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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. morochus* Ocampo & Mondaca **new species**, *G. nigroscutatus* Ocampo & Mondaca **new species**, and *G. parvulus* (Ohaus) **new combination**. 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-

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