

Original article

# A new micropterous species of *Embolemus* Westwood from Baltic amber (Hymenoptera: Embolemidae)

*Une nouvelle espèce microptère d'Embolemus Westwood dans l'ambre de la Baltique (Hymenoptera : Embolemidae)*

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## Abstract

A micropterous female embolemid is recorded in middle Eocene Baltic amber. *Embolemus excitus* Perrichot and Engel, sp. nov., is easily distinguished from other extinct and living species by the pronotum with only a weak mediolongitudinal furrow and with a lateral carina along the edge anterior to tegula, the mesopleuron with a pronounced medial dorsoventral carina, and the propodeum with dorsoposterior corners tuberculate. The new species also uniquely combines greatly reduced compound eyes, a scape distinctly elongate, the pronotum twice as long as mesoscutum, and the forewings extending at most to the anterior border of the second metasomal tergum.

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**Keywords:** Insecta; Chrysoidea; Wasp; *Embolemus*; Taxonomy; Tertiary; Amber

## Résumé

Une femelle Embolemide microptère est signalée dans l'ambre éocène moyen de la Baltique. *Embolemus excitus* Perrichot et Engel, sp. nov., se distingue des autres espèces fossiles et actuelles par son pronotum avec seulement un léger sillon longitudinal médian et avec une carène latérale le long du bord antérieur à la tégula, le mésopleuron avec une carène dorsoventrale médiane prononcée, et le propodéum avec les coins postérieurs dorsaux tuberculés. La nouvelle espèce est aussi unique en ce qu'elle combine des yeux forte-

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ment réduits, un scape nettement allongé, le pronotum deux fois plus long que le mésoscutum, et les ailes antérieures ne dépassant pas le bord antérieur du second tergum métasomal.

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*Mots clés* : Insecte ; Chrysoïde ; Guêpe ; *Embolemus* ; Taxonomie ; Tertiaire ; Ambre

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## 1. Introduction

Embolemidae are enigmatic parasitoid wasps of the basal aculeate superfamily Chrysoidea. Although the family is cosmopolitan in distribution and largely has been revised (*e.g.*, [Achterberg and Kats, 2000](#); [Amarante et al., 1999](#); [Azevedo and Amarante, 2006](#); [Lee and Kim, 2010](#); [Olm, 1995a, 2008](#)), scarcely anything is known of their biology. The only species for which extensive biological information is available is *Embolemus confusus* (Ashmead, 1893). This species is a parasitoid of nymphal Achilidae and exhibits a general biology and behavior close to that of its sister family, the Dryinidae ([Bridwell, 1958](#); [Wharton, 1989](#)). Not surprisingly, Embolemidae have a sparse fossil record, although what little is known demonstrates that they extend at least into the Early Cretaceous ([Olm et al., 2010](#); [Ortega-Blanco et al., 2011](#)).

Herein we describe the first micropterous female embolemid recorded from Baltic amber. The fossil record of Embolemidae has been reviewed recently by [Olm et al. \(2010, 2011\)](#) and [Ortega-Blanco et al. \(2011\)](#). The oldest species of definitive embolemids is *Embolemus periallus* [Ortega-Blanco et al.](#), in Early Cretaceous (Lower Albian) amber from Spain, although compressions from earlier in the Early Cretaceous (Neocomian-Aptian) have been attributed to the family but are either stem groups or misplaced ([Ortega-Blanco et al., 2011](#)). The Eocene fauna of Europe contains at least two previously described species, *E. breviscapus* [Brues, 1933](#) and *E. succinalis* ([Brues, 1933](#)), the last originally established in *Ampulicomorpha* Ashmead, 1893 ([Brues, 1933](#)). *Embolemus breviscapus* is known from the male sex, while *E. succinalis* has been documented from both males and fully macropterous females (hence its placement often in *Ampulicomorpha*) ([Olm, 1995b](#); [Olm et al., 2011](#)). The present species cannot be attributed to either of these taxa and is accordingly described here as a new species. Morphological terminology and the format for the description generally follows that used by [Ortega-Blanco et al. \(2011\)](#), while the age, geological setting, and paleobiota of Baltic amber is briefly reviewed by [Weitschat and Wichard \(2010\)](#).

## 2. Systematic palaeontology

Family EMBOLEMIDAE Förster, 1856

Genus *Embolemus* Westwood, 1833

***Embolemus excitus*** sp. nov

(Figs. 1–2)

**Material:** Holotype SMF-Be-806 (collection Wunderlich), female, in middle Eocene (Lutetian) Baltic amber; deposited in the Senckenberg Forschungsinstitut und Naturmuseum, Frankfurt, Germany.

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