

Notes on the genera *Peritropisca* Carvalho & Lorenzato and *Rewafulvius* Carvalho (Hemiptera: Heteroptera: Miridae: Cylapinae), with the description of a new species of *Peritropisca* from Indonesia

ANDRZEJ WOLSKI¹ & JACEK GORCZYCA²

¹Department of Biosystematics, Opole University, Oleska 22, 45-052 Opole, Poland. E-mail: andrzej.wolski@uni.opole.pl

²Department of Zoology, University of Silesia, Bankowa 9, 40-007 Katowice, Poland. E-mail: jacek.gorczyca@us.edu.pl

Abstract

The genera *Peritropisca* Carvalho & Lorenzato, 1978 and *Rewafulvius* Carvalho, 1972 are redescribed. A description of a new species of the genus *Peritropisca* from Indonesia—*P. laticostata* sp. nov. and a redescription of *P. bituberculata* Carvalho & Lorenzato, 1978 are provided. The genus *Euchilofulviella* Gorczyca, 1999 is proposed as a junior synonym of *Rewafulvius* Carvalho, 1972 syn. nov. A color habitus picture of the adult and male genitalia drawings of each treated species are provided. A key to the genus *Peritropisca* is given.

Key words: Heteroptera, Miridae, Cylapinae, *Euchilofulviella*, *Peritropisca*, *Rewafulvius*, new species, new synonym, Irian Jaya, Indonesia, Papua New Guinea, Fiji

Introduction

The Cylapinae fauna of the Australian Region currently comprises 73 species included in 28 genera (Schuh 2002–2013; Gorczyca 2006; Wolski 2012). Most of our knowledge about the Australian representatives of the Cylapinae is based on Carvalho & Lorenzato (1978), who reviewed the Papuan cylapines, Cassis et al. (2003), and Moulds & Cassis (2006) who provided the revisionary treatments of the Australian species of Vaniini and the genus *Peritropis* Uhler, 1981, respectively.

In this paper, we provide a redescription of the genus *Peritropisca* Carvalho & Lorenzato, 1978, along with a description of a new species of the genus. The genus *Euchilofulviella*, Gorczyca 1999 is synonymized with *Rewafulvius*, Carvalho 1972 which is also diagnosed and redescribed.

Materials and methods

Observations were made using an Olympus SZX12 stereomicroscope and an Olympus BX50 optical microscope. Scanning electron micrographs were taken using a Hitachi S3000N Scanning Electron Microscope. Color habitus pictures of the adults (Figs. 1–10) were taken with an ALTRA 20 digital camera. Additional information on the pictured specimens is given in the species treatments.

Measurements were taken using an eyepiece (ocular) micrometer; all measurements are given in millimeters. The total body length is defined by the length from the apex of the clypeus to the posterior margin of the membrane (macropterous) or the apex of abdomen (brachypterous). The body width is defined by the length between the lateral margins of the hemelytra at their widest point. Lengths and widths of the head are defined as follows: length, from the apex of the clypeus to the occipital carina; width, between the outer margin of each eye; interocular distance, minimum distance between inner margins of each eye; length of the antennal and labial segments, between the base and apex. Lengths and widths of the pronotum are defined as follows: length, measured between the anterior and posterior margins; width of the anterior margin, between anterior angles; length of lateral margin, between the anterior and humeral angles; width of the posterior margin, between the humeral angles.

metafemur dark brown except for narrow, yellowish tinge basally and broad, yellowish annulation medially; tarsi yellowish (Fig. 7). **Abdomen.** Dark brownish (Fig. 10).

Brachypterous female. **COLORATION** (Fig. 6). Dorsal surface and thoracic pleura coloration as in brachypterous male. **Head.** Dark brownish with indistinct yellowish, longitudinal medial stripe along vertex and frons. **Legs.** Coloration as in macropterous male.

Macropterous female. **COLORATION.** As in macropterous male.

Biology. Unknown.

Distribution. Fiji.

Remarks. Examination of the holotypes of *Rewafulvius brachypterus* and *Euchilofulviella ernsti* suggests that they belong to the one species. Therefore, *E. ernsti* is treated here as a junior synonym of *R. brachypterus*, and the genus *Euchilofulviella* is synonymized with *Rewafulvius*.

Type material. Holotype ♂: Rewa, Fiji, Muir col., 4, 1906 (USNM) (Fig. 5).

