciation and migration. As a graduate student working with Dr. Greg Courtney I am undertaking a project centered on a review and revision of *Ptychoptera*. The genus contains approximately seventy species, with a primarily Holarctic distribution (though sub-Saharan Africa and Madagascar also host a few members of the genus). Due to the wide distribution of the group it is difficult to acquire specimens of many species, particularly those from Asia. However, even within the United States there are large regions that have had only cursory representation within institutional collections. Moreso, the distribution boundaries of the group may not be so clearly defined as once thought, with a new species being described from Central America by Hancock et al in 2006.

As such, this is a request for any *Ptychoptera* specimens from any/all institutional and personal collections. While all specimens may be useful in this project (especially for biogeographical concerns), I am especially interested in material from outside the United States, larval specimens, and ethanol-preserved specimens suitable for molecular analysis.

References

Hancock E, Marcos-Garcia M, Rotheray G. 2006. Ptychopteridae — a family of flies (Diptera) new to the Neotropical Region and description of a new species. *Zootaxa* 1351: 61-68.

Krzeminski W, Zwick P. 1993. New and little known Ptychopteridae (Diptera) from the Palearctic Region. *Aquatic Insects* 15(2): 65-87.

Nakamura T, Saigusa T. 2009. Taxonomic study of the family Ptychopteridae of Japan (Diptera). *Zoosymposia* 3: 273-303.

Zwick, P, Starý j. 2003. *Ptychoptera demostroi* sp. n. (Diptera: Ptychopteridae) from Italy. *Aquatic Insects* 25(3): 241-146.

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Announcing the retirement of Laszlo Papp

Stephen Gaimari

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Dr. Laszlo Papp has retired as the Curator of Diptera at the Hungarian Natural History Museum in Budapest, after serving in that function for 35 of the last 40 years. The new curator of the Diptera Collection is Gábor Lengyel, very soon to have his PhD working on Phoridae. ANY collection issues (loans, information, etc.) should from now on be directed to Gábor, as well as requests for information on the species in those dipterous families in which Laszlo has been working.

Laszlo's retirement gives me the opportunity to write a few words on the great impact he has had on the study of Diptera through his long career, which I am anticipating will continue well into his retirement. Among his very large accomplishments, two particular works come to mind. First, the 13 volume series *Catalogue of Palaearctic Diptera*, published between 1984 and 1993, which was edited by Laszlo and Arpad Soós. Along with the monumental job in editing this 5000+ page work, Laszlo was author for 18 family chapters! A second impressive task was as editor, along with Béla Darvas, of the 3 volume series *Contributions to a Manual of Palaearctic Diptera*, which was published between 1997 and 2000. Again, besides the task of editing, Laszlo was author or a co-author for 17 family chapters in the series, as well as three of the chapters on general and applied dipterology, including the family key to adult flies.

Besides these major works, Laszlo has been a prolific author, particularly in acalyptrate Diptera, within a broad range of families. Laszlo has been a regular fixture at international Diptera meetings, and has been active in a variety of ways in the dipterological, entomological and taxonomical communities. Laszlo has been a member of the Hungarian Entomological Society since 1965, and has been a member or founding member of several other Hungarian societies through the years. He was editor-in-chief for *Acta Zoologica Academiae Scientiarum Hungaricae* from 1992-1996, and has been a member of the Editorial Board since that time. In addition, he was elected as a Fellow of the Royal Entomological Society in 1991, and has served on several international organizations, including the International Advisory Council of Biosystematic Services in Entomology (1985-1992), the Council for International Congresses of Dipterology (1986-1998), the European Standing Committee for Congresses of Entomology (1992 to present), and the International Commission on Zoological Nomenclature (1996 to present).

Although his dipterological work should continue for years to come, please join me in congratulating Laszlo on an illustrious career as the Curator of Diptera in the Hungarian Natural History Museum, and to wish him all the best for his retirement!

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Request for material of Neotropical Hydrophorinae (Dolichopodidae)

Stefan Naglis

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For a systematic revision of the Neotropical Hydrophorinae (Dolichopodidae), I am looking for material from Central and South America (dry material would be preferred). I would also be willing to sort-out specimens from unsorted or unidentified Dolichopodidae. Any kind of support would be highly appreciated.

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S.S. Roback Reprints on Chironomidae Available for Free Distribution

Jon K. Gelhaus

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The Academy of Natural Sciences Entomology Department has a considerable number of reprints available for papers published by Selwyn Roback on Chironomidae (and a few other aquatic groups). We have compiled sets of these available papers comprising anywhere from 30-60 papers (first sets have the most papers). If interested please send us an email with your name and shipping address and we will mail a set to you. The first requests will receive the most complete set of reprints. We will not hold onto these sets forever, so please send your request promptly. If you know of students and researchers who might be interested, please forward this information to them. Send me requests with your name and complete shipping address (with an email message heading of “Roback Reprint Set”).

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TRAVEL NEWS AND TIPS

The Boyekoli Ebale Congo Expedition 2010

Ashley H. Kirk-Spriggs

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The United Nations proclaimed 2010 the *International Year of Biodiversity*, creating a unique opportunity to promote public awareness of the vital role that biodiversity plays in sustaining life on Earth.

One of the major European initiatives to celebrate this event, was the multidisciplinary scientific expedition *Boyekoli Ebale Congo Expedition* (meaning study of the Congo River), organized by three Belgian consortium institutions: the Royal Museum of Central Africa, the Royal Belgian Institute of Natural Sciences, and the National Botanical Garden of Belgium, in collaboration with the University of Kisangani (UNIKIS), in the Democratic Republic of Congo (DRC).

Thirty-six non-Congolese scientists took part in the Expedition over a period of two months, mainly originating from Belgium, but with others from France, Germany, Hungary, Italy, the Netherlands and the United States. I was the only participant on the Expedition from South Africa. Expedition scientists were truly studying a diverse and varied list of subjects, including: aquatic insects, archaeology, biogeochemistry, botany, entomology, fishes and their parasites, geology – cartography, herpetology, limnology, linguistics, mammals and their parasites and organic pollutants.

In addition, a similar number of Congolese scientists participated, mainly from UNIKIS, but with some from the University of Kinshasa. Congolese scientists and students worked closely with the foreign scientists to facilitate further collaborations and to allow for skills transfer.

I was one of four entomologists on the expedition specifically studying the Diptera (true flies), the others being Patrick Grootaert, Rudolf Meier and Massi Vergilio. My interests in participating in the Expedition were three-fold, firstly, to generate research material for an ongoing revision of Afrotropical Quasimodo flies (Curtonotidae); secondly, to collect well-preserved, field-pinned specimens of various families of flies to distribute to systematic chapter contributors for the forthcoming *Manual of Afrotropical Diptera*; and thirdly, to assess overall fly biodiversity and abundance in the lowland rain forest of the Congo Basin.

Most of the previous fly collecting in the DRC was undertaken during the Belgian colonial era, but this centred on sites such as Garamba and Upemba National Parks; predominantly savanna habitats with gallery forest bordering rivers. Little sampling had been undertaken in the lowland forest of the Congo Basin, due largely to inaccessibility.

It has recently been highlighted that much of the vast Congo Basin forest is rooted in sand that was a dune desert in the Miocene, and it has been hypothesized that the present range of this forest is, therefore, relatively recent (*e.g.*, Senut *et al*. 2009). This instability is reflected in the equatorial rainforest fauna — it is remarkably low in diversity, and there is no evidence of a highly adapted

canopy fauna. Consequently, there are few lowland rainforest endemics of systematic significance among the flies (Kirk-Spriggs & Stuckenberg 2009).

Following my arrival in Kinshasa (14 May 2010), I met up with the other team of scientists from Belgium, after which we flew to Bumba, a small town on the Congo River, where we were introduced to the outgoing team of scientists from the first leg of the expedition. We then travelled overnight on one of the three boats that formed the Expedition 'fleet', a push boat barge colloquially termed the 'media boat'. The following day (19 May) saw our arrival at a small village, Kona Ttimbiri. Here the two wooden baleinières on which the scientists lived and worked were moored, with a series of pirogues (dug out canoes with outboard motors attached), strung to the sides. One of these baleinières was hired for the duration of the expedition while the other had been purpose-built and was subsequently donated to UNIKIS at the end of the Expedition. It was encouraging to find the scientists who had remained busily engaged in scientific work in shaded spots on the riverbanks nearby, while others were sampling in nearby tributaries and forest. It was remarkable to see that the expedition formed a 'community' of its own, with cooks, police and labourers camped on shore.

