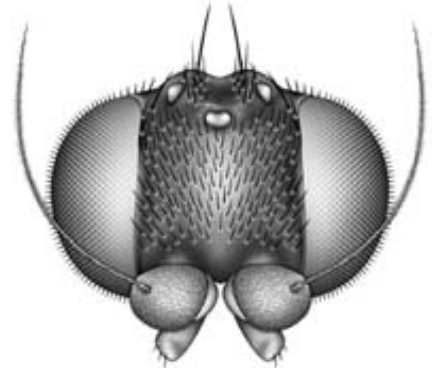


# Phorid Newsletter



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Brian V. Brown, editor  
Drawing of *Cyrtophorina* sp. by Laishan Mui  
also available at <http://www.phorid.net/phoridae/phornews.html>

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## **Congratulations to Mike!**

Mike Mostovski has a new position in South Africa (see Directory, below), where he can make big inroads in the all too poorly known African fauna. Congratulations, Mike!

## **What's new in Los Angeles**

This is a report on what we have been doing in the LACM over the last couple of years (since the last phorid newsletter), along with plans for the next few years.

First of all, our web site address has changed. Because of various problems associated with access to our site, we decided to use an outside service provider. Thus, our new address is at [www.phorid.net](http://www.phorid.net), and we have posted further images and information about phorids (with much more to come). Of special interest are the color images of *Melaloncha* specimens that complement the descriptions and genitalia drawings in revisionary papers (see below). These can be found under Revisions and other Research Products at:

***[www.phorid.net/phoridae/Melaloncha.html](http://www.phorid.net/phoridae/Melaloncha.html)***

In the last Phorid Newsletter in 2001, I wrote an article entitled Beginning to Study the Bee-Killing flies. Since then, our original grant period has almost expired. We have examined about 2,000 specimens of these flies, most of which were newly collected for the project, and have recognized so far 165 species. A number of papers describing these species are finished, in press, or nearly ready to submit, but it is likely that further work will reveal more species.

In terms of field work, the highlights of the project were collections made at the Tambopata Research Center in Peru (2001), Zona Protectora El Rodeo in Costa Rica (2001),

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Cumbre Alto Beni in Bolivia (2003), and Reserva Vida Silvestre Urugua-í in Argentina (2003). In each of these sites we collected well over 100 specimens of *Melaltoncha*, including representatives of many species.

In particular, Cumbre Alto Beni (CAB) is an amazing, little-known site. It is a hilltop with a radio tower, situated about 40 km north of Caranavi, on the edge of a large expanse of montane forest. The fauna is the richest at a mid-elevation site that I have yet encountered in South America, on par with the extraordinary site Zurquí de Moravia in Costa Rica. Indeed, a number of species are shared by the two sites, while others have slightly different Bolivian counterparts that might or might not indicate separate species status. During our 8 days at CAB we collected 160 *Melaltoncha* of 20 species, making it one of the richest sites we have yet sampled. Our collections were made at an aggregation of bees attracted to honey-sprayed undergrowth, as detailed in Brown (2001). Each day we collected, our catches grew larger, apparently as the flies became increasingly attracted to the bee aggregation (perhaps because of a buildup of bee resource-marking pheromone), from a catch of two specimens on day one to forty-one and fifty-six on our final days.

We also collected in the lowlands around Rurrenabaque during this Bolivia trip, but had horrendous collecting. Our trip was in April, at the beginning of the dry season, which is a great time to collect in the moist, often too-rainy middle elevations, but apparently lousy for the lower elevations. Also, the forest surrounding Rurrenabaque was almost exclusively young second-growth, which might have affected the phorids; however, a lepidopterist companion did quite well.

Our most recent collecting trip on this grant was in late November- early December 2003, when I traveled to northern Argentina. The intention was to try to collect new specimens of some of the species described by Borgmeier from Fritz Plaumann's collections at Nova Teutônia, Brazil. Our collecting sites were Parque Nacional Iguazú and Reserva Vida Silvestre Urugua-í, both of which are fairly close to Santa Catarina, Brazil, where Plaumann collected. We had good collecting at Iguazu, but only on the flowers of *Syagrus* palms that were growing in the manicured grounds of the Sheraton Hotel! Otherwise, our *Melaltoncha* collecting success was terrible, as we only collected a single female attracted to bees. Two hours drive south, however, at the much more remote Urugua-í site, we had overwhelming numbers of bees and tremendous numbers of flies. The bees were so common and aggressive in seeking moisture from our perspiration that we had to wear head nets to keep them off. Honey bees were a real hazard, as they were extremely common and aggressive, so we learned to put up with a couple of stings per day. Some of the larger *Melaltoncha* were attracted to the honey bees, however, and we have some interesting new host records. The flies and bees were so numerous that at times I could conveniently watch oviposition attempts taking place on the bees swarming on my hands. Our goal to recollect the Borgmeier species was partly realized, but it was clear to me that the Nova Teutônia fauna was of a higher elevation than the 200-400 m sites where we worked. It should be noted, however, that Nova Teutônia is not a single spot, as Plaumann had to travel farther and farther as the years passed to find some forest in which to collect.

