

Phorid Newsletter

Brian V. Brown, editor
Drawing of *Apocephalus* sp. by Jesse Cantley

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This newsletter has been a long time coming! I have been extremely busy in the last year or so, but hope to re-establish more regular publication of the Phorid Newsletter.

In the last couple of years I conducted field work in Brazil, Colombia and Guyana, and visited the collection of Borgmeier in São Paulo. Hopefully I can report on these activities in more detail in the near future.

As always, I would appreciate any contributions, large or small, to the newsletter.

Five natural history notes on Neotropical phorid flies

by Brian V. Brown

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The life histories of phorid flies are extremely poorly known, especially in relatively unstudied tropical regions. To make such information more widely known, five unusual life history notes are summarized below. None of the observations represent completed studies,

but all are interesting and merit further investigation. Voucher specimens of phorid flies are deposited in the collection of the Natural History Museum of Los Angeles County.

1) The following information was sent to me by Dr. Phil DeVries (Milwaukee Public Museum). Dr. DeVries found a large snail, probably of the genus *Plekocheilus* (family Bulimulidae) near Añaga, Sucumbios, Ecuador (0.48 S, 76.38 W). It had a small swarm of phorid flies running on the surface of the shell and flying around it. He picked up the snail and put it in a plastic bag for further observations, noting that the animal had withdrawn and the flies had disappeared. The next day, he looked in the bag and found the snail alive and active, with the flies again present. He believes that the flies were hidden inside the shell, retreating there when the snail retracted. The snail itself was apparently healthy and uninjured. The flies were females of a species of *Conicera*.

2) Dr. Al Gillogly (Texas A&M University)

pointed out to me that specimens of the passalid beetle genus *Vindex* from Guatemala often have a phorid puparium under and near the base of the elytra. He demonstrated this to me with one specimen from Volcan Zunil, Guatemala, in which I found a puparium with a pharate adult specimen that keys to the genus *Johowia*. Like many phorids keying out to *Johowia*, however, this fly appears to be merely a *Megaselia* with extra supra-antennal setae. According to Dr. Gilgoly, the beetles are not harmed by the presence of the phorid, which possibly is a true parasite rather than a parasitoid.

3) In 1992 when I visited Pakitza, Peru, I collected specimens of *Cryptophora coeca* Borgmeier and *Syntermophora microphthalma* Seevers in a foraging column and riding on the backs of termites of the genus *Syntermes*. Reports of such phoresy (transport of one species by another) in phorids are rare.

4) I collected specimens of *Pseudacteon conicornis* Borgmeier attacking fire ants, *Solenopsis saevissima* (F. Smith) (ants identified by Dr. Sanford Porter, Gainesville, Florida), in Brazil. The flies were attracted to aggregations of ants created by disturbing the nest mounds. At my collecting site, near Desengano State Park, Rio de Janeiro (21.87 S, 41.80 W), these flies were the most common *Pseudacteon* species attracted to fire ants. This is the first recorded host information for *P. conicornis*.

5) In March, 2000, Giar-Ann Kung and I collected female specimens of *Styletta crocea* Borgmeier attacking stingless bees in Amacayacu National Park, Colombia (3.82 S, 70.26 W). This is the first report of

the way of life of this species. Female flies landed near bees and curled their ovipositors anteriorly, between their legs, so that that ovipositor tip was below but in front of the head. They then walked rapidly towards the bees, attempting to oviposit in them. This is similar to the behavior shown by many *Melaloncha* species.

Some literature from the last 3 years

I have fallen behind in compiling the phorid literature, but below are at least some of the papers published in 1997, 1998 and 1999. As always, I appreciate receiving suggested additions or corrections to the list.

1997

- Brown, B.V. 1997. Revision of the *Apocephalus* group of ant-decapitating flies (Diptera: Phoridae). *Contributions in Systematics* 468:1-60.
- Brown, B.V. 1997. Systematics and host-parasitoid relationships of the genus *Borgmeier* (Diptera: Phoridae). *Journal of Natural History* 31:1253-59.
- Brown, B.V. 1997. The undescribed *Borgmeier* and the *Borgmeier* and the *Borgmeier* Neotropical *Beckerina* (Diptera: Phoridae) (Diptera). *Entomological Problems* 28:155-58.
- Brown, B.V. 1997. Parasitic phorid *Borgmeier* and the *Borgmeier* and the *Borgmeier* unrecognized cost to aggregation behavior of male stingless bees. *Biotropica* 29:370-72.
- Buck, M. 1997. Untersuchungen zur Einnischung saphrophager Dipteren in der Einnischung besonderer. Berücksichtigung der Phoridae und Spund Sphaeroceridae (Brachycera und Cyclorhapha) thesis, University of Ulm, Germany. vi + 194 + lv pp.
- Buck, M. 1997. A new genus and species of Phoridae (Diptera) from Central Europe. *Entomological Problems* 28:155-58.

