



Revision of *Prosyntexis* from the Lower Cretaceous Crato Formation of Brazil (Hymenoptera: Sepulcidae: Trematothoracinae)

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Abstract

The fossil *Prosyntexis* species from the Lower Cretaceous Crato Formation of Brazil are revised. The examination of three new specimens of the sepulcid species *Prosyntexis gouleti* Sharkey, 1990 allows amending its species diagnosis by adding new morphological characters, especially from the wing venation and from the hitherto unknown antenna. A close comparison with *Prosyntexis legitima* Martins-Neto *et al.*, 2007 demonstrates that this species is a junior synonym of *P. gouleti* (**syn. nov.**). The taxonomic position of the genus *Prosyntexis* within Sepulcidae: Trematothoracinae and of the enigmatic *Prosyntexis montsecensis* Rasnitsyn and Ansoerge, 2000 are discussed on the basis of the new morphological data.

Key words: *Prosyntexis legitima* junior synonym, *Prosyntexis montsecensis*, Crato Formation, taxonomy, systematic palaeontology

Introduction

Sepulcidae Rasnitsyn, 1968 is a small Mesozoic wasp family with several species that remain rather poorly known because of the incomplete state of preservation of the fossils (see, e.g., Rasnitsyn 1993; Rasnitsyn & Ansoerge 2000; Rasnitsyn & Martínez-Delclòs 2000; Zhang *et al.* 2001). Among these, the case of the Lower Cretaceous genus *Prosyntexis* Sharkey, 1990 is emblematic with a type species *P. gouleti* Sharkey, 1990 based on incompletely preserved material from the Crato Formation of Brazil (Darling & Sharkey 1990). Here we revise the *Prosyntexis* species from the Crato Formation and provide detailed descriptions of three new specimens of *P. gouleti*. New morphological data is added to its species diagnosis and *P. legitima* Martins-Neto *et al.* 2007 from the same outcrop is placed as a junior synonym of *P. gouleti*.

Material and methods

This study is based on the *Prosyntexis* specimens deposited in the fossil insect collections of the Laboratoire de Paléontologie, Muséum National d'Histoire Naturelle, Paris, France and the State Museum of Natural History Stuttgart, Germany. The holotypes of *Prosyntexis gouleti* Darling, 1990 and *P. legitima* Martins-Neto *et al.*, 2007 were not examined but the original species descriptions and illustrations of the type specimens allowed examination of all diagnostic features. Terms for morphological structures follow Huber and Sharkey (1993). In the descriptions, measurements always refer to the maximum width or length of the respective body parts. Images of the specimens were taken with a Leica DXM 1200 digital camera attached to a Leica MZ 16 APO microscope and processed using Auto-Montage (Syncroscopy) software. Images were edited with Adobe Photoshop CS3 and figure plates assembled with Adobe Illustrator CS3.