Fig. 1. The two baleinières on which we lived and worked, at dusk.

As the Expedition was due to move on to the next sampling site early the following morning there was no opportunity to set up fly traps and I had to content myself with sorting out the equipment ordered in advance and with sampling cicadas and some flies that came to the light trap that evening.

Early the following day (20 May), all was packed back onto the boats and we began our journey up stream on the expansive Congo River, bordered on both banks by lush tropical vegetation. I spent this travelling time engaged in the rather tedious task of pinning micro-pins into trays ahead of the keenly anticipated pinning of flies to follow. Conditions on the boats were extremely cramped and it was better to travel on the roof before the heat of the day became too intense. This gave one the opportunity to take in some of the activities that the local people, dependent on the river for their living, engaged in. It was amazing to see very small children paddling pirogues, loaded with fishing nets and provisions with the greatest of ease. There was little to interest us as far as wildlife was concerned on this and subsequent river journeys. The hippos and crocodiles had long since been hunted to extinction, and few birds and no primates were apparent along the riverside vegetation.

We arrived at our first proper sampling station, the village of Bomane, the following morning. Much of the forest around the village was degraded swamp forest and we were soon to discover that one of our major difficulties on the Expedition would be to locate pristine lowland evergreen forest within easy walking distance from where the boats were moored. Much of the area was also dedicated to oil palm plantations, established during the Belgian colonial era, and slash and burn farming was evident everywhere, the cleared areas being used to cultivate cassava (the stable diet) and maize.

Fig. 2. Malaise trap deployed at collect flying insects in Likombo forest.

Fig. 3. Sweep netting flies at Lieki village (photograph © Kris Pannecoucke).

sampling at Likombo forest was the most productive of the expedition, due mainly to the fact that weather conditions during the period were more conductive to flying insects. We were later plagued with a continuous cycle of overcast and extremely hot and humid weather followed by heavy rains, which was not at all suitable for sampling flies.

We packed up and left Bomane on the 24 May and again travelled overnight to our next site, about 1 kilometre south of the village of Lieki, where we stayed for a period of 10 days. Here, about 2.5 kilometres inland from the river, I located another sampling site in lowland

We took our meals on the boats during the expedition, which were very ably prepared by students of UNIKIS employed for the purpose. The bill of fare consisted largely of *fufu* (mashed cassava roots) and cassava leaves, fried plantains (the enormous green bananas of the tropics), river fish purchased from local fisherman, beans, rice, various local fruits, and occasionally rather rancid pig meat from the local village. It is the only expedition I have ever known on which the supply of tinned sardines ran out!

With the help of a local guild, I managed to locate some disturbed lowland forest some 2 kilometres inland from Bomane, Likombo forest, where I set up a series of Malaise traps (net traps used to collect flying insects) and hanging traps baited with fermenting fruit. I sampled here from 20–22 May, trudging through the forest three times a day to empty traps and then sort and pin the higher flies, bees and wasps into boxes and flat trays. As we were due to stay in the vicinity of Bomane for five days, I later moved these traps to sites in secondary forest and in the vicinity of Bomane village itself, where I also undertook sweeping with a net along bush paths. Despite the fact that I used many more traps at subsequent sites, the

Fig. 4. Micro-pinning tiny flies aboard one of the baleinières.

swamp forest, Eyolo forest. There I set up 10 Malaise traps in the hope of improving on the sampling in Bomane, sampling from 25–29 May. Weather conditions during this period were by no means ideal and despite the number of traps deployed sampling was again rather poor. It was remarkable that many families of flies, such as fungus gnats and scuttle flies that normally occur in enormous numbers in rain forests elsewhere in the world occurred in such low abundance.

On 29 May, I moved the traps to a transect established by the Expedition leader, intended as a site for long-term monitoring near the village of Yafira. In order to reach this site we travelled by pirogue for several kilometres up river. This transect comprised swamp forest, secondary forest and lowland evergreen forest and traps were deployed in all three forest types. Unfortunately, these forest patches were not expansive and sampling was even poorer there than in Eyolo forest. As a consequence, the traps were again moved to the environs of Lieki village for the reminder of our time in the area. The rest of my time was spent sweep netting flies along bush paths and around villages and in setting hanging traps baited with fermenting fruit and dung.

We finally left Lieki on the 4 June and made the two-day river journey to Kisangani, arriving to a noisy reception at the harbour. We stayed several days in Kisangani and visited the local market, where hundreds of monkeys and other bush meat was on sale, often smoked. We were later treated to an end of Expedition party with traditional dancers who performed a series of dances. This was most entertaining and gave the part a truly Congolese flavour.

Although the fly sampling was somewhat disappointing, it at least provided much support for the theory (noted above) of low fly diversity in the forests of the Congo Basin. I was successful in collecting a number of Quasimodo flies, including the species *Axinota quasimodoi*, which I described earlier this year and which was then known from only a single locality in the DRC, in addition to material of another genus with at least one new species.

My participation in the Expedition generated 3,813 dry-pinned specimens, mostly flies, all of which have now been staged, labelled, identified to family and databased. As a result, distribution of selected families to specialist chapter contributors for the forthcoming *Manual* has already begun. Most of the material is still preserved in alcohol and has not yet been sorted, but is likely to comprise at least treble that figure. Specimens generated through the Expedition shall eventually be returned to the DRC and form the core of the collection for a soon to be built Centre de Biodiversité.

All in all, participation on the *Boyekoli Ebale Congo Expedition* was a once in a lifetime experience and provided the unique opportunity to sample in areas otherwise entirely inaccessible. The Expedition has received an enormous amount of media interest and coverage worldwide and has done much to increase public awareness of the activities of scientists in many disciplines, as well as highlighting conservation and biodiversity issues.

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(see next page for Fig. 5)

Fig. 5. Tray of micro-pinned flies from the Expedition (photograph © Kris Pannecoucke).

HISTORICAL DIPTEROLOGY

Alfonso L. Herrera (1868–1942) and his little-known new system of naming animals and plants, with special reference to Diptera genus-group names

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Introduction

Alfonso Luis Herrera (1868–1942; Fig. 1) was one of the most notable biologists in Mexico during the beginning of the 20th century. He was appointed to the natural history section of the Instituto Médico Nacional in 1890; and at around the same time was assistant naturalist at the Museo Nacional de Historia Natural, advancing quickly to become its director in 1915. In 1922 he created the Jardín Botánico and he was also instrumental in creating the Chapultepec zoo.

Fig. 1. Alfonso Luis Herrera

However, Herrera's professional appointments were secondary to his being most noted for being the major factor in bringing Mexico up to the standards of biological instruction and theory seen in Europe and the United States by introducing Darwinian views and introducing it as a separate discipline from agriculture and medicine. Although trained in pharmacy and certainly not a taxonomist, Herrera did not stop at introducing change in biological instruction. He also wanted to change the way animals and plants were named. His proposed plan is not widely known buts its short-lived implementation saw the introduction of many new names into the scientific literature.

Herrera felt that no one could remember all the thousands upon thousands of genus-group names known at the time or be able to say in what class, family, or order each scientific name belonged. Herrera's proposed system, outlined in a formal notice in *Science* (Herrera, 1899a) essentially involved adding a 2-, 3- or 4-letter prefix denoting suprafamilial levels to existing common generic names to aid in easily categorizing each genus. This new system was met with sparse approval along with fewer published detractors, but was not implemented in the first International Code of Zoological Nomenclature (the *Règles*, which came out in 1905) and its use was eventually abandoned by Herrera and others.

However, before the *Règles* in 1905, Herrera published a number of papers from 1900–1905 in which he invoked his new system of naming for many different plants and animals. Herrera's method of naming animals was dealt with by action of the I.C.Z.N. (1955; Opinion 72), in which such names were suppressed by virtue of each being considered a "formula" and not a true scientific name. In one work alone (Herrera, 1901b) hundreds of genus-group names were proposed, of which 88 were genus-group names in Diptera (see Appendix for full list of known names in Diptera). Although Opinion 72 clearly took care of any names that were proposed as formulae, Smith & Smith (1975) noticed a work (Herrera, 1899b) and applied to the ICZN Commission to suppress it. By action of I.C.Z.N. (1984; Direction 114), the work of Herrera (1899b) was placed on the *Official Index of Rejected and Invalid Works in Zoology* and the designations of animals therein were deemed to be formulae, not names, and therefore did not enter into zoological nomenclature. Despite two rulings by the Commission, the first of which was broad-sweeping enough to disallow any name proposed with a formula, nothing had yet appeared in an edition of the ICZN *Code* with words to that affect. The first appearance of wording added to exclude such names from nomenclature was in the 3rd edition of the Code (I.C.Z.N., 1985). The wording in the current (4th) edition is virtually the same and states as follows:

> "[Article 1.3.] Excluded from provisions of the Code are names proposed … 1.3.7. as modifications of available names [Art. 10] throughout a taxonomic group by addition of a standard prefix or suffix in order to indicate that the taxa named are members of that group" (I.C.Z.N., 1999). [Both editions of the *Code* follow this wording using Herrera's (1899b) vertebrate list as an example.]