When I originally submitted the *Melaltoncha* grant proposal for this project to the National Science Foundation (NSF), it included both morphological and molecular studies of the genus. Because of deficiencies in the molecular part of proposal, however, the grant was only

partially funded (for the morphological part). I persisted in believing that the molecular part was critical to the success of a phylogenetic revision of *Melaloncha*, however, because only females are informative for morphology, and there were insufficient character states to reconstruct the entire genus. Therefore, I re-wrote the molecular part as a separate grant, adding a new collaborator, Dr. Paul Smith of California State University, Bakersfield. Together we gathered preliminary data from mitochondrial 12S rRNA, 16S rRNA, NADH 1 and nuclear 28S rRNA from several *Melaloncha* species (and outgroups), and wrote a new proposal. Happily, this second grant was successful, and we have a further three years to conduct field work and reconstruct the phylogeny of this interesting group.

There is a further project for which I am seeking NSF at this time. This project is a grant proposal I submitted in January, 2004, and if funded will result in new funds in September 2004.

The project is a higher-level phylogenetic reconstruction of the Phoridae. This is a highly contentious subject that has generated considerable published (and private) disagreement between Henry Disney and me. To try to resolve this problem, my collaborator Paul Smith and I submitted a proposal to revise the generic classification using molecular and morphological characters, similar in intent to our *Melaloncha* project. We already have sequences from four genes for a number of phorid genera, including *Sciadocera rufomaculata*, and several outgroups, including *Ironomyia* sp. (a new species being described by David McAlpine). This project will be conducted (and submitted for funding) in two parts, with the primitive phorids (traditional subfamilies Phorinae, Aenigmatiinae, Thaumatoxeninae and Termitoxeniinae) in the first proposal, and the Metopininae in the second. Obviously, the phylogenetic framework that these projects provide would be of great use to all phorid researchers, and we will keep you up to date on our progress.

Within the higher classification project, I am also proposing to revise the Neotropical species of the largest primitive phorid genus, *Dohnniphora*. This will be both a taxonomic revision, as well as a phylogenetic study, again using DNA sequences.

The phorid collection here in Los Angeles continues to grow, currently with about 140,000 databased specimens and about 50,000 more awaiting processing. In the summer of 2002, we were visited by Mike Mostovski who had obtained one of the LACM s visiting scholar grants. Mike carted away a large package of Oriental Region specimens for further attention, so we look forward to many new species being described from our holdings.

One section of the collection that has grown markedly in the last few years is our holdings of fossil phorids, mostly from Eocene Baltic amber. We now have nearly 1,000 specimens, including a large number of rare, poorly known or undescribed species. Two particular gems are a male specimen of the European *Archiphora robusta*, and the holotype of *Sciadophora bostoni* (from Canadian Cretaceous amber); the latter was bought from a private collector who wanted to part with it (Note: in the original description, it was stated that the specimen of *S. bostoni* was deposited in the Canadian National Collection, but this was an error. I knew Mr. Boston when I was a graduate student in Alberta, and found out the complete story from him).

## Phoridologists' Directory

The following is a list of the names, addresses and interests of phorid workers on my mailing list. Any additions, corrections or updates would be greatly appreciated. Those wanting to discuss their projects and interests at even greater length are welcome to do so.

**Forbes P. Benton**, moved, address no longer available. *Interests*: Natural history, identification and faunistic surveys of Brazilian Phoridae. Elucidation of phorid life cycles. Behavioral interactions between parasitic species and their hosts.

**James Bonet**, Övre Bergsvägen 2, 126 34 Hägersten, Sweden. Telephone: 08-669 21 39. Email: james.bonet@nrm.se.

**Marcos A. L. Bragança**, Fundação Universidade do Tocantins, Instituto de Biologia, Rua Luiz Leite Ribeiro, s/n, 77500-000, Porto Nacional, TO, BRAZIL. Telephone: 55-63-363 1701. Fax: 55-63-363 1283. E-mail: [malbr@uol.com.br](mailto:malbr@uol.com.br). *Interests*: Interactions of phorids and leaf-cutting ants.

**Brian V. Brown**, Entomology Section, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA, 90007, U.S.A. Telephone (213) 763-3363. FAX (213) 746-2999. E-mail [bbrown@nhm.org](mailto:bbrown@nhm.org). *Interests*: Taxonomy, evolution, reconstructed phylogeny, biogeography and natural history of world Phoridae. I have a long-term project to revise the New World, ant-decapitating genus *Apocephalus*, but I am also working on a revision of the bee-parasitizing genus *Melaloncha*. I am interested in collecting methods for phorids, and in biodiversity surveys, especially those conducted in the tropics.