Additional examined material. 1 ♀ (macropterous): Fiji, Viti Levu, Sigatoka, 18 XI 1998 Heiss (Fig. 8) (US); 1 ♀ (brachypterous): Vitilevu, Fiji; Nandarivatu, IX-14-38, 2700'; Under dead bark; E. C. Zimmerman Collector (Fig. 6); 1 ♀ (brachypterous): Fiji: Viti Levu, Trail Yau-Nandrau, June 27–29, 1958; Borys Malkin Collector, Bishop Museum; 1 ♀ (macropterous): Navai Mili, Nr. Nandarivatu, IX-15-38, 2500'; Under dead bark; E. C. Zimmerman Collector; Viti Levu, Fiji; 1 ♀ (macropterous): Belt Road 45–50 mi. W. Of Buva, VII–26–38; Beating shrubs; E. C. Zimmerman Collector; Viti Levu, Fiji (Fig. 7) (BPBM).

Acknowledgments

We thank following people for kind offering us material used in this study: Tomohide Yasunaga (American Museum of Natural History, New York, USA), Gordon Nishida (BPBM), Ernst Heiss (Tiroler Landesmuseum, Innsbruck, Austria), Thomas J. Henry (USNM), and Klaus Schöntzler (ZSM). We are also grateful to Magdalena Gawlak (Institute of Plant Protection-National Research Institute, Poznań, Poland) for her kind assistance in taking SEM microphotographs. We are also very indebted to Tomohide Yasunaga and an anonymous reviewer for their very useful comments and suggestions on earlier versions of the manuscript.

References

- Carvalho, J.C.M. (1948) Mirideos neotropicais, 35: Generos *Corcovadocola* n. g., *Guanabarea* n. g. e *Caulotops* Bergroth (Hemiptera). *Brazilian Journal of Biology* (formerly *Revista Brasiliera de Biologia*), 8, 525–533.
- Carvalho, J.C.M. (1955) Neotropical Miridae, 64: New bugs of the subfamily Cylapinae (Hemiptera). *Proceedings of the United States National Museum*, 103, 621–632.
<http://dx.doi.org/10.5479/si.00963801.103-3337.621>
- Carvalho, J.C.M. (1972) On a new genus and species of Fulviini from Rewa, Fiji (Hemiptera, Miridae). *Revista Brazilian Journal of Biology* (formerly *Revista Brasiliera de Biologia*), 32, 53–54.
- Carvalho, J.C.M. (1991) Tres generos e espécies novos de cilapineos da Australia (Hemiptera, Miridae). *Anais da Academia Brasileira de Ciencias*, 63, 403–408.
- Carvalho, J.C.M. & Costa, L.A.A. (1994) The genus *Fulvius* from the Americas (Hemiptera: Miridae). *Anales del Instituto de Biología de la Universidad Nacional Autonoma de Mexico, Zoología*, 65, 63–135.
- Carvalho, J.C.M. & Froeschner, R.C. (1987) Taxonomic names proposed in the insect order Heteroptera by Jose Candido de Melo Carvalho from 1943 to January 1985, with type depositaries. *Journal of the New York Entomological Society*, 95, 121–224.
- Carvalho, J.C.M. & Lorenzato, L.M. (1978) The Cylapinae of Papua New Guinea (Hemiptera, Miridae). *Brazilian Journal of Biology* (formerly *Revista Brasiliera de Biologia*), 38, 121–149.
- Cassis, G. (2008) The *Lattinova* complex of austromirine plant bugs (Hemiptera: Heteroptera: Miridae: Orthotylinae). *Proceedings of the Entomological Society of Washington*, 110 (4), 845–939.
<http://dx.doi.org/10.4289/0013-8797-110.4.845>
- Cassis, G. & Monteith, G.B. (2006) A new genus and species of Cylapinae from New Caledonia with re-analysis of the *Vannius* complex phylogeny (Heteroptera: Miridae). *Memoirs of the Queensland Museum*, 52, 13–26.
- Cassis, G., Schwartz, M.D. & Moulds, T. (2003) Systematics and new taxa of the *Vannius* complex (Hemiptera: Miridae: Cylapinae) from the Australian Region. *Memoirs of the Queensland Museum*, 49, 123–151.