Although all of Herrera's genus-group names using this system have no standing in zoological nomenclature or taxonomy, we list below the 107 Diptera genus-group names known to have been proposed by Herrera in the various publications by him from 1900 to 1904 for any historical, nomenclatural, and/or taxonomic interest there may be in knowing them.

Background of Herrera and his Philosophy of Biology

Alfonso Luis Herrera obtained a degree in pharmacy in 1889 but considered himself a biologist and was active in all aspects of biological study and teaching in Mexico until political changes after the Mexican Revolution of 1910 set in motion rival ideas of teaching and biological philosophy that eventually led to his dismissal in the late 1920s (Ledesma-Mateos & Baharona, 2003). The son of noted Mexican naturalist Alfonso Herrera (1838–1901), the younger Alfonso was surrounded by much information on natural history, which was given to him by his father. His father's views of biology had a strong influence on the future views of biological thinking of the young Alfonso.

At the time Herrera started his professional career, Mexico was governed by dictator Porfirio Días (1877–1911), who favored higher education and scientific research following the French model. There was no specific study of biology during this time where the philosophy of the time was instead to equate biological research with agricultural and medical needs. This is evident by the establishment by Días of the "Instituto Médico Nacional", "Sociedad Científica Antonio Alzate", "Sociedad Mexicana de Historia Natural", and "Comisión de Parasitologia Agricultura", all of which contained articles that pertained to agricultural or medical subjects (Ledesma-Mateos & Baharona, 2003).

However, Herrera knew that Mexico was behind the rest of the world with regard to biological subjects such as evolution and he endeavored to rectify that by introducing Darwinian theory into biological studies. Along these lines, Herrera published various "manifestos" (either in French or translated into French in keeping with the favored "French model" of Días) promoting his views, some of which were to have a profound effect on the future of biological thinking in Mexico for years to come. One of these

works was his *Recueil des lois de la biologie général* (Herrera, 1897), which was essentially a synthesis of evolutionary thoughts put into a collection of the "Laws of General Biology". It is still considered one of the most important works in Mexico that dealt with Darwinian theory (Ledesma-Mateos & Baharona, 2003). This work was the first of many "new" systems and philosophies that Herrera wanted to bring to the forefront of thought in Mexico in his passion for developing a more international view of biological study for students and scientists.

In 1902, Herrera established the first biology course in Mexico (at the Escuela Normal para Maestros) in Mexico, D.F. He accompanied this with his textbook *Nociones de Biología* (Herrera, 1904c), the first biology book published in Mexico. This was soon expanded to include Herrera's theories of origin (for this he coined the term "plasmogeny") in his *Notions Générales de Biologie et de Plasmogénie Comparées* (Herrera, 1906). Herrera saw biology as an independent discipline that exists to help explain the natural phenomena that surround us rather than it merely being associated with applications of agriculture and medicine (Baharona & Ayala, 2005).

His works during this period are clear evidence that Herrera was obviously not satisfied with the *status quo* of biological philosophy, instruction, and their underlying systems. Although not a taxonomist, one of the other systems he felt needed changing included the system of naming used in biology: nomenclature. The timing for such a change was ripe as an International Commission on Zoological Nomenclature had just been formed in 1895 and its members were in discussions with colleagues to synthesize the various disparate codes of nomenclature existing at that time into the first unified international standard for naming of animals (Melville, 1995). Herrera apparently sprang to action.

Chronology of the New Naming System in Herrera's Publications

Glimpses of a desire to have a new system of nomenclature first appeared in Herrera's (1895) "*Hérésies Taxinomistes*". In this paper, Herrera prefaced his diatribe against the current discipline of taxonomy with numerous quotes by eminent biologists. The corpus of his paper complained about the current system of taxonomy and the confusion that existed with the multitude of names but also the many different names used for the same organism. While bringing up the problems of too many names and too many synonyms, Herrera realized that there were too many names to remember all of them and claimed that a new system of naming organisms should be proposed that allowed an easier way to identify to what group a genus belonged. A review of this publication (Anonymous, 1896) thought the proposal "amusing" and assumed that Herrera realized the futility of renaming all the current genus-group names and that he would not proceed with it:

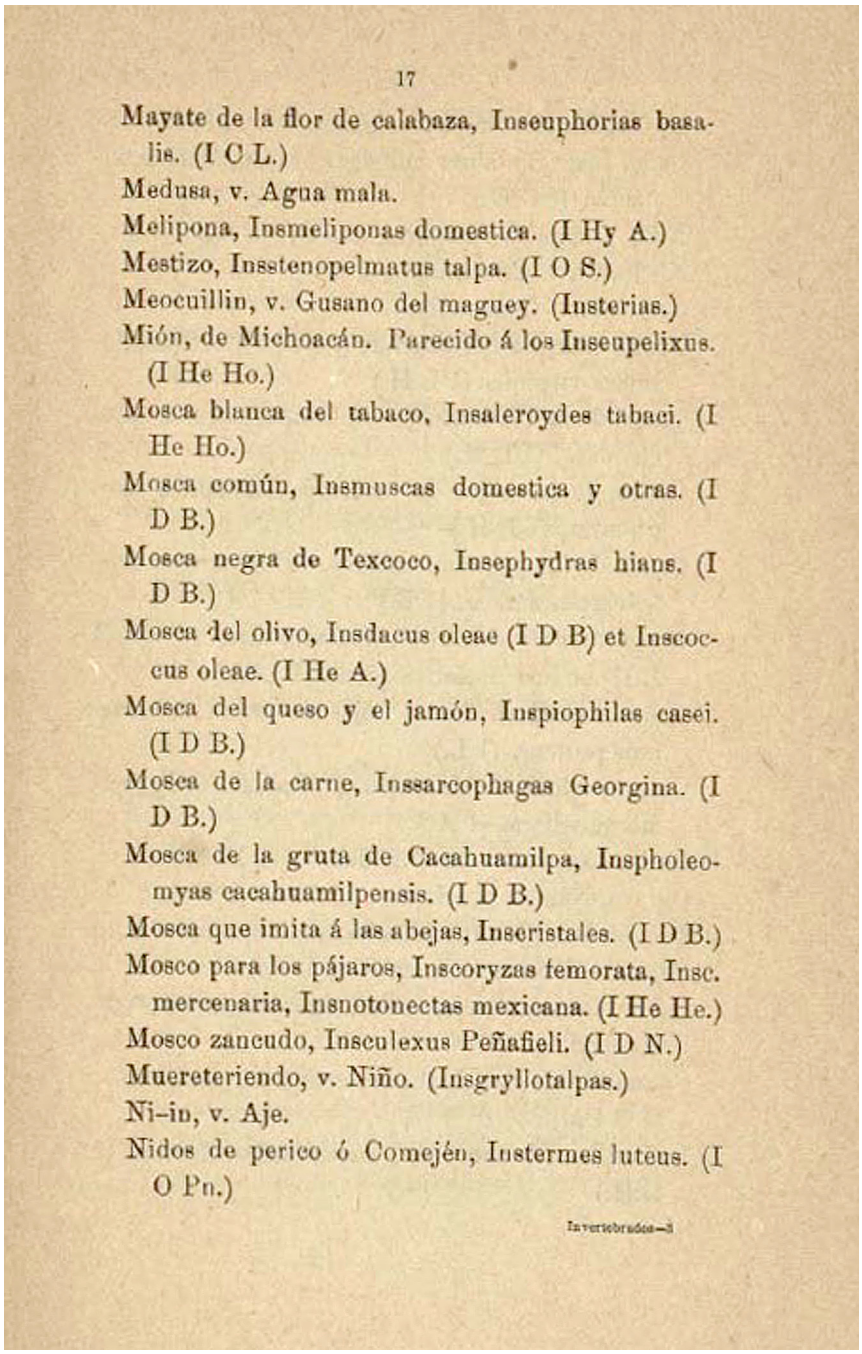
> "We quite agree with Professor Herrera that the procedure of naming forms might thus be simplified, could we begin over again; naturally Professor Herrera shrinks from such a drastic remedy, since, as we already have a nomenclature extending over some 140 years, we must accept it, and, to our way of thinking, the only method of clearing the ground is to adopt strict priority in every instance." (Anonymous, 1896: 6)

However, the reviewer was completely wrong. In 1897, the Commission on Zoological Nomenclature published a proposed set of rules in the *Bulletin de la Société Zoologique de France* (I.C.Z.N., 1897), which engendered discussion on the pages of the *Bulletin* and included new proposals of reforming the way in which animals were named.