- and new records and new records of and new records of *Michailovskaya, M. Michailovskaya, M.V. Michailovskaya*
Phoridae (Diptera). *Sociobiology* 31:291-349. *Spiniphora* Malloch (Diptera, Phoridae) from the Russian far east. *Entomologist* 52:1-6.
- Disney, R.H.L. and D. Weinmann. 1998. A further new species of Phoridae (Diptera) whose larvae associate with large spiders (Araneae: Theraphosidae). *Entomologica Scandinavica* 29:19-23. *Michailovskaya, M.V. 1998. Phorid flies (Diptera: Phoridae) of the Kuril Islands. Far Eastern Entomologist* 55:1-8.
- Disney, R.H.L., A. Weissflog, and U. Maschwitz. 1998. A new parasitoid species (Diptera: Phoridae) that parasitizes *Camponotus* species (Hymenoptera: Formicidae) in Sarawak. *Sociobiology* 32:81-86. Porter, S.D. 1998. *Pseudacteon* flies (Diptera: Phoridae) to fire ant colonies in Brazil. *Florida Entomologist* 81:423-29.
- Durska, E. and R.H.L. Disney. 1998. A scuttle fly (Diptera: Phoridae) recorded from Brazil. *Giornale italiano di Entomologia e Zoologia* 49:269-70. Woolf, G.E. 1998. A new species of scuttle fly (Diptera: Phoridae) from Brazil. *Giornale italiano di Entomologia e Zoologia* 49:269-70.
- Fain, A. 1998. Description of mites (Acari) phoretic on Phoridae (Insecta: Diptera) with description of four new species of the genus *Uroseius* (Parasitiformes, Uropodidae). *International Journal of Parasitology* 24:213-20. Brown, B.V. 1999. Differential host specificity of parasitoids of a Formicidae. *Sociobiology* 33:95-103.
- Hibbs, P.J. and B.V. Brown. 1998. A new, extremely primitive species of *Plethysmophora* (Diptera: Phoridae) from South Africa. *Studia dipterologica* 4 (1997):367-69. Brown, B.V. 1999. Review of the fossil Phoridae and its phylogenetic implications. *Studia dipterologica* 6:273-77.
- Hurst, G.D.D., F.K. Hurst, G.D.D., F.K. McMechan, and M.E.N. Majerus. 1998. Phoridae (Diptera) parasitizing *Coccinella septempunctata* (Coleoptera: Coccinellidae) select older prey. *European Journal of Entomology* 95:179-81. Brown, B.V. and L. Brown, B.V. and L. Pseudococcinellidae (Diptera: Phoridae) hosts parasitizes the native fire ant *geminata* (Hymenoptera: Formicidae) of the Entomological Society of America. *Entomologist* 92:308-311.
- Morrison, L.W. and L.E. Gilbert. 1998. Parasitoid-host relationships when host size varies: the case of *Pseudacteon* flies and *Solenopsis* fire ants. *Ecological Entomology* 23:409-16. Coomer, R.P.C. 1999. A new species of *Schmitz*, 1920 (Diptera: Phoridae).

