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## **ABSTRACT BOOK**

Editors

**Jacek Szwedo, Chenyang Cai and Qiang Xuan**



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Editors

**Jacek Szwedo<sup>1</sup>, Chenyang Cai<sup>2</sup> and Qiang Xuan<sup>2</sup>**

<sup>1</sup>Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Faculty of Biology, The University of Gdańsk, Gdańsk, Poland

<sup>2</sup>State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, Nanjing, China

NOTE: the abstracts are listed alphabetically based on the family name of the first author of each abstract.

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## A new approach to the Jurassic Coleorrhyncha (Hemiptera) from European deposits

**Beata Bieszczad\* & Jacek Szwedo**

*\*Laboratory of Evolutionary Entomology and Museum of Amber Inclusions, Department of Invertebrate Zoology and Parasitology, Faculty of Biology, University of Gdańsk, 59, Wita Stwosza St., PL80-308 Gdańsk, Poland; email: beata.bieszczad@phdstud.ug.edu.pl*

The Coleorrhyncha Myers et China, 1929, are phytophagous hemipterans, which have a long evolutionary history. Their unique morphological characteristics and uncertain phylogenetic position are accompanied by a limited distribution of recent representatives. The family Progonocimicidae, which existed from the late Permian to the late Cretaceous, comprises the oldest and most species-rich coleorrhynchan family. Another family, Karabasiidae, appeared in the Early Jurassic and lasted until the Early Cretaceous. The Hoploridiidae are recorded from the Lower Cretaceous period. Peloridiidae, a relict group with a 'Gondwanan' distribution, is the only modern representative. The fossil record of Coleorrhyncha mainly comes from various deposits in Asia. A few taxa are known from Europe, and very few from Australia and South America. The family Progonocimicidae appears to be paraphyletic, with two subfamilies currently recognised, but some taxa, especially those included in the Jurassic genus *Cicadocoris*, are not clearly defined and require revision due to numerous synonymisations and other taxonomic decisions.

The morphological data available for Jurassic Coleorrhyncha taxa are scarce and scattered across different sources, often vaguely discussing wing and body part morphology. Therefore, it is essential to discover, describe and apply new characters at both micro and macro scales. Progonocimicidae specimens are frequently reported from various Jurassic deposits in Europe, primarily from the Toarcian. However, only a small fraction of these specimens have been thoroughly examined. These materials exhibit significant taxonomic diversity and morphological disparity, but they have not been well adequately identified, studied or described. The ecological catastrophe of the Early Jurassic (Toarcian Anoxic Oceanic Event) is responsible for the number of specimens and their preservation conditions. The study of these materials provides valuable information about the time and conditions of fossilisation, the environment, and the morphological and taxonomic features of these Hemiptera. The aim of this research is to fill this gap in knowledge. Morphological and morphometric analyses were carried out on European deposits (Grimmen, Dobbertin, Sandelach, and Bascharage) in order to identify new descriptive and diagnostic characters that can improve the recognition and description of new taxa, to recognise their variability, disparity and taphonomic features. The objective is to enhance the diagnostic and descriptive value of even the residual specimens. The effectiveness of landmark analysis, morphological matrix, Principal Component Analysis, and previously employed measurement and standardisation methods for taphonomic analyses and palaeoenvironmental reconstructions has been evaluated while considering potential artifacts and errors that may arise during the analysis of incomplete material.