The ensuing two years saw Herrera's idea gel into a conceivable plan and led to him publishing a note to a wider audience in the journal *Science* (Herrera, 1899a). Herrera's proposed system involved (in

animals) attaching a 3- or 4-letter prefix that denoted a suprafamilial category to an existing genus-group name (e.g., *Ins* [for Insecta] + *Eristalis* = the new genus-group name *Inseristalis*). The suffix of the existing genus-group name was proposed to have an “s” ending for animals and an “a” ending for plants (e.g., *Ins* + *Culex* = *Inscules; Ins* + *Drosophila* = *Insdrosophilas*; *Ster* [for Sterculiaceae] + *delabechea* = *Sterdelebechea*). These names were appended by a set of abbreviations that indicated a finer categorization of each name, e.g., “(I.D.B.)” = “Invertebrata; Diptera; Brachycera”; “(I.N.D.)” = “Invertebrata; Nemathelminthes; Desmoscolecidae”; “(V. An. O)” = “Vertebrata; Anura; Oxydactylia”, etc.

In June of 1900, the Ministerio de Fomento in Mexico created the new Comisión de Parasitología Agrícola, which published the *Boletín de la Comisión de Parasitología Agrícola* to report the results of findings of the commission, primarily in response to the then recent ban by the United States on imports of Mexican-grown oranges into California because they were infested with agricultural pests. Herrera was the editor. The articles contained in each volume had no listed authorship, so we treat Herrera as the author of the material inside. The first volume of the *Boletín* contained 9 numbers and was published from 1900 to 1902. Volume 2 contained 8 numbers published from 1903–1905. In the pages of the *Boletín* are the listings and detailed descriptions of parasites and pests of crops and ornamental plants as well as beneficial animals. The first formal listing of many animals and plants using the new nomenclature system appeared on the pages of the *Boletín* (e.g., Herrera, 1900a).



17

Mayate de la flor de calabaza, Inseuphorias basalis. (I C L.)
Medusa, v. Agua mala.
Melipona, Insmeliponas domestica. (I Hy A.)
Mestizo, Insstenopelmatus talpa. (I O S.)
Meocuillin, v. Gusano del maguey. (Insterias.)
Mión, de Michoacán. Parecido á los Inseupelixus. (I He Ho.)
Mosca blanca del tabaco, Insaleroydes tabaci. (I He Ho.)
Mosca común, Insmuscas domestica y otras. (I D B.)
Mosca negra de Texcoco, Insephydras hians. (I D B.)
Mosca del olivo, Insdacus oleae (I D B) et Inscoccus oleae. (I He A.)
Mosca del queso y el jamón, Inspiophilas casei. (I D B.)
Mosca de la carne, Inssarcophagas Georgina. (I D B.)
Mosca de la gruta de Cacahuamilpa, Inspholeomyas cacahuamilpensis. (I D B.)
Mosca que imita á las abejas, Inseristales. (I D B.)
Mosco para los pájaros, Inscoryzas femorata, Insc. mercenaria, Insnotonectas mexicana. (I He He.)
Mosco zancudo, Insculexus Peñafieli. (I D N.)
Muereteriendo, v. Niño. (Insgryllotalpas.)
Ni-in, v. Aje.
Nidos de perico ó Comején, Instermes luteus. (I O Pn.)

Invertebrados—3

Fig. 2. Sample page from Herrera (1900) showing names formed using his new system.

The same year (Herrera 1900c[1]) published a short pamphlet, probably to accompany the papers being published in the *Boletín*, that included a long list of invertebrates that occurred in Mexico. A number of new genus-group names were published here that did not appear in the *Boletín* pages.

A year later Herrera (1901b) presented a list of all of the "common" genera that Herrera placed in his new system. The list appeared in parts in the *Memorias de la Sociedad Científica de Historia Natural "Antonio Alzate"* from 1901 to 1902. However, the complete list was also published separately with the date "1901" on the title page. This full list included pages 81–88 that did not appear in the *Memorias*.

Almost immediately subsequent to Herrera's *Nouvelle Nomenclature* (1901b) was his publication entitled "*Las Plagas de la Agricultura*", which came out in eleven parts between 1902 and 1905. This publication listed a few genus-group names of Herrera's new system that appeared previously but also was the source for some new genus-group names that did not appear elsewhere.

Now that his system was fully formulated, Herrera saw an opportunity to engage in the discussions in the *Bulletin de Société Zoologique de France* of reforming the code of nomenclature and responded (Herrera 1901a) to a note by De Vevey (1901) on a rather cumbersome system to enable quick association of a scientific name with its higher group that included a small icon of the organism next to the name. Herrera's proposal of prefixing the names with an abbreviation of the higher group was obviously more sensible than De Vevey's and was met with approval by at least one respondent, Raspail (1899, 1901) who took to the pages of Herrera's home journal, the *Memorias,* to express support for Herrera's system:

> "L'excellence de cette nouvelle méthode de nomenclature ne pourra échapper aux esprits qui ne redoutent pas le progrès et qui comprendront tout l'avantage qu'elle offre pour l'enseignement et la vulgarisation des sciences naturelles." (Raspail, 1901: 480)

Ironically, neither the *Règles* nor the discussions that led to its publication made mention of any of Herrera's proposals for naming and this was probably the reason Herrera did not pursue his system in his subsequent papers.

Previous treatments of Herrera's names

Few works have been found that deal with the names proposed by Herrera. This study has only researched the names of Diptera but a few papers have been found that treated some of the vertebrate genus-group names: Palmers (1904; mammal genera), Lyon (1904; hares), Lyon (1907; ant-eaters), and Smith & Smith (1975; lizards). The last paper discussed the nomenclatural availability of the lizard names proposed by Herrera (1899b) in his work on "*Sinonimia vulgar y científica de los principales vertebrados Mexicanos*" and the authors indicated that they intended to apply to the Commission to suppress the work. Besides the ICZN action in 1955, no works except one was found to deal with invertebrate names: in their world tephritid catalog, Norrbom *et al*., (1999) listed one Herrera genus-group name: *Instrypetas* (Herrera, 1900a) and treated it as a *nomen nudum*. Although there were three other tephritid names listed in the same work (*Insortalis, Insrhagoletis, Instephritis*), they were not listed by Norrbom *et al*. (1999).

1 Although there is no evidence to indicate which of the two 1900 publications appeared first: Herrera (1900a) or Herrera (1900c), we follow the logical assumption that the *Boletín* papers appeared first and the list of invertebrates appeared as a result of those papers and appeared later.

Herrera used his system for only a few years after its first proposal—with the last known use in Herrera (1911). No one ever adopted his system and it has silently disappeared from the published literature.

Acknowledgments

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Appendix. List of Diptera Genus-Group Names Proposed by Herrera