- Algeria. *Entomologist's Gazette* (Hymenoptera: Hymenoptera: Formicidae). *Annals of the Entomological Society of America* 92:198-207.
- Disney, R.H.L. 1999. Two new termitophilous Phoridae (Diptera) from Australia. *Sociobiology* 34:87-97.
- Disney, R.H.L. 1999. Two new species of *Solenopsis* fire ants (Hymenoptera: Formicidae) from Borneo. *Sociobiology* 34:429-32.
- Disney, R.H.L. 1999. New species and records of *Puliciphora* (Diptera) found mainly in the Orient. *Entomologica Scandinavica* 30:243-48.
- Disney, R.H.L. 1999. A troublesome sibling species complex of scuttle flies (Diptera: Phoridae) revisited. *Journal of Natural History* 1216.
- Disney, R.H.L. and D.H. Kistner. 1999. New species of Phoridae (Diptera) associated with termites (Isoptera: Rhinotermitidae) in Australia. *Sociobiology* 34:35-43.
- Kirk-Spriggs, A.H. and E. Marais. 1999. *Phalacrotophora scalaris* (Loew) (Diptera: Phoridae): a potential pest problem in field prepared insect specimens. *Cimbebasia* 15:163-64.
- Michailovskaya, M.V. 1999. A review of the genera *Triphleba* Rondani, *Phora* Latreille and *Anevrina* Liroy (Diptera, Phoridae) from Russian Far East. *Far Eastern Entomologist* 70:1-16.
- Morrison, L.W. 1999. Indirect effects of phorid fly parasitoids on the mechanisms of interspecific competition among ants. *Oecologia* 121:22.
- Morrison, L.W. and L.E. Gilbert. 1999. Host specificity in two additional *Pseudacteon* spp. (Diptera: Phoridae), parasitoids of *Solenopsis* fire ants (Hymenoptera: Formicidae). *Florida Entomologist* 82:404-9.
- Morrison, L.W., E.A. Kawazoe, R. Guerra, and L.E. Gilbert. 1999. Phenology and dispersal in *Pseudacteon* flies (Diptera: Phoridae) parasitoids of *Solenopsis* fire ants.
- Mostovski, M.B. 1999. Curious Phoridae (Diptera) found mainly in the Cretaceous of Alava. *Estudios del Museo de Ciencias Naturales de Alava* 14: 231-243.
- Reyes, W.K. and R.H.L. Disney. 1999. Biology of two Neotropical scuttle flies (Diptera: Phoridae). *Studia dipterologica* 6:207-18.
- Sivinski, J., S. Marshall, and E. PeSivinski. 1999. Kleptoparasitism and phoresy in the Diptera. *Florida Entomologist* 82:179-97.
- Triltsch, H. 1999. Another record of *Phalacrotophora scalaris* (Loew) (Diptera: Phoridae) parasitizing the pupae of *Adalia bipunctata* L. (Coleoptera: Coccinellidae). *Studia dipterologica* 6:233-34.

Phoridologists' Directory

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

Jeffery K. Barnes, Biological, Biological Survey, Rm.3132, Cultural Education Center, Albany, NY, 12230, U.S.A. Telephone (518) 486-2004. Email jbarnes2@museum.nysed.gov.

Forbes P. Benton, CEPLAC/CEPEC/SECEN, Caixa , CEPLAC/CEPEC/SECEN, Brazil. Telephone (073) 214 3250. FAX (073) 214 3250. Brazil. Telephone (073) 214 3250. FAX (073) 214 3250. Natural history, identification and faunistic surveys of Brazilian Phoridae. Elucidation of phorid life history, and Behavioral interactions between parasitic species and their hosts.

Brian V. Brown, Entomology Section, Natural History Museum of Los Angeles, Exposition Boulevard, Los Angeles, CA, 90007, U.S.A. Telephone (213) 746-2999. E-mail bbrown@nhm.org. *Interests*: Taxonomy, evolution, biogeography and natural history of world Phoridae. I have a long-term project on the decapitating genus *Apocephalus*, but I am also working on a revision of the bee-parasitizing genus *Amam* and am interested in collecting methods for phorids, and in biodiversity in the tropics.

Matthias Buck, Dept. Environmental Biology, University of Guelph, Guelph, ON, Canada. Telephone (519) 864-2211. Email mbuck@evbhort.uoguelph.ca. *Interests*: structure; ecology and biology of small saprophagous (especially necrophagous) Diptera and buried vertebrate and invertebrate carrion. Other interests include morphology, phylogeny and hymenopterous parasitoids of small, in the Palaearctic Region.

R.R. Henry L. Disney, Dept. Zoology, University of Cambridge, Downing Street, Cambridge, CB2 3EJ, United Kingdom. Telephone 0223 336654. FAX 0223 336654. Email rhld2@cam.ac.uk. *Interests*: Biology, taxonomy, phylogenetic reconstruction, revising Termitoxeniinae, including *Alamira* and *Perissa*.

Ewa Durska, Polska Akademia Nauk, Muzeum i Instytut Zoologii, 00-679, Polska Akademia Nauk, Muzeum Zoologiczne, Warszawa, Poland. *Interests*: Phoridae of Poland

Donald H. Feener, Jr., Department of Biology, University of Utah, Department of Biology, University of Utah, U.S.A. Telephone (801) 524-2222. U.S.A. Telephone (801) 524-2222. U.S.A. Telephone (801) 524-2222. *Interests*: Ant-phorid interactions in general. Specific projects include: 1) phorid parasitoids of ants; 2) phorid parasitoids as biological control agents; 3) specificity of phorid parasitoids; 4) behavioral ecology of ants 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, Universidad de Córdoba, Córdoba, Argentina.

