



<http://dx.doi.org/10.11646/zootaxa.3790.1.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:45DFDC6F-6B3B-4706-B19E-F3661852CC99>

Taxonomic assessment of *Chirosiomima* Hennig (Diptera: Anthomyiidae), with proposal of a new genus for *Hylemyia curtigena* Ringdahl

VERNER MICHELSEN

Natural History Museum of Denmark, Zoological Museum, University of Copenhagen, Denmark. E-mail: vmichelsen@snm.ku.dk

Abstract

The four nominal species currently included in the anthomyiid genus *Chirosiomima* Hennig, 1966 are critically assessed and redescribed. It is shown that the type species of *Chirosiomima* was originally misidentified. *Chirosiomima obscurinervis* (Emden, 1941) is resurrected from synonymy of *C. gestroi* (Séguy, 1930). *Chirosiomima collini* Ackland, 1968 is transferred to *Botanophila* Lioy (**comb. nov.**) and *C. curtigena* (Ringdahl, 1935) to *Ringdahlia* **gen. nov. (comb. nov.)**. The previously unknown male of *C. gestroi* and female of *R. curtigena* (Ringdahl) are described.

Key words: Anthomyiid flies, Palearctic, Afrotropical, new genus, new combinations

Introduction

The anthomyiid genus *Chirosiomima* was established by Hennig (1966) for *Hylemyia gestroi* Séguy, 1930, a species recorded from eremial habitats in Libya, Tunisia and Iran. Ackland (1968) added a new species, *C. collini*, from an alpine locality in Kyrgyzstan. Hennig (1976a) transferred a third species with a Northern trans-Palearctic distribution, *Hylemyia curtigena* Ringdahl, 1935, from *Lasiomma* Stein to *Chirosiomima*. Finally, Pont & Ackland (1980) transferred the North Afrotropical *Pegomyia obscurinervis* Emden, 1941 to *Chirosiomima* as a junior synonym of *C. gestroi* (Séguy).

It is shown in the present paper that Hennig (1966) confused two species when proposing the new genus *Chirosiomima* for *Hylemyia gestroi* Séguy. He knew true *C. gestroi* (Séguy) only from the female type series from Libya and Tunisia, so he used material of both sexes available from Iran when redescribing the species. Present examination of Hennig's material from Iran and of specimens of both sexes from Tunisia revealed that two different, but clearly congeneric species are involved. The species described from Iran as "*C. gestroi* (Séguy)" by Hennig (1966) belongs to *C. obscurinervis* (Emden) described from Ghana and Yemen, a species accordingly resurrected from synonymy. The male of true *Chirosiomima gestroi* is presently described for the first time from Tunisia.

Ackland (1968) described *Chirosiomima collini* from Kyrgyzstan. Decisive for his generic assignment of the species was no doubt the presence of several enlarged, flattened setae on the male sternite V resembling those found in male *Chirosiomima gestroi* according to Hennig (1966). The same kind of specialized setae are also seen in males of an otherwise very deviating species, *Hylemyia curtigena* Ringdahl, and were used by Hennig (1976a) as sole argument for assigning even that species to *Chirosiomima*. The present observation that only one of the closely related species *Chirosiomima gestroi* and *C. obscurinervis* has developed specialized setae on the male sternite V suggests that this state has been acquired by homoplasy in *Chirosiomima obscurinervis* (Emden), *C. collini* Ackland and *C. curtigena* (Ringdahl). It is presently argued that a monophyletic genus *Chirosiomima* is only attained by removal of two species. *Chirosiomima collini* Ackland is transferred to the large and diverse genus *Botanophila* Lioy. The enigmatic *Hylemyia curtigena* Ringdahl appears phylogenetically isolated and is transferred to a new genus of its own.

complex (during copulation?) to shift between two positions relative to the cercal shield. A narrow continuous sclerite bridge connects the surstyli dorsobasally with the epandrium. A broader sclerotized connection exists between the surstyli ventrobasally and the cerci. Hypandrium small with converging arms articulating with the surstyli through a pair of large bacilliform sclerites. Pregonites articulating with hypandrium, about same size as postgonites (Fig. 40). External extension of phallapodeme short, not reaching hind margin of hypandrium. Basiphallus short, with normal epiphallus; distiphallus small, largely membranized except for a pair of anterobasal sclerotized rods (Figs. 41, 42).

