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A taxonomic review of the genus *Antodynerus* de Saussure, 1855 (Hymenoptera: Vespidae: Eumeninae) from the Indian subcontinent

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Abstract

The genus *Antodynerus* de Saussure, 1855 is reviewed from the Indian subcontinent. Three species with one additional subspecies are present, namely *Antodynerus flavescens flavescens* (Fabricius, 1775), *A. f. karachiensis* Giordani Soika, 1970, *A. limbatus* (de Saussure, 1852), and *A. punctatipennis* (de Saussure, 1853). The parasitic association of strepsipteran insects and the symbiotic association of mites are reported for the first time in the genus *Antodynerus*. The distribution of *A. f. flavescens* (Fabricius) and *A. limbatus* (de Saussure) in the Indian states is augmented. The latter species is newly recorded from China (Tibet). A key to species of the Indian subcontinent is provided.

Key words: Eumeninae, Vespidae, *Antodynerus*, Indian subcontinent, China, new record, key, ethology

Introduction

De Saussure (1855) provided the name *Antodynerus* for his division V of the subgenus *Leionotus* de Saussure of the genus *Odynerus* Latreille. This genus is widely distributed in the Ethiopian, Oriental and Palaeartic Regions. Fifty four species with numerous subspecies are recorded under this genus worldwide, most of them in the Ethiopian Region (Carpenter *et al.* 2009; Gusenleitner 2010). The Palaeartic Region has seven species, and there are three in the Oriental Region (three species occur in more than one Region). All three Oriental species are reported from the Indian subcontinent, as well as one additional subspecies, namely *Antodynerus flavescens flavescens* (Fabricius, 1775), *A. f. karachiensis* Giordani Soika, 1970, *A. limbatus* (de Saussure, 1852) and *A. punctatipennis* (de Saussure, 1853). The parasitic association of strepsipteran insects and the symbiotic association of mites are reported here for the first time in this genus. *Antodynerus limbatus* (de Saussure) is newly recorded from China (Tibet).

Material and methods

This study is based primarily on about 143 specimens present in the Hymenoptera Section of the Zoological Survey of India, Kolkata collected from various localities of the Indian subcontinent including one specimen from China (Tibet). The specimens were studied and photographed by using a Leica Stereo microscope with LAS software version 3.6.0. All the specimens were properly preserved and added to the ‘National Zoological Collections’ of the Hymenoptera Section of the Zoological Survey of India, Kolkata (NZC).

Abbreviations used for the Museums: AMNH—American Museum of Natural History, New York, USA; BMNH—Natural History Museum, London, UK; MP—Muséum national d’Histoire naturelle, Paris, France; NZC—National Zoological Collections of Zoological Survey of India, Kolkata, India; OUM—Oxford University Museum, Oxford, UK; UZMC—Zoologisk Museum, Københavns Universitet, Denmark; ZMB—Museum für Naturkunde, Leibniz-Institut für Evolutions- und Biodiversitätsforschung an der Humboldt-Universität zu Berlin, Germany.

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