Herrera name	Proposed for	Family
Ins acanthomes 1901b: 17	*Acanthomera* Wiedemann, 1821	Pantophthalmidae
Ins acroceras 1901b: 18	*Acrocera* Meigen, 1803	Acroceridae
Ins aedes 1901b: 18	*Aedes* Meigen, 1818	Culicidae
Ins anaperas 1901b: 21	*Anapera* Meigen, 1830	Hippoboscidae
Ins anopheles 1901b: 21	*Anopheles* Meigen, 1818	Culicidae
Ins anthomyias 1901b: 22	*Anthomyia* Meigen, 1803	Anthomyiidae
Ins anthras 1901b: 22	*Anthrax* Scopoli, 1763	Bombyliidae
Ins asilus 1901b: 24	*Asilus* Linnaeus, 1758	Asilidae
Ins beris 1901b: 26	*Beris* Latreille, 1802	Stratiomyidae
Ins bibios 1901b: 26	*Bibio* Geoffroy, 1762	Bibionidae
Ins bolitophis 1901b: 27	*Bolitophila* Meigen, 1818	Bolitophilidae
Ins bombylius 1901b: 27	*Bombylius* Linnaeus, 1758	Bombyliidae
Ins borborus 1901b: 27	*Borborus* Meigen, 1803	Sphaeroceridae
Ins brachystomus 1901b: 28	*Brachystoma* Meigen, 1822	Brachystomatidae
Ins callomyias 1901b: 29	*Callomyia* Meigen, 1804	Platypezidae
Inscecidomyias 1900a: 11	*Cecidomyia* Meigen, 1803	Cecidomyiidae
Ins cephalomyias 1901b: 32	*Cephalemyia* Latreille, 1818	Oestridae
Ins cerapogos 1901b: 32	*Ceratopogon* Meigen, 1803	Ceratopogonidae
Insceratitis 1900a: 33	*Ceratitis* Macleay, 1829	Tephritidae
Ins chioneas 1901b: 34	*Chionea* Dalman, 1816	Tipulidae
Ins chiromyzas 1901b: 34	*Chiromyza* Wiedemann, 1820	Stratiomyidae
Ins chironomus 1901b: 34	*Chironomus* Meigen, 1803	Chironomidae
Ins chlorops 1901b: 35	*Chlorops* Meigen, 18033	Chloropidae
Ins chrysomias 1901b: 35	*Chrysomya* Robineau-Desvoidy, 1830	Calliphoridae
Ins chrysopas 1901b: 35	*Chrysops* Meigen, 1803	Tabanidae
Ins conops 1901b: 38	*Conops* Linnaeus, 1758	Conopidae
Ins corethras 1901b: 38	*Corethra* Meigen, 1803	Chaoboridae
Ins ctenophoras 1901b: 40	*Ctenophora* Meigen, 1803	Tipulidae
Inscules 1900b: 30	*Culex* Linnaeus, 1758	Culicidae
Insculexus 1900c: 17	*Culex* Linnaeus, 1758	Culicidae
Insdacus 1900c: 17	*Dacus* Fabricius, 1805	Tephritidae
Ins dasyllis 1901b: 41	*Dasyllis* Loew, 1851	Asilidae
Ins dasypogos 1901b: 42	*Dasypogon* Meigen, 1803	Asilidae
Ins dermatobias 1901b: 42	*Dermatobia* Brauer, 1860	Oestridae
Ins dexias 1901b: 42	*Dexia* Meigen, 1826	Tachinidae
Ins dilophus 1901b: 43	*Dilophus* Meigen, 1803	Cecidomyiidae
Ins dioctrias 1901b: 43	*Dioctria* Meigen, 1803	Asilidae
Ins diopsis 1901b: 43	*Diopsis* Linnaeus, 1775	Diopsidae
Insdiplosis 1902: pl. 4	*Diplosis* Loew, 1850	Cecidomyiidae
Ins dolichopus 1901b: 44	*Dolichopus* Latreille, 1797	Dolichopodidae
Ins doligastes 1901b: 44	*Dolichogaster* Macquart, 1847	Asilidae
Insdrosophilas 1901c: 149	*Drosophila* Fallén, 1823	Drosophilidae
Ins empis 1901b: 46	*Empis* Linnaeus, 1758	Empididae
Insephydras 1900c: 17	*Ephydra* Fallén, 1810	Ephydridae
Inseras 1904a: 146	*Erax* Scopoli, 1763	Asilidae

Herrera name	Proposed for	Family
Inseristalis 1900c: 13	*Eristalis* Latreille, 1804	Syrphidae
Ins gastrus 1901b: 52	*Gastrus* Meigen, 1824	Oestridae
Ins gonias 1901b: 53	*Gonia* Meigen, 1803	Tachinidae
Ins haematopos 1901b: 54	*Haematopota* Meigen, 1803	Tabanidae
Ins hemedromias 1901b: 55	*Hemerodromia* Meigen, 1822	Empididae
ins henops 1901b: 56	*Henops* Illiger, 1798	Acroceridae
Ins hilaris 1901b: 56	*Hilara* Meigen, 1822	Empididae
Ins hippoboscas 1901b: 57	*Hippobosca* Linnaeus, 1758	Hippoboscidae
Ins hybos 1901b: 57	*Hybos* Meigen, 1803	Hybotidae
Ins hydroleonus 1901b: 57*	—	—
Ins hypodermas 1901b: 58	*Hypoderma* Latreille, 1818	Oestridae
Ins laphrias 1901b: 60	*Laphria* Meigen, 1803	Asilidae
Ins lasias 1901b: 60	*Lasia* Wiedemann, 1824	Acroceridae
Ins leptis 1901b: 61	*Leptis* Fabricius, 1805	Rhagionidae
Ins leptogastes 1901b: 61	*Leptogaster* Meigen, 1803	Asilidae
Ins limnobias 1901b: 62	*Limnobia* Meigen, 1818	Limoniidae
Ins liptotenas 1901b: 63	*Lipoptena* Nitzsch, 1818	Hippoboscidae
Ins lomatias 1901b: 63	*Lomatia* Meigen, 1822	Bombyliidae
Ins loxoceras 1901b: 64	*Loxocera* Meigen, 1803	Psilidae
Ins macroceras 1901b: 65	*Macrocera* Meigen, 1803	Keroplatidae
Ins medeterus 1901b: 66	*Medeterus* Lehmann, 1822	Dolichopodidae
Insmellophagus 1900c: 11	*Melophagus* Latreille, 1802	Hippoboscidae
Ins melophagus 1901b: 67	*Melophagus* Latreille, 1802	Hippoboscidae
Insmeromyza 1904c: pl. 30	*Meromyza* Meigen, 1830	Chloropidae
Ins miastorus 1901b: 67	*Miastor* Meinert, 1864	Cecidomyiidae
Ins molobrus 1901b: 68	*Molobrus* Latreille, 1805	Sciaridae
Insmuscas 1900c: 17	*Musca* Linnaeus, 1758	Muscidae
Ins mycetobias 1901b: 69	*Mycetobia* Meigen, 1818	Anisopodidae
Ins mycetophis 1901b: 69	*Mycetophila* Meigen, 1803	Mycetophilidae
Ins mydas 1901b: 70	*Mydas* Fabricius, 1794	Mydidae
Ins myopas 1901b: 70	*Myopa* Fabricius, 1775	Conopidae
Ins nemestrinas 1901b: 71	*Nemestrinus* Latreille, 1802	Nemestrinidae
Ins nemotelus 1901b: 71	*Nemotelus* Geoffroy, 1762	Stratiomyidae
Ins nycteribias 1901b: 72	*Nycteribia* Latreille, 1797	Hippoboscidae
Ins odontomyas 1901b: 73	*Odontomyia* Meigen, 1803	Stratiomyidae
Insoecactus 1900c: 15	*Oecacta* Poey, 1851	Ceratopogonidae
Ins oestrus 1901b: 73	*Oestrus* Linnaeus, 1758	Oestrus
Ins oncodes 1901b: 73	*Oncodes* Meigen, 1822	Acroceridae
Ins ornithobias 1901b: 74	*Ornithobia* Meigen, 1803	Hippoboscidae
Ins ornithoymias 1901b: 74	*Ornithomya* Latreille, 1802	Hippoboscidae
Insortalis 1901c: 154	*Ortalis* Fallén, 1810	Tephritidae
Ins oxyceras 1901b: 75	*Oxycera* Meigen, 1803	Stratiomyidae
Ins pachygastes 1901b: 76	*Pachygaster* Meigen, 1803	Stratiomyidae
Ins phasias 1901b: 79	*Phasia* Latreille, 1804	Tachinidae

* no genus-group name in zoology could be found for which this name was proposed as a formula

Herrera name	Proposed for	Family
Inspholeomyas 1900c: 17	*Pholeomyia* Bilimek, 1862	Milichiidae
Ins phoras 1901b: 80	*Phora* Latreille, 1797	Phoridae
Insphorbias 1904c: pl. 28	*Phorbia* Robineau-Desvoidy, 1830	Anthomyiidae
Inspiophilas 1900c: 17	*Piophila* Fallén, 1810	Piophilidae
Ins pipunculus 1901b: 81	*Pipunculus* Latreille, 1802	Pipunculidae
Ins platypezas 1901b: 82	*Platypeza* Meigen, 1803	Platypezidae
Ins porphyrops 1901b: 84	*Porphyrops* Meigen, 1824	Dolichopodidae
Ins psychodas 1901b: 85	*Psychoda* Latreille, 1797	Psychodidae
Insptecticus 1901c: 167	*Ptecticus* Loew, 1855	Stratiomyidae
Ins ptychopteras 1901b: 86	*Ptychoptera* Meigen, 1803	Ptychopteridae
Ins raphias 1901b: 87	*Rhaphium* Meigen, 1803	Dolichopodidae
Ins raymondias 1901b: 87	*Raymondia* Frauenfeld, 1855	Hippoboscidae
Insrhagoletis 1901c: 148	*Rhagoletis* Latreille, 1804	Tephritidae
Ins rhingias 1901b: 87	*Rhingia* Scopoli, 1763	Syrphidae
Inssarcophagas 1900c: 17	*Sarcophaga* Meigen, 1826	Sarcophagidae
Instephritis 1901b: 152	*Tephritis* Latreille, 1804	Tephritidae
Instrypetas 1900a: 5	*Trypeta* Meigen, 1803	Tephritidae
Insvolucellas 1900c: 23	*Volucella* Geoffroy, 1762	Syrphidae

