



Re-description and new combination of five New World species of *Chrysotus* Meigen, with comments on the Neotropical genus *Lyroneurus* Loew (Diptera: Dolichopodidae)

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Abstract

Five New World species of *Chrysotus* Meigen are redescribed, four of them herein transferred from *Diaphorus* Meigen: *C. angustifrons* (Robinson), **comb.nov.**, *C. maculatus* (Parent), **comb.nov.** (= *D. maculipennis* Robinson), *C. robustus* (Robinson), **comb.nov.**, *C. spectabilis* (Loew) and *C. wirthi* (Robinson), **comb.nov.** The female of *C. maculatus* is described for the first time. Terminalia of both males and females are illustrated. The previous suggestion that *C. angustifrons*, *C. robustus*, *C. wirthi*, and *C. spectabilis* and the Neotropical genus *Lyroneurus* Loew are closely related based on wing venation similarities is analyzed and rejected.

Key words: *Diaphorus*, *Chrysotus*, *Lyroneurus*, Dolichopodidae, Diaphorinae, new combination

Introduction

The Diaphorinae form a diverse and complex subfamily of Dolichopodidae, with worldwide distribution and about 830 described species (219 Neotropical), placed in 15 genera (Yang *et al.* 2006). The two major genera of the subfamily, *Chrysotus* Meigen (285 spp., 90 Neotropical) and *Diaphorus* Meigen (265 spp., 70 Neotropical), encompass more than 60% of the diaphorine diversity. Nevertheless, they are both poorly defined in relation to each other and also in relation to some other diaphorine genera, e.g., *Asyndetus* Loew, *Cryptophleps* Lichtwardt, *Ostenia* Hutton, *Melanostolus* Kowarz, and *Lyroneurus* Loew (Bickel 1996, 2005). The ensemble of nominal species ascribed as *Diaphorus* indeed comprises a mosaic of different groups of species. Nevertheless, since Robinson and Vockeroth's (1981) restricted definition of *Diaphorus*, the genus has been treated as presenting the following combination of characters: upper part of proepisternum with 2–4 fine setae; setae of calypter black; male with face parallel-sided, without claws on fore tarsus, with tergite 6 bare, and with 4–8 strong bristles on sternum 8; female with narrowest part of face subequal in width to widest part of frons. Moreover, a distinctive feature often seen in males of *Diaphorus* is the dorsally holoptic eyes, an unusual characteristic even throughout the entire Dolichopodidae. This definition would circumscribe “the typical element of the genus as it is recognized in Europe” (Robinson 1975, p. 91), including the type-species of the genus, *D. flavocinctus* Meigen. Moreover, some male hypopygial features like the shape of the surstyli, postgonites and hypandrium are shared by species of this group, supposedly not elsewhere, as can be seen in Palaearctic species (e.g. Negrobov *et al.* 2007). Some species of Neotropical *Diaphorus*, such as *D. dimidiatus* Aldrich, *D. mundus* Loew and *D. contiguus* Aldrich (Robinson 1975), also share the set of features (or nearly so) referred to by Robinson and Vockeroth (1981), and probably some additional hypopygial similarities.

The Neotropical genus *Lyroneurus*, on the other hand, has been recognized primarily on the basis of the sigmoid R₄₊₅ on the male wing and presently comprises 17 Neotropical and southern Nearctic species. Its