

The Papuan *Chrysosoma lucigena* group (Diptera: Dolichopodidae: Sciapodinae)

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ABSTRACT. The *Chrysosoma lucigena* species group is revised and comprises 13 species, all from New Guinea and immediately adjacent islands: *C. lucigena* (Walker) and *C. splendidum* (Wulp), and 11 newly described species: *C. akrikense*, *C. baiyerense*, *C. betege*, *C. bitcoin*, *C. cuprevittatum*, *C. fumifemoratum*, *C. macalpinei*, *C. orokaindi*, *C. oromissim*, *C. tabubil*, and *C. watutense*. The *lucigena* group comprises species with dark maculated wings, long setae on the femur and tibia of leg I, and metallic green and bronze thoracic coloration. The total loss of anterior dorsocentral setae in both sexes of the *lucigena* group is discussed in the context of a possible source for higher-level taxonomic characters in Diptera.

Introduction

The Sciapodinae (Diptera: Dolichopodidae) are one of the more cohesive dolichopodid subfamilies, the majority of which are readily identified by the excavated vertex and the branched wing vein M_{1+2} . These small, metallic green flies with “sweptback” wings are frequently seen running on foliage in moist habitats, making them familiar by sight even to casual observers. The subfamily is abundant in collections from the tropics, and the fauna of the topographically complex New Guinea region is particularly rich, with many undescribed species.

The sciapodine genus *Chrysosoma* Guérin-Ménéville has a long and complex taxonomic history. The presence of an apical antennal arista was the traditional key character used to separate it from other genera of the Sciapodinae. However, examination of the large heterogeneous assemblage of species considered to be *Chrysosoma* revealed that the apical arista is a homoplastic character, and by itself is not a reliable character for generic definition (see discussion in Bickel, 1994). Like many other sciapodine genera, *Chrysosoma*

is not strongly defined, and may itself be a polyphyletic assemblage. However, it acts as a “holding genus” for some 220 valid species primarily from the humid tropics of the Old World and Oceania (Wikipedia contributors, 2022), and many more species await both collection and description.

Although *Chrysosoma* itself may not be monophyletic, distinct monophyletic species groups can be delimited within this complex genus. One such group is the Papuan *Chrysosoma lucigena* species group, strictly confined to New Guinea and adjacent islands (it is not known from New Britain, some 100 km distant from New Guinea). The type species, *C. lucigena*, was collected by Alfred Russel Wallace during his 1857 stay on the Aru Islands, and was described by Francis Walker, the well-known (if somewhat infamous) entomological taxonomist employed at the British Museum (Natural History). This and related species collected subsequently in New Guinea reveal the *lucigena* group to be among the most striking Papuan Diptera, with dark maculated wings, very long setae on leg I, and metallic blue-green thoraces, often with prominent bronze bands (Figs 1, 2, 11).

Keywords: Dolichopodidae; Sciapodinae; *Chrysosoma*; New Guinea; new species; taxonomy; taxonomic characters

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