

Survivors of the extreme: fungus gnats from the PETM recovery interval of the Eocene Fur Formation in Denmark

Alicja Pełczyńska, Wiesław Krzemiński, and Agnieszka Soszyńska
Acta Palaeontologica Polonica 71 (3), 2026: 449-459 doi:10.4202/app.01326.2026

The Fur Formation (approx. 55 Ma) of Denmark provides valuable insight into the early Eocene ecosystems of Europe. The study of its biota, which developed shortly after the Paleocene/Eocene Thermal Maximum (PETM) episode of rapid global warming, offers a unique opportunity to investigate fauna that evolved during an abrupt climatic change, similar to those observed nowadays. In this study, we report the discovery of another insect family from the Fur Fm., Keroplatidae (