Revision of the scarab subfamily Aclopinae Blanchard (Coleoptera: Scarabaeidae) in Argentina and Chile

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Abstract

The Aclopinae from Argentina and Chile are revised and a redescription of the subfamily and type genus Aclopus Erichson are presented. Aclopus vittatus Erichson is designated as the type species of Aclopus. Two new genera, Gracilaclopus Ocampo and Mondaca new genus, and Desertaclopus Ocampo and Mondaca new genus, are described. Gracilaclopus includes eight species: G. bidentulus Ocampo & Mondaca new species, G. caceresi Ocampo & Mondaca new species, G. candelariae Ocampo & Mondaca new species, G. crepuscularis Ocampo & Mondaca new species, G. electricus Ocampo & Mondaca new species, G. morocho Ocampo & Mondaca new species, and G. nigroscutatus Ocampo & Mondaca new species. The genus Desertaclopus includes three species: D. atacamensis Ocampo & Mondaca new species, D. lucasi Ocampo & Mondaca new species, and D. marcosi Ocampo & Mondaca new species. A neotype is designated for Aclopus parvulus Ohaus (now G. parvulus). A key and diagnostic characters for all Argentinean and Chilean aclopine genera and species are provided. Based on a detailed morphological study, the Australian Phaenognatha Hope and the Neotropical Neophaenognatha Allsopp are removed from the Aclopinae and transferred to Scarabaeidae incertae sedis.

Key words: Taxonomy, South America, Scarab beetles

Introduction

The subfamily Aclopinae (Coleoptera: Scarabaeidae) was proposed by Blanchard (1850) but its taxonomic position has varied according to different authors. The group has been treated as a subfamily within Scarabaeidae (Blackwelder 1944; Lawrence & Newton 1995; Nikolajev 2004, 2005, 2007; Jameson & Ocampo 2005; Smith 2006; Ocampo & Vaz-de-Mello 2008; Bouchard et al. 2011) or as a separate family (Lawrence et al. 1999).

Blanchard (1850), included two genera in Aclopinae, Aclopus Erichson, which at that time included three species from Brazil, and the Australian Phyllotocus Fischer now placed in tribe Phyllotocini in the Melolonthinae (Ahrens 2006). The monotypic genus Xenaclopus Arrow was placed in this subfamily (Arrow 1915) but later moved to Melolonthinae (Ocampo & Vaz-de-Mello 2008). Previous to this publication, the subfamily Aclopinae included three genera: Aclopus (with six species), Phaenognatha Hope (with eight species), and Neophaenognatha Allsopp (with four species). Erichson (1847), based on the morphology of the mouthparts and shape of the elytra, considered Aclopus and Phaenognatha as members of Glaphyridae but Lacordaire (1856) later transferred the group to Melolonthinae.

Arrow (1909) considered aclopines to be laparostict scarabs, based on his observation of the abdominal spiracles of Aclopus brunneus Erichson. However, Ohaus (1909) found differences in the spiracular position between males (spiracles situated in the membrane between dorsal and ventral sclerites) and females (the last four spiracles situated in the chitin of the ventral sclerites). According to Ohaus (1909) males possess the laparostict condition but females the pleurostict type. Arrow (1909) suggested that this difference it might be due to the fact that females are flightless and live underground most of their lives. Later, in his publication on the phylogenetic relationships of “Lamellicornia,” Iablokoff-Khnozorian (1977) suggested that Aclopinae is more closely related to the Hybosori-