**Matthias Buck**, Dept. Environmental Biology, University of Guelph, Guelph, ON, Canada, N1G 2W1. Email [mbuck@evbhort.uoguelph.ca](mailto:mbuck@evbhort.uoguelph.ca) *Interests*: Ecology and biology of Phoridae; community structure; ecology and biology of small saprophagous (especially necrophagous) Diptera breeding in small-sized and buried vertebrate and invertebrate carrion. Other interests are anatomy of the reproductive organs, larval morphology, phylogeny and hymenopterous parasitoids of small, necrophagous Diptera. So far, I have only worked in the Palearctic Region.

**R. Henry L. Disney**, Dept. Zoology, University of Cambridge, Downing Street, Cambridge, CB2 3EJ, United Kingdom. Telephone 0223 336654. FAX 0223 336676. Email [rhld2@cam.ac.uk](mailto:rhld2@cam.ac.uk). *Interests*: Taxonomy of phorids with novel biological data, Revision of world's *Chonocephalus*, Phoridae of Seychelles, Arabia, British Isles and other Atlantic islands. Revision of keys to world genera.

**Ewa Durska**, Museum and Institute of Zoology, PAS, Wilcza 64, 00-679 Warszawa, Poland. Email [edurska@robal.miiz.waw.pl](mailto:edurska@robal.miiz.waw.pl). *Interests*: Biology, taxonomy, faunistic surveys of Phoridae; behavioral interactions between parasitic species and their hosts; species of *Phalacrotophora* as parasitoids of Coccinellidae.

**Donald H. Feener, Jr.**, Department of Biology, University of Utah, Salt Lake City, UT, 84112, U.S.A. Telephone (801) 581-6444. FAX (801) 581-4668. Email: [feener@bioscience.utah.edu](mailto:feener@bioscience.utah.edu). *Interests*: Ant-phorid interactions in general. Specific projects include: 1) chemical ecology of host location in phorid parasitoids of ants; 2) phorid parasitoids as biological control agents of pest ants; 3) evolution of host specificity of phorid parasitoids; 4) behavioral ecology of ant defenses against phorid parasitoids. I work mostly in the New World temperate and tropical regions, especially the southwestern U.S.A. and Central America (Costa Rica, Panama).

**Patricia J. Folgarait**, Unidad de Investigación en Interacciones Biológicas, Centro de Estudios e Investigaciones, Universidad Nacional de Quilmes, Roque Saenz Peña 180, 1876 Bernal, Buenos Aires, Argentina. Telephone: 54-1 365-7100, ext. 225. FAX 54-1 365-7101. Email [pfolgarait@unq.edu.ar](mailto:pfolgarait@unq.edu.ar). *Interests*: 1) Ant- parasitoid interactions, in particular for ant pests, 2) biological control of ant pests, and 3) effects of phorids in structuring ant communities. I am currently doing research on phorids of *Solenopsis* and *Camponotus* but I am also interested in phorids of leaf-cutter ants.

**Mauro Gori**, Via Del Cronaca 19, 50142 Firenze, Italy. Telephone 055/700588. *Interests*: Italian phorid fauna; life histories.

**Tadao Gotô**, Tohoku Research Center, Forestry and Forest Products Research Institute, 92-25 Nabeyashiki, Aza-Shimokuriyagawa, Morioka, 020-0123 Japan. Telephone +81-19-648-3962. FAX: +81-19-641-6747. Email: [tgotoh@ffpri.affrc.go.jp](mailto:tgotoh@ffpri.affrc.go.jp)

**David H. Kistner**, California State University, Chico, CA, 95929-0515, U.S.A. Telephone (916) 898-5116. FAX (916) 898-6804. *Interests*: Mostly interested in Phoridae inhabiting the nests of social insects or preying on social insects. I am interested in all biogeographic regions, but have minimal taxonomic interests. I am currently working in collaboration with Henry Disney on Termitoxeniinae and a study of Phoridae of the upper Sacramento River, based on cantara spill collections.

**Victor A. Kolyada**, Department of Entomology, Zoological Museum of the Moscow State University, 6 Herzen Str. Moscow 103009, Russia. *Interests*: Taxonomy of the genus *Megaselia* and its fauna in the Palaearctic Region. Interested in exchanging for determined specimens from other biogeographical regions. Also interested in collecting methods.

**Ed LeBrun**, Division of Biological Sciences, University of California at San Diego, 9500 Gilman Drive, La Jolla, CA, 92093-0116. Telephone: (858)822-5207. Email: [elebrun@ucsd.edu](mailto:elebrun@ucsd.edu). *Interests*: Interactions of phorids and ant communities.