Female. Apart from usual sexual differences with the following characteristics: Frontal vitta ochre yellow to reddish brown on lower half. Abdomen with strong dark subshine through thin layer of grey dusting that even covers tergites VI and VII of the oviscapt. Frons (Fig. 30) strikingly narrow, on lower part barely more than one-third of greatest width of head. Also parafrofrontalia narrow, only about one-third as wide as frontal vitta. Frons with 3 pairs of orbital, 2 pairs of frontal and 1 pair of interfrontal setae, all quite strong. Genals fewer, standing in one row. Labella (Fig. 29) unremarkable, with average sized bifurcating prestomal teeth. Proepimerals less numerous, consisting of 1–2 setae and 7–9 setulae. Legs more robust, but setation remarkably similar to that of the male. Mid femur only with a few short *av* setae basally and subdistally, but also with some short *pv* setae basally. Tergites II–V with weak marginals and no discals. Oviscapt (Fig. 43) short and thick; tergites VI and VII tend to be partly exposed behind tergite V; tergite VI with both setae and setulae; cerci and epiproct short; “intersegmental membrane” ahead of sternite VIII sclerites covered in enlarged spiniform scales.

Material examined. FINLAND: Regio aboensis: Lohja, 1♂ 21.vi.1935 (L. Tiensuu); Perniö, several ♂ 3–6.vii.1941 (L. Tiensuu) [FMNH]; Nylandia: Helsinki area, 6♂ 5.vii.1940 (L. Tiensuu) [FMNH]; Tavastia australis: Moksjärvi, Karkkila, 1♀ 1–7.vii.1976 (O. Martin) [ZMUC]; Tavastia borealis: Soini, 2♀ 30.vii.1982 (O. Martin) [ZMUC]. RUSSIA: Karelia rossica: Rytty, Sortavala, 9♂ 27.vi–22.vii.1934–37 (L. Tiensuu); Kolatselga [formerly Kolatselkä], 4♂ 14–21.vi.1943 (L. Tiensuu) [FMNH, ZMUC].

Distribution. Finland (Michelsen 2004); Russia: Karelia (Ringdahl 1935); Japan (Suwa 1977, 1999); China: Gansu (Fan *et al.* 1988), Beijing (D. M. Ackland, *in litt.*).

Biology. Tiensuu (1936a, b) found males attracted to honeydew on leaves of a *Salix phylicifolia* bush heavily infested by the aphid *Chaitophorus vitellinae* (Schrank). According to Ringdahl (1935), Tiensuu also observed males engaged in swarming under the canopy of trees.

Acknowledgements

I warmly thank Michael Ackland (University Museum of Natural History, Oxford), Amnon Freidberg (National Collection of Insects, Tel Aviv University), Hans-Peter Tschorsnig (Staatliches Museum für Naturkunde Stuttgart), Nigel P. Wyatt (Natural History Museum, London) for arranging loans and for gifts of specimens. For older loans I am grateful to now deceased Loic Matile (Muséum National d’Histoire Naturelle, Paris) and Bernhard Lindeberg (Finnish Museum of Natural History, Helsinki). My special thanks go to Michael Ackland for generously sharing valuable observations, notes and drawings with me.

