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**Revision of the Palearctic species of *Pristaulacus* Kieffer, 1900
(Hymenoptera: Aulacidae)**

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Revision of the Palaearctic species of *Pristaulacus* Kieffer, 1900 (Hymenoptera: Aulacidae)

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This paper represents part of the results of the Ph.D. Thesis of the author, debated on February 16, 2005, University of Catania (Turrisi, 2004).

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Abstract

The Palaearctic species of the genus *Pristaulacus* Kieffer, 1900 are revised and illustrated for the first time. Twenty-one valid species are recognized. Two new species are described: *P. edoardo* Turrisi, **sp. nov.**, from Crete Island and Greece, and *P. paglianoi* Turrisi, **sp. nov.**, from Morocco and Tunisia. Four new synonymies are proposed: *Aulacus* (*Pristaulacus*) *holtzi* Schulz, 1906 = *P. compressus* (Spinola, 1808) (**syn. nov.**); *P. bimaculatus arozarenae* Ortega & Baez, 1985 = *P. galitae* (Gribodo, 1879) (**syn. nov.**); *Aulacus sibiricola* Semenow, 1892 = *P. gibbator* (Thunberg, 1822) (**syn. nov.**); *P. holzschuhi* Madl, 1990 = *P. gloriator* (Fabricius, 1804) (**syn. nov.**). The following synonymies are confirmed on the basis of the study of type material: *P. obscuripennis* Westwood, 1841 = *P. compressus* (Spinola, 1808); *P. bimaculatus* Kieffer, 1900 and *P. immaculatus* Kieffer, 1904 = *P. galitae* (Gribodo, 1879). Three *nomina nuda*: *A. beckeri* Tournier, 1911, *A. plurimaculatus* Tournier, 1911, and *A. transversostriatus* Tournier, 1911, previously assigned to the genus *Aulacus*, are all synonyms of *P. compressus* (Spinola, 1808) (**syn. nov.**). The previously unknown male of *P. boninensis* Konishi, 1990 is described. Lectotypes and paralectotypes of *P. comptipennis* Enderlein, 1912, *P. immaculatus* Kieffer, 1904, and *P. bimaculatus arozarenae* Ortega & Baez, 1985 are designated. A key to species and distributional maps are also provided.

Key words: *Pristaulacus*, Palaearctic Region, systematic revision, new species, distribution, biology

Introduction

The Aulacidae are a small group of parasitoid wasps which includes 182 extant species currently placed in 3 genera: *Aulacus* Jurine, 1807, with 65 species, *Pristaulacus* Kieffer, 1900, with 115 species, and *Panaulix* Benoit, 1984, with 2 species. They are found in all zoogeographic regions except Antarctica (Kieffer 1912; Hedicke 1939; Smith 2001, 2005a, b; He *et al.* 2002; Jennings *et al.* 2004a, b, c; Turrisi 2004, 2005, 2006a, present contribution; Jennings & Austin 2006; Sun & Sheng in press). Aulacidae are also known from fossils, with 36 described species (Nel *et al.* 2004). The oldest record is from the Lower Cretaceous, while the Cenozoic records comprise species from the Upper Eocene of the Isle of Wight, Baltic, and Paris basin ambers, and from the Oligocene of North America (Nel *et al.* 2004). Eighteen of the fossil species of Aulacidae are grouped in the genus *Manlaja* Rasnitsyn, 1980, but they are not well known and their inclusion within Aulacidae still remains somewhat questionable (Basibuyuk *et al.* 2002; Nel *et al.* 2004; Zhang & Rasnitsyn 2004). Three of the other 18 fossil species are included in *Aulacus* and 5 in *Pristaulacus* (Brues 1910, 1923, 1932; Cockerell 1916, 1922; Nel *et al.* 2004); the remaining 10 species are attributed to the same number of monospecific genera.

Most recent contributions (Konishi 1990; Mason 1993; Gauld 1995) recognized Aulacidae as a distinct family among Evanioidea, and not a subfamily of Gasteruptionidae as reported by some authors (Rasnitsyn 1988; Whitfield *et al.* 1989). More recently, Jennings & Austin (2000) and Turrisi (2004) demonstrated the monophyly of the Aulacidae based upon cladistic analysis.

Our knowledge on taxonomy, distribution, and biology of Aulacidae still must be considered unsatisfactory, due to the fact that Aulacidae are not easily observed in their natural habitats and are only rarely collected by most of the usual collecting methods. Consequently, Aulacidae are rare in collections, and many species are known from only one or a few specimens. This scarcity of available material is a serious limitation for studying the faunistics and the taxonomy of these wasps.

Aulacidae are parasitoids of wood-boring Hymenoptera and Coleoptera, employing a koinobiont endoparasitoid strategy (Whitfield 1998; Jennings & Austin 2004). Hosts are not known for many species, but some *Aulacus* and a few *Pristaulacus* are associated with species of *Xiphydria* Latreille (Symphyta: Xiphydriidae). Other species of *Aulacus* and most *Pristaulacus* are associated with wood-boring Coleoptera, especially Buprestidae and Cerambycidae (Barriga 1990; Visitpanich 1994; Turrisi 1999; Jennings & Austin 2004). Other possible hosts belong to the coleopteran families Bostrichidae, Cleridae (Oehlke 1983, 1984; Pagliano 1986), and Scolytidae (Muesebeck 1958). A summary of the data on hosts of all Aulacidae, as well as on host