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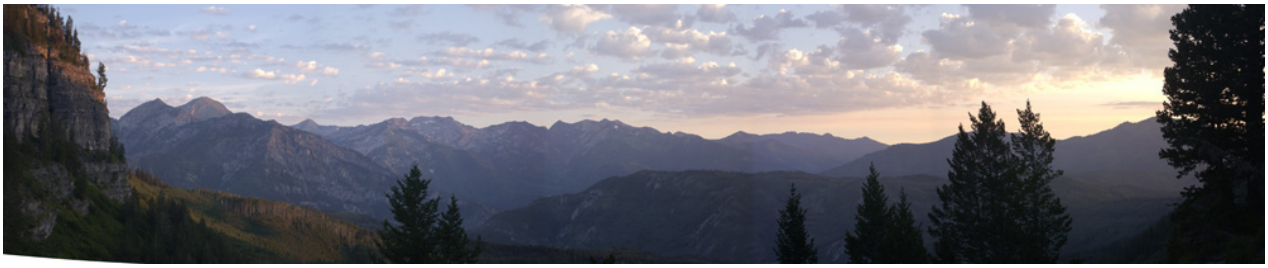
MEETING NEWS

Field Meeting of the North American Dipterists' Society



7-10 June 2011
Mount Timpanogos, Utah

Dr. C. Riley Nelson

Department of Biology, WIDB 401, Brigham Young University
Provo, Utah 84602 USA; 801-422-1345 (tel.), 801-422-0090 (fax), rileynelson@byu.edu

Invitation to Attend

The 2011 field meeting of the North American Dipterists' Society will be held 7-10 June 2011 on the eastern slopes of Mount Timpanogos in the Wasatch Mountains of scenic northern Utah. Our accommodations will be in the historic Timp Lodge of Brigham Young University (Fig. 1). This site is adjacent to the Sundance Ski Area with its rich history of environmental and cultural awareness. On behalf of the NADS, I invite you to attend this meeting which will consist of field interactions, congenial conversations, and as formal of presentations as attendees propose. This will bring together Dipterists from throughout North America and the world to rub shoulders and explore new and continuing friendships and research opportunities.

Mount Timpanogos is a stunning location (Fig. 2). The unique environment at 1934m (6345ft) with relatively easy access to elevations ranging from 3582 m (11,749m) on the summit of Mount Timpanogos (locals simply call it “Timp”) to 1281 m (4202ft) on the shore of the Great Salt Lake (locals call it “eel, salty”, will provide outstanding collecting opportunities and lead to human and biotic interactions in field, laboratory, and informal settings. The scenery and biodiversity from Timp Lodge itself are spectacular (Fig. 3).

See the information on the following pages, and you will want to come see the Wasatch for yourself. Drop me a quick note telling me you plan on coming! Then register.

C. Riley Nelson
Organizer, NADS 2011 Field Meeting

Fig. 1. USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek at BYU Timp Lodge, N 40.38920 W 111.58580, elev. 1934 m, 13 September 2010, C. R. Nelson #9683. View to Roberts Horn from Timp Lodge.

Fig. 2. USA: UTAH: Utah Co. Utah Lake, 1 mi West of Lincoln Beach, Hwy ?, N 40.14051˙ W 111.82029˙, 1366 msl, 5 February 2005, C. R. Nelson #8077 (photographer) & J. K. Nelson. View to Mount Timpanogos, Cascade Mountain, Provo Peak, and sunset to the west.

Timp Lodge in Aspen Grove area

Timp Lodge is about a one hour drive from Salt Lake International Airport. You leave the margins of the Great Salt Lake, pass south along the highly populated Wasatch Front, and climb quickly into the mountains by way of Provo Canyon. Near the airport you can easily find salt desert vegetation to sample then climb through several life zones to reach Timp Lodge. Habitat is available for a most voluptuous assortment of flies (Fig. 4). The area contains a variety of terrestrial, wetland, and aquatic habitats, including sagebrush- and greasewood flats, cattail marshes, lowland lakes, alpine lakes, cold-

Fig. 3. USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek at BYU Timp Lodge, N 40.38920 W 111.58580, elev. 1934 m, 13 September 2010, C. R. Nelson #9683. View in fall colors showing diversity of tree species available from Timp Lodge.

and hot springs, a large river, and many small streams. We have so many choices of places to go and collect that some might experience the tetanus of too many opportunities. We will focus on Mount Timpanogos and the Great Salt Lake. Both have amazing fly diversity and both can be easily reached from our lodge. I will post other possible destinations later, or on request.

Fig. 4. A voluptuous fly. USA: UTAH:Utah Co. Mount Timpanogos, Julie Andrew Meadow at head of Bear Canyon, N 40.43277 W 111.66021 elev. 2539 m, 22 May 2003, C. R. Nelson #7617. Asilidae: *Eucyrtopogon nebulosus.*

The lodge provides firewood for use in the massive indoor fireplace and at a nice fire pit on the upper lawn. Also provided are a freezer, stove, refrigerator, microwave, piano, foosball table, and ping pong table. I will arrange for a few microscopes and light sources as well as specimen grade ethanol.

Tentative schedule 2011

Tuesday, 7 June (late afternoon / evening)

Check-in at Timp Lodge.
Collecting near Timp Lodge, perhaps Stewart Falls
Dinner at Timp Lodge
Welcome and introduction to area
Later visit to Owl Club at Sundance Ski Area, http://www.sundanceresort.com/dine/owl_bar.html

Wednesday, 8 June 2011

Breakfast in Timp Lodge
Visit to Sundance Foundry Grill by some, http://www.sundanceresort.com/dine/foundry_grill.html
Trip(s) to Aspen Grove Trail, Cascade Springs, or Timpooneke Trail
Box Lunches hand-packed at Breakfast
Dinner at Timp Lodge
Presentations and sorting the day's catch
Later visit to the Owl Club at Sundance Ski Area as needed

Thursday, 9 June 2011

Breakfast at Timp Lodge
Box Lunches hand-packed at Breakfast
Trip(s) to Great Salt Lake or nearby if you wish
Dinner at Timp Lodge
Presentations and sorting the day's catch
Later visit to the Owl Club at Sundance Ski Area as needed

Friday, 10 June 2011

Breakfast at Timp Lodge
Check-out before noon
Plan other outings and departures

Driving directions (Fig. 5)

Participants can easily fly to Salt Lake International Airport (SLC), and arrange for a rental car from reasonable national agencies to go the remaining 55 miles, or consider the shuttle service information given under "Cost" below..

Airport to Timp Lodge. Leave the airport; Take the I-80 E ramp on the left to City Center/Ogden/Provo for 0.7 mi; Keep left at the fork, follow signs for I-80 E and merge onto I-80 E after 6.2 mi and enter I-15 S (Signs say Provo); Continue onto I-15 S for 33.1 mi; Take exit 272 for UT-52/800 N toward US-189 on ramp for 0.3 mi; Turn left at UT-52 E/W 800 N and head east, toward mountains for 3.7 mi; Take the ramp on the left onto US-189 N/US-189 Scenic N/E Provo Canyon Rd for 7.0 mi; Turn left at UT-92 W/Alpine Scenic Hwy (Signs say Sundance) for 2.3 miles; Pass the parking lot for Sundance Resort and continue for 0.3 mi to the Stewart Road left turn; Follow the small signs to Timp Lodge by splitting to right after 0.2 mi; Continue on narrow paved road for 0.3 mi to Timp Lodge big sign, turn left and drive up small hill to the Timp Lodge parking lot (Fig. 5). Find a table for registration or relax and wander the grounds until someone arrives to help you.

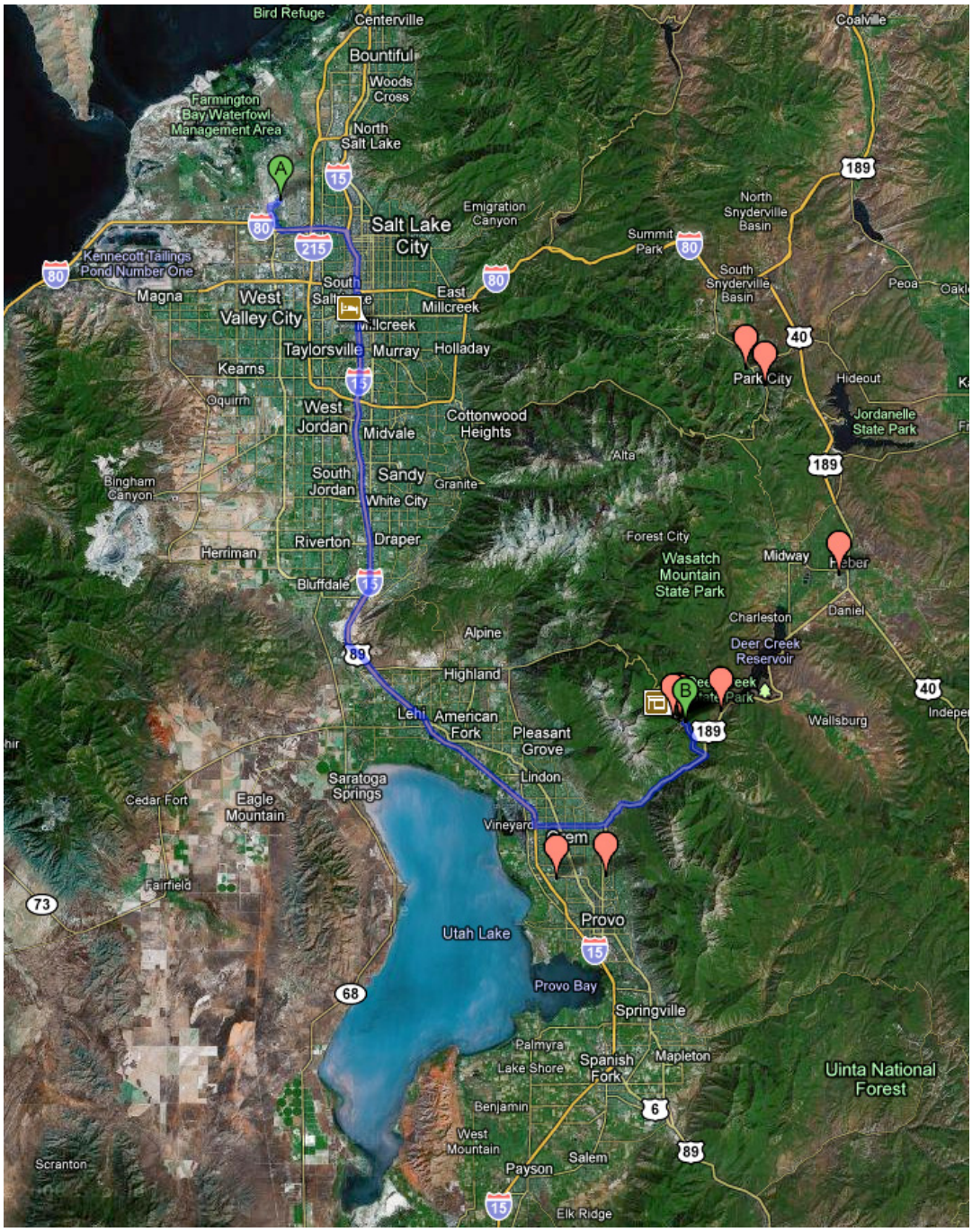


Fig. 5. Google Maps driving route from Salt Lake International Airport (A) to Timp Lodge near Sundance (B).

Logistics

Housing at Timp Lodge is dormitory style, with three rooms of multiple bunk beds only. To reserve this nice lodge we needed to pay for all of the reasonable lodging fees in advance, so please support me and stay in the lodge. We are also free to set up tents as needed. Small recreation vehicles, without hook-ups, will fit in the parking lot, but again, all fees: lodging, food, and registration are lumped together so all you get with a tent or recreation vehicle, really, is more privacy (Fig. 6).

Fig. 6. USA: UTAH: Utah Co., Mount Timpanogos, Little North Fork Creek at BYU Timp Lodge, N 40.38920 W 111.58580, elev. 1934 m, 13 September 2010, C. R. Nelson #9683. View from front porch to parking lot and mountain. Note the timber of the roof at the top center of the photograph.

Presentations

Please email me, Riley Nelson, with the title and abstract of any presentation you would like to make to the group as a whole and the time you need. I suggest 10 minute talks and 20 minute discussions. Send them to me by 1 March 2011, please.

Cost

Registration for each participant will be $225 and includes lodge rental, catered meals, box lunches, and some field trip transportation. There are 64 beds, all single bunk beds, in the lodge. Each is provided with linens, two blankets, pillow, towel, wash cloth, and soap. There are plates and silverware for 150.

By sharing rides from the airport and to collecting sites we will be able to keep within this budget. No shuttles to or from the airport are provided. Express Shuttle offers rides to Sundance. This is easy walking distance to the lodge, or the driver may take you to Timp Lodge if you ask. The shuttle costs $47 one way with each additional passenger paying $15, up to seven passengers. So, if three people share the one way ride it costs 47 + 15 + 15 = $77 or about $26.00 each. If seven, then the price drops to $20. Note this charge is one-way. Arrange for your own shuttle service at 1-800-397-0773 or on-line at: http://www.expressshuttleutah.com. Note that Timp Lodge and Sundance are in zip code 84604 in Provo Canyon.

Please register early (by March 1, 2011, please, even earlier is better for me to arrange food) by calling Brigham Young University, Department of Conferences and Workshops, at 801-422-7589. That is

their front desk. The preferred payment method is by calling them with a credit card to charge. The secretaries will be able to answer questions and transfer calls to the registration office for you to pay by credit card. The address for mail-in registration (by check only) is: Conference and Workshops, 120 Harman Building, Brigham Young University, Provo, UT 84602 USA. The BYU staff that are helping with this conference are Von Phillips, 801-422-4852, von.phillips@byu.edu and Elaine Bridges, 801-422-6757, elaine_bridges@byu.edu.

After you register with the university, please send me (Riley) an email note that you have done so.

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Reminder – Informal Conference of the North American Dipterists Society

Entomological Society of America Annual Meeting
San Diego, California – 12-15 December, 2010

Julia J. Mlynarek

Department of Biology, Carleton University,
Ottawa, Ontario, CANADA; jmlynare@connect.carleton.ca

The Entomological Society of America Annual Meeting is being held in San Diego, California from 12-15 December 2010. I would like to remind you that there will be an informal conference for Dipterists at this years meeting. It is set up as a member symposium instead of a function, as was the case in the past few meetings. It will take place on Tuesday, December 14, 2010, at 7:30-9:30 PM at the Town and Country Hotel and Convention Center, Royal Palm, Salon 4. If you are coming to the ESA meeting and would like to give a talk (in a relaxed setting) concerning any aspect of dipterology (field trips, research projects, grant opportunities, etc) at this session, please let me know via e-mail. In similar vein, if you are unable to attend but would like to forward any dipterology updates, please let me know and I will happily pass them on during the session. We will have reports on the International Congress of Dipterology in Costa Rica, news about the 2011 NADS field meeting in Utah and information about Diptera research. It is sure to be an interesting evening filled with Diptera related discussions at the meeting and afterwards. Hope to see many of you there!

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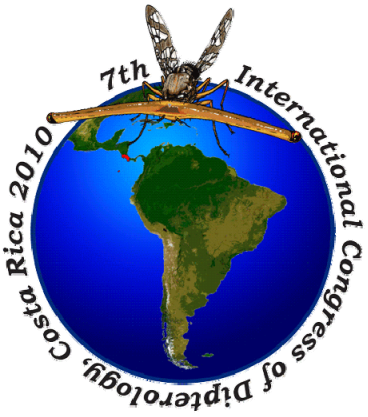
7th International Congress of Dipterology
San José, Costa Rica
8-13 August, 2010



A full report on the Congress should be forthcoming in the next issue of Fly Times, but for now, let me direct you to the Congress' webpage to see the information on the program, including the following:

Scientific program (presentations)
Scientific program (posters)
ICD7 Abstracts volume
Participant List

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ICD-7 Best and worsts
(almost not in any particular order)

Neal Evenhuis

J. Linsley Gressitt Center for Research in Entomology, Bishop Museum, 1525 Bernice Street
Honolulu, Hawaii 96817-2704, USA; email: NealE@bishopmuseum.org

1. Best pool tan -- Lee Goff (he cheated though, he's a Waikiki beach boy and teaches people how to surf).
2. Lowest hanging ID badges -- ICD7
3. Smallest font on an ID badge -- ICD7
4. Best minimalist talk -- Don Webb; about 4 simple slides with black letters on white background
5. Least "stressful" workshop to present a paper -- the Ceratopogonidae workshop: no scheduled talk; only a "discussion".
6. Best limbo dancer -- Adrian Johnson (indeed the ONLY one to actually limbo!)
7. Most effusive use of "Let's have some fun" -- Riley Nelson's Mongolia travelogue
8. Most original preface to a talk -- Mark Pollett: "If I seem nervous it's because I have to go to the bathroom".
9. Most in need of the "hook" -- Dan Bickel ; whose amber talk went 8 minutes overtime
10. Best friend of the flies -- Dan Bickel; who says "Hello. How are you?" to Medetera he sees in the field. [we should all follow that example before we kill our quarry...]
11. Best answer to a leading question -- Joel Gibson. When asked by Chris Thompson after Joel's talk "Did you say there has never been a phylogenetic study done on this group?" The answer Joel gave was "I don't recall having said that."
12. Best quote -- Bryan Lessard "If I were a fly and a dead body fell on me, I'd oviposit." [let's hope he was thinking of himself being a female fly ...]
13. Most co-authored talks and poster presentations -- Brian Wiegmann
14. Best dressed -- Maasaki Suwa (barely beating out 3-time winner Greg Dahlem).
15. Worst Mexican "fusion" restaurant: -- "Persa-Mex" in the shopping center across the street from the Conference center. An unusual mix of Persian and Mexican food. [Pita burritos anyone?]

and saving the bestest for lastest:

16. Best use of an Art Borkent cut-out portrait: Scott Brook's using it as distribution points on a map of Costa Rica.

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18th International Symposium on Chironomidae

NTNU Museum of Natural History and Archaeology, Trondheim, Norway
July 4-6, 2011, post-conference tour July 7

The Symposium Committee: Elisabeth Stur, Torbjørn Ekrem & Kaare Aagaard
(Chiro2011@vm.ntnu.no)

The NTNU Museum of Natural History and Archaeology would like to invite you to the 18th International Symposium on Chironomidae in Trondheim, Norway. We attempt to bring scientists and students from all over the world to Trondheim and hope many of you will consider this a great opportunity to present and discuss recent developments in Chironomidae research.

Read more about the conference and register your interest by using the preregistration form at the symposium website (http://www.ntnu.no/vitenskapsmuseet/chironomidae-symposium). Please visit this site for regular updates on the available scientific and social programs. Preregistration will be open until the end of 2010 while formal registration will start in January 2011. As we depend on the preregistration to estimate the approximate number of delegates, we kindly ask you to preregister as soon as possible. This will also give us an opportunity too to inform you directly about updates in the Symposium program per e-mail.

Please note that the symposium scheduling has changed slightly from past practice to avoid conflict with the international palaeolimnology symposium. Thus, the 18th chironomid symposium will be held a year early, in 2011 rather than 2012 and will return to a 3-year rotation thereafter. We hope to see many diperologists and palaeolimnologists at the meeting!

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DIPTERA ARE AMAZING!

To continue this new feature, I solicited Shaun Winterton (Plant Pest Diagnostics Branch, California Department of Food & Agriculture, 3294 Meadowview Road, Sacramento, California 95832, USA) for some photographs (he is just down the hall from me!). But I am hoping some of you will be interested to participate by sending me your photos, just to display how cool flies are! Its continuation will depend upon whether you readers will want to contribute – ideas include either pictures of a certain group, or pictures from a certain trip. Following is a small selection of Australian Therevidae taken by Shaun.

Acraspisoides helviarta

Eupsilocephala albodorsalis

Ectinorhynchus phyciformis

Acraspisa sp. nov.

Agapophytus pallidicornis

Anabarhynchus latifrons

BOOKS AND PUBLICATIONS

Zootaxa keeps statistics, and has a section called "Most accessed papers" – found at http://www.mapress.com/zootaxa/collections/mostaccess/index.html – which lists the top ten papers in terms of "hits" for any given month. So, to highlight the importance of Diptera (like preaching to the choir), there was only one month in 2010 (August) when at least one Diptera paper wasn't in this top 10 list. For most months there were two Diptera papers in this top 10, and for one month (March), there were three! It is also noteworthy that for two months (March, April) Diptera papers claimed the first and second most accessed papers! After a dry month of August for Diptera in this list, a new paper has made it in to start things off right for the next time period! The following paper, accessed 2757 times in September, was the most accessed paper for the month:

Schneider, M.A. 2010. A taxonomic revision of Australian Conopidae (Insecta: Diptera). Zootaxa 2581: 1–246. [open access at http://www.mapress.com/zootaxa/2010/f/zt02581p246.pdf]

The major contenders over the last year have been the following two papers, both of which have Jim O'Hara as first or second author:

O'Hara, J.E., Shima, H. and Zhang, C.-t. 2009. Annotated catalogue of the Tachinidae (Insecta: Diptera) of China. Zootaxa 2190: 1-236. [open access at http://www.mapress.com/zootaxa/2009/f/zt02190p236.pdf]

Evenhuis, N.L., J.E. O'Hara, T. Pape & A.C. Pont. 2010. Nomenclatural Studies Toward a World List of Diptera Genus-Group Names. Part I: André-Jean-Baptiste Robineau-Desvoidy. Zootaxa 2373: 1–265 [open access at http://www.mapress.com/zootaxa/2010/f/zt02373p265.pdf].

The O'Hara et al. (2009) paper was published in August 2009, where it debuted at the top spot for the month, with 5044 hits, and remained in the top 10 all the way through June 2010. The Evenhuis et al. (2010) paper debuted in the top spot in February 2010 with 3328 hits, and remained there for the next two months, staying in that top 10 through July 2010. For the month of March, this paper was hit nearly 9000 times!

Rounding out the year, were two papers that were in the top 10 for one month each, with the Norrbom et al. (2010) paper debuting at the number two spot (behind the Evenhuis et al. (2010) paper) for the month of March with 4667 hits. The Gaimari & Silva (2010) paper eeked in at number nine for the month of January, and then gracefully bowed out.

Gaimari, S.D., & V.C. Silva. 2010. Revision of the Neotropical subfamily Eurychoromyiinae (Diptera: Lauxaniidae). Zootaxa 2342: 1–64 [open access at http://www.mapress.com/zootaxa/2010/f/zt02342p064.pdf].

Norrbom, A.L., B.D. Sutton, G.J. Steck & J. Monzon. 2010. New genera, species and host plant records of Nearctic and Neotropical Tephritidae (Diptera). Zootaxa 2398: 1–65 [open access at http://www.mapress.com/zootaxa/2010/f/zt02398p065.pdf].

In terms of longer term statistics, Zootaxa also keeps track of the most highly-cited papers according to Science Citation Index Expanded – http://www.mapress.com/zootaxa/collections/citation/index.html. Two papers on Diptera are also in this top 10 list with 34 citations each, the message being, as we all

know, that Diptera are very important! It is also worth noting that among the top 10, no other Order of animals has two papers in this list! The two papers currently in the top 10 are as follows:

Carvalho, C.J.B. de, M.S. Couri, A.C. Pont, D. Pamplona & S.M. Lopes. 2005. A Catalogue of the Muscidae of the Neotropical Region. Zootaxa 860: 1-282.

Sinclair, B.J., & J.M. Cumming. 2006. The morphology, higher-level phylogeny and classification of the Empidoidea (Diptera). Zootaxa 1180: 1-172. [open access at http://www.mapress.com/zootaxa/2006f/zt01180p140.pdf (part A) and http://www.mapress.com/zootaxa/2006f/zt01180p172.pdf (part B)]

Note from the editor: I usually accumulate the various citations to list here by scanning through the Zoological Record – since they are often 1 or 2 months behind, I surely missed many recent papers (especially September and October publications), but they will be included in the next Fly Times! Note, many of the papers in the list are from Zootaxa (these are up to date) – this is reflection of the fact that the majority of papers on Diptera seem to be published in Zootaxa – not due to my own biases! Also, by inclusion, I am not attesting to quality (of course I haven't read all of them)! In any case, I am bound to miss some of the things you might want to see, so by all means, please send me citations for papers (your own or those of others) that you would like to see here! I am happy to include them! As a generality, I try to keep the focus either broad-based (e.g., large treatises), of general interest, or specific to the Nearctic (or at least New World) fauna. Many more papers would be included if revisions of Old World groups were included.

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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.

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