**Guangchun Liu**, College of Biological and Environmental Engineering, Shenyang University, No. 21, Wanghua Street, Dadong District, Shenyang, 110044, D. R. China. Telephone +86-24-62268204. FAX +86-24-88112793. Email [liugc18@mail.sy.ln.cn](mailto:liugc18@mail.sy.ln.cn). *Interests*: Taxonomy of phorids; Chinese phorid fauna; phorids associated with mushrooms in China.

**Marina Michailovskaya**, Laboratory of Insects, Gornotaezhnaya Station, AN RAN, Ussurijsk District, Primorye Territory, 692533, Russia. Email [root@ssursk.vladpost.marine.su](mailto:root@ssursk.vladpost.marine.su). *Interests*: Taxonomy of phorids; Far East phorid fauna, including Primorskiy krai, Chabarovski krai, Sachalin, Kamchatka; phorids associated with dead animals.

**Lloyd Morrison**, Center for Medical, Agricultural and Veterinary Entomology, USDA-ARS, P.O. Box 14565, Gainesville, FL, 32604, USA. E-mail [lmorrison@gainesville.usda.ufl.edu](mailto:lmorrison@gainesville.usda.ufl.edu). *Interests*: Effects of phorid parasitoids (genus *Pseudacteon*) on ant foraging and interspecific competition (genus *Solenopsis*); ant host species-specificity of *Pseudacteon* phorids; introduction of South American *Pseudacteon* species to the U.S. (Texas) as biological control agents against the imported fire ant, *S. invicta*.

**Mikhail B. Mostovski**, Department of Arthropoda, Natal Museum, P. Bag 9070, Pietermaritzburg 3200, South Africa. E-mail [phorids@hotmail.com](mailto:phorids@hotmail.com). *Interests*: Phorid fauna of former USSR.

**Hiroto Nakayama**, Biosystematics Laboratory, Graduate School of Social and Cultural Studies, Kyushu

University, 4-2-1 Ropponmatsu, Chuo-ku Fukuoka 810-8560, Japan. Telephone 092-726-4818.  
Fax 092-726-4644. Email [youngrcb@mbox.nc.kyushu-u.ac.jp](mailto:youngrcb@mbox.nc.kyushu-u.ac.jp).

**E. Hugh A. Oliver**, 172 Upper Dinsdale Road, Hamilton, New Zealand. Telephone 84 79541. FAX 64 7  
838 5085. *Interests*: New Zealand phorid taxonomy and natural history.

**Matt Orr**, Department of Biology, San Francisco State University, San Francisco, CA, 94132, U.S.A. E-  
mail [morr@sfsu.edu](mailto:morr@sfsu.edu) *Interests*: Influences of phorids on ant foraging ecology, especially pest ants. Ant taxa of  
interest include *Atta*, *Solenopsis*, and *Linepithema*.

**Sanford D. Porter**, USDA-ARS, CMAVE, 1600 SW 23rd Drive, P.O. Box 14565, Gainesville, FL,  
32604, U.S.A. Telephone (352) 374-5914. FAX (352) 374-5818. E-mail  
[sdp@nervm.nerdc.ufl.edu](mailto:sdp@nervm.nerdc.ufl.edu). *Interests*: Ant-parasitizing phorids, especially *Pseudacteon*: oviposition behavior,  
growth and development of larvae and pupae, host specificity, responses of ant hosts, biocontrol.

**Sabine Prescher**, Hinter der Masch 26, 38114 Braunschweig, Germany. Telephone 05 31 - 57 90 92.  
Email [s.prescher@gmx.de](mailto:s.prescher@gmx.de). *Interests*: Phoridae of a crater in La Palma (Canary Islands), of Iceland, and of  
agricultural land with maize in Germany.

**Athayde Tonhasca**, Universidade Estadual do Norte Fluminense, Centro de Ciências e Tecnologias  
Agropecuarias, Avenida Alberto Lamego, 2000, Campos dos Goytacazes, RJ, Brazil. *Interests*:  
Phorids attacking leaf-cutting ants.

**Walther Traut**, Institut für Biologie, Medizinische Universität zu Lübeck, Ratzeburger Allee 160, 23538  
Lübeck, Germany. Telephone (+49) 0451-500-4100. Fax (+49) 0451-500-4034. Email  
[traut@physik.mu-luebeck.de](mailto:traut@physik.mu-luebeck.de). *Interests*: *Megaselia scalaris*, predominantly with respect to the genetics of sex  
determination and the evolution of chromosomes.

**Sven-Olof Ulefors**, Färgerivägen 9, 380 44 Alsterbro, Sweden. Telephone 46-481-50462. Email  
[so.ulefors@swipnet.se](mailto:so.ulefors@swipnet.se). *Interests*: Palaearctic species of *Megaselia*; separation of *M. pulicaria*-group species.