- Gorczyca, J. (1998) A revision of *Euchilofulvius* (Heteroptera: Miridae: Cylapinae). *European Journal of Entomology*, 95, 93–98.
- Gorczyca, J. (1999) On the *Euchilofulvius*-complex (Heteroptera: Miridae: Cylapinae). *Genus*, 10, 1–12.
- Gorczyca, J. (2000) *A systematic studies Cylapinae with a revision of the Afrotropical Region (Heteroptera, Miridae)*. Wydawnictwo Uniwersytetu Śląskiego, Katowice (Prace naukowe Uniwersytetu Śląskiego Katowice 1863), 176 pp.
- Gorczyca, J. (2006) *The catalogue of the subfamily Cylapinae Kirkaldy, 1903 of the world (Hemiptera, Heteroptera, Miridae)*. Monographs of the Upper Silesian Museum, No. 5, Bytom, 100 pp.
- Henry, T.J., Hofmann, R.L. & Wolski, A. (2011) First North American Record of the Old World Cylapine *Fulvius subnitens* Poppius (Hemiptera: Heteroptera: Miridae) from Virginia, with Descriptions and a Key to the U.S. Species of *Fulvius*. *Proceedings of the Entomological Society of Washington*, 113 (2), 127–136.
<http://dx.doi.org/10.4289/0013-8797.113.2.127>
- Kerzhner, I.M. & Konstantinov, F.V. (1999) Structure of the aedeagus in Miridae (Heteroptera) and its bearing to suprageneric classification. *Acta Societatis Zoologicae Bohemicae*, 63, 117–137.
- Konstantinov, F.V. (2003) Male genitalia in Miridae (Heteroptera) and their significance for suprageneric classification of the family. Part 1: general review, Isometopinae and Psallopinae. *Belgian Journal of Entomology*, 5, 3–36.
- Moulds, T. & Cassis, G. (2006) Review of the Australian species of *Peritropis* (Insecta: Heteroptera: Miridae: Cylapinae). *Memoirs of the Queensland Museum*, 52, 171–190.
- Murphy, D.H. & Polhemus, D.A. (2012) A new genus of micropterous Miridae from Singapore mangroves (Insecta: Hemiptera: Heteroptera). *The Raffles Bulletin of Zoology*, 60, 109–115.
- Schuh, R.T. (1986) *Schizopteromiris*, a new genus and four new species of coleopteroid cylapine Miridae from the Australian Region (Heteroptera). *Annales de la Societe Entomologique de France*, 22, 241–246.
- Schuh, R.T. (1995) *Plant bugs of the World (Insecta: Heteroptera: Miridae)*. New York Entomological Society, New York, 1329 pp.
- Schuh, R.T. (2002–2013) On-line Systematic Catalog of Plant Bugs (Insecta: Heteroptera: Miridae). Available from: <http://research.amnh.org/pbi/catalog/> (accessed 27 November 2013)
- Schuh, R.T. & Slater, J.A. (1995) *True Bugs of the World (Hemiptera: Heteroptera)*. Classification and Natural History. Cornell University Press, Ithaca, New York, xii + 338 pp.
- Slater, J.A. (1975) On the biology and zoogeography of Australian Lygaeidae (Hemiptera: Heteroptera) with special reference to the Southwest fauna. *Journal of the Australian Entomological Society*, 14, 47–64.
<http://dx.doi.org/10.1111/j.1440-6055.1975.tb02002.x>
- Slater, J.A. & Gross, G.F. (1977) A remarkable new genus of coleopteroid Miridae from southern Australia (Hemiptera: Heteroptera). *Journal of the Australian Entomological Society*, 16, 135–140.
<http://dx.doi.org/10.1111/j.1440-6055.1977.tb00073.x>
- Schmitz, G. & Štys, P. (1973) *Howefulvius elytratus* gen. n., sp. n. (Heteroptera, Miridae, Fulviinae) from Lord Howe Island in the Tasman Sea. *Acta Entomologica Bohemoslovaca*, 70, 400–407.
- Wolski, A. (2012) Three new species of the bothriomirine genus *Leprocapsus* Poppius from Indonesia (Hemiptera: Heteroptera: Miridae: Cylapinae). *Entomologica Americana*, 118 (1–4), 109–120.
<http://dx.doi.org/10.1664/12-ra-016.1>
- Wolski, A. (2013) Revision of the plant bug genus *Cylapocoris* Carvalho (Hemiptera: Heteroptera: Miridae: Cylapinae), with descriptions of seven new species from Costa Rica, Brazil, Ecuador, and Venezuela. *Zootaxa*, 3721 (6), 501–528.
<http://dx.doi.org/10.11646/zootaxa.3721.6.1>
- Wolski, A. & Gorczyca, J. (2011) *Rhinocylapoides brachypterus*, a new cylapine genus and species from Malaysia (Hemiptera: Heteroptera: Miridae). *Zootaxa*, 3040, 19–24.
- Wolski, A. & Gorczyca, J. (2012) Plant bugs of the tribe Bothriomirini (Hemiptera: Heteroptera: Miridae: Cylapinae) from the Oriental Region: descriptions of eight new species and keys to Oriental genera and species of *Bothriomiris* Kirkaldy, *Dashymenia* Poppius, and *Dashymeniella* Poppius. *Zootaxa*, 3412, 1–41.
- Wolski, A. & Henry, T.J. (2012) Revision of the New World Species of *Peritropis* Uhler (Heteroptera: Miridae: Cylapinae). *Insect Systematics & Evolution*, 43 (3–4), 213–270.
<http://dx.doi.org/10.1163/1876312x-04303002>