References

- Ackland, D.M. (1968) A new species of *Chirosiomima* Hennig (Diptera, Anthomyiidae) from Kirghizia. *Entomologicheskoe Obozrenie*, 47, 652–655.
- Cumming, J.M. & Wood, D.M. (2009) Adult morphology and terminology. In: Brown, B.V., Borkent, A., Cumming, J.M., Wood, D.M., Woodley, N.E. & Zumbado, M.A. (Eds.), *Manual of Central American Diptera. Vol. 1*. NRC Research Press, Ottawa, pp. 9–50.
- Dely-Draskovits, Á. (1993) Family Anthomyiidae. In: Soós, Á. & Papp, L. (Eds.), *Catalogue of Palaearctic Diptera. Vol. 13*. Hungarian Natural History Museum, Budapest, pp. 11–102.
- Emden, F.I. van (1941) Keys to the Muscidae of the Ethiopian Region: Scatophaginae, Anthomyiinae, Lispinae, Fanniinae. *Bulletin of Entomological Research*, 32, 251–275.
<http://dx.doi.org/10.1017/s0007485300017193>
- Fan, Z.-D. (Ed.) (1988) Diptera: Anthomyiidae. *Economic insect fauna of China*, 3, 1–396. [in Chinese with English summary of new taxa]

- Hennig, W. (1966) Anthomyiidae [part]. In: Lindner, E. (Ed.), *Die Fliegen der palaearktischen Region*, 7 (1), pp. 1–48.
- Hennig, W. (1972) Anthomyiidae [part]. In: Lindner, E. (Ed.), *Die Fliegen der palaearktischen Region*, 7 (1), pp. 425–472.
- Hennig, W. (1976a) Anthomyiidae [part]. In: Lindner, E. (Ed.), *Die Fliegen der palaearktischen Region*, 7 (1), pp. 921–974.
- Hennig, W. (1976b) Anthomyiidae [part]. In: Lindner, E. (Ed.), *Die Fliegen der palaearktischen Region*, 7 (1), pp. i–lxxviii.
- Hua, L.-Z. (2006) *List of Chinese insects. Vol. 4.* Sun Yat-sen University Press, Guangzhou, 2 + 6 + 540 pp., 7 pls.
- Meier, R., Kotrba, M. & Ferrar, P. (1999) Ovoviviparity and viviparity in the Diptera. *Biological Reviews*, 74, 199–258.
<http://dx.doi.org/10.1111/j.1469-185x.1999.tb00186.x>
- Michelsen, V. (2004) Anthomyiidae. In: Pape, T. (Ed.), *Diptera Brachycera. Fauna Europaea* Version 1.1. Available from: <http://www.faunaeur.org> (accessed 5 March 2014)
- Pont, A.C. & Ackland, D.M. (1980) Family Anthomyiidae. In: Crosskey, R.W. (Ed.), *Catalogue of the Diptera of the Afrotropical Region*. British Museum (Natural History), London, pp. 715–718.
- Ringdahl, O. (1935) Neue fennoskandische Musciden. *Notulae entomologicae*, 15, 26–31.
- Séguy, E. (1930) Risultati zoologici della Missione inviata dalla R. Società Geografica Italiana per l'esplorazione dell' oasi di Giarabub (1926–1927). *Insectes diptères. Annali del Museo Civico di Storia Naturale Giacomo Doria*, 55, 75–93.
- Sorokina, V.S. & Pont, A.C. (2011) Fanniidae and Muscidae (Insecta, Diptera) associated with burrows of the Altai Mountains Marmot (*Marmota baibacina baibacina* Kastschenko, 1899) in Siberia, with description of a new species. *Zootaxa*, 3118, 31–44.
- Suwa, M. (1977) Supplementary notes on the family Anthomyiidae of Japan, I. (Diptera). *Insecta matsumurana* (n.s.), 10, 1–16.
- Suwa, M. (1999) Japanese records of anthomyiid flies (Diptera: Anthomyiidae). *Insecta matsumurana* (n.s.), 55, 203–244.
- Tiensuu, L. (1936a) Die bisher aus Finland bekannten Musciden. *Acta societatis pro fauna et flora fennica*, 58 (4), 56 pp.
- Tiensuu, L. (1936b) Insect life on plants attacked by aphids. *Annales entomologici fennici*, 2, 161–169.
- Wei, L., Xue, W. & Cue, C. (1998) Anthomyiidae. In: Xue, W. & Chao, C. (Eds.), *Flies of China. Vol. 1.* Liaoning Science & Technology Press, Shenyang, pp. 634–808. [in Chinese with English summary]