Cretevania bechlyi sp. nov., from Cretaceous Burmese amber (Hymenoptera: Evaniidae)

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Abstract

The fossil evaniid wasp Cretevania bechlyi sp. nov., is described based on a well preserved female specimen from Cretaceous Burmese amber. The new species is placed in the genus Cretevania Rasnitsyn, 1975 based on the elongation of the mid and hind trochantellus, the fore wing venation (e.g. first marginal cell triangular and broad, 2m-cu absent, second submarginal cell separated from first discal cell), the shape of the petiole (subcylindrical with distal extension) and other distinct morphological features. Cretevania bechlyi sp. nov. differs from all previously described species in having just 10 flagellomeres (11 in other members of the genus) and in the presence of notauli (absent in other species). The new species represents the first species of Cretevania from Burmese amber and significantly expands the known morphological diversity of Mesozoic Evaniidae.

Key words: fossil, Myanmar, systematic palaeontology, Evanioidea

Introduction

Ensign or hatchet wasps (family Evaniidae) are distinctive solitary predators on cockroach eggs in oothecae (e.g., Deans 2005). They have a uniquely shaped metasoma with a tubular petiole and a shortened, laterally compressed gaster (sensu abdominal segments posterior to abdominal segment 2—URI: http://purl.obolibrary.org/obo/HAO_0000369). The world fauna comprises about 650 species in 22 extant and 12 fossil genera (Deans 2005; Deans et al. 2012; Jennings et al. 2012). Several fossil species have been described from Mesozoic ambers ranging from the Early to Late Cretaceous (e.g., Rasnitsyn 1975; Basibuyuk et al. 2000a, 2000b, 2002; Deans et al. 2004; Engel 2006; Pérez-de la Fuente et al. 2012), in addition to relatively derived species in Tertiary ambers (e.g., Brues 1933; Nel et al. 2002a, 2002b; Sawoniewicz & Kupryjanowicz 2003; Jennings et al. 2012 and summary therein). Several other evaniids have been described from non-amber deposits, mostly Early to Late Cretaceous as summarized in Jennings et al. (2012).

The dating of Burmese amber has been reviewed most recently by Shi et al. (2012), who concluded a late Albian—early Cenomanian age. Two evaniid species have been described from Burmese amber: Sorelleavia deansi Engels 2006, and Mesevania swinhoei Basibuyuk & Rasnitsyn 2000 (in Basibuyuk et al. 2000b).

The most species-diverse fossil evaniid genus is Cretevania Rasnitsyn, 1975, which is mainly characterized by its fore wing venation and the shape of the hind legs and petiole (Pérez-de la Fuente et al. 2012). To date, 14 species of this genus have been recorded from different Cretaceous deposits of amber and compression rocks from Eurasia and the Middle East, the highest diversity being known from Spain (Peñalver et al. 2010, Pérez-de la Fuente et al. 2012).

Herein we provide the description of a new species of Cretevania from Lower Cretaceous (late Albian—early Cenomanian) Burmese amber, thus significantly expanding the known paleogeographic range of this extinct fossil evaniid genus.