Investigaciones, Investigaciones, Universidad Nacional de Quilmes, Roque Saenz Peña 180, 1876 Bernardo de Avellaneda, Buenos Aires, Argentina. Telephone: 54-1 365-7100, ext. 2222. Email: pfolgarait@unq.edu.ar. *Interests*: 1) Ant-parasitoid interactions, in particular for a) Ant-parasitoid interactions, and 2) 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 Mauro Gori, Via, Via Del Cronaca, Via Del Cronaca 19, 50142 Firenze, Italy. Telephone 055/700588. *Interests*: Phorid fauna; life histories.

Tadao Tadao Gotô, Central Forest Research Lab, Central Forest Research Lab and Training Center, 10900 Bangkok, Thailand.

David David H. Kistner, California State University, Chico, CA, 95929-0, California State University, Chico, CA, 95929-0. Telephone (916) 898-5116. FAX (916) 898-6804. *Interests*: Mostly interested in Phorids that prey on social insects or preying on social insects. I am interested in all biogeographic reinterests. I am currently working in collaboration with Henry Disney on Termitoxeniinae and interests. I am currently working on the upper Sacramento River, based on cantara spill collections.

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

Guangchun Guangchun Liu, Ecological Laboratory, Department of Biology, National University of Pusan, Pusan 609-735, South Korea. Telephone 82-51-581-2962. Email liu@bugs.bio.pusan.ac.kr. *Interests*: Taxonomy of phorids; China: Taxonomy of phorids associated with mushrooms in China.

Marina Marina Michailovskaya, Laboratory of Insect Taxonomy, Gornotaezhnaya District, Primorye Territory, Primorye District, Primorye Territory, Primorye Territory. *Interests*: Taxonomy of phorids; Far East phorid fauna, including Primorsky Krai, Chabarovskiy Krai. Taxonomy of phorids; Far East phorid fauna associated with dead animals.

Lloyd Lloyd Morrison, Zoology Department, University of Texas, Zoology Department, University of Texas, Austin, TX 78712. Telephone (512) 471-2825. FAX same as telephone. E-mail lmorrison@mail.utexas.edu. *Interests*: Phorid parasitoids (genus *Pseudacteon*) on ant foraging and interspecific competition (genus *Solenopsis*); ant; ant; ant; species-specificity of *Pseudacteon* phorids; introduction of South phorids; introduction of South phorids; introduction of South phorids as biological control agents against the imported fire ant, *S. invicta*.

Mikhail Mikhail B. Mostovski, Arthropod Laboratory, Palaeontological Institute, 123 Profsoyuznaya St. Moscow, Moscow, 117647, Russia. Telephone (095) 467-2340. FAX same as telephone. E-mail rasna@glas.apc.org. *Interests*: Phorid fauna of former USSR.

E.E. Hugh A.E. Hugh A. Oliver, 172 Upper Dinsdale Road, Hamilton, New Zealand. Telephone 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 *Interests:* Influences of phorids on: Influences of phorids on ant foraging ecology, especially
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) 332604, U.S.A. Telephone (352) 374-5914. Fax
sdp@nervm.nerdc.ufl.edu *Interests:* Ant-parasitizing: Ant-parasitizing: Ant-parasitizing phorid
growth and development of larvae and pupae, host specificity, responses of ant hosts, biocontrol.

Sabine Prescher, Hinter der Masch 26, 38114, Hinter der Masch 26, 38114 Braunschweig, Germany. Telephone
92.92. *Interests:* Palaearctic Phoridae, especially ecology of Palaearctic Phoridae, especially ecology of
Phoridae of agricultural land with oilseed rape and peas; 2) of caverns in Germany and Switzerland.

Garnet Suck, Ins, Institut für Biologie, Medizinische Universität zu Lübeck, Ratzeburger Allee
23538 Lübeck, Germany. Telephone (+49) 0451-500-4110. Fax 23538 Lübeck, Germany
suck@molbio.mu-luebeck.de *Interests:* Anything about phorid flies, especially *Megaselia scalaris*.

Athayde Tonhasca, Universidade Estadual do Norte Fluminense, Centro de Ciências
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Phorids attacking leaf-cutting ants.

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

Holger Triltsch, Federal Biological Research Center for Integrated Plant Protection, Federal Biological Research Center for
Integrated Plant Protection, Stahnsdorfer Damm 81, D-14532, Kleinmachwiz, Germany. Telephone 033 203/22423-5, /48 300. Telephone 033 203/22423-5,
/48 300. *Interests:* Enderlein as parasites of Coccinellidae, especially *Coccinella septempunctata* L.; factors which determine the
degree of parasitization; distribution in cereal fields and farmland.

Sven-Olof Ulfors, Färgerivägen 9, 38044 Alsterbro, Sweden. Telephone 46-223-19541. *Interests:*
Canadian species of *Megaselia*; separation of *M. pulicaria*-group species.

Axel Froese and Bill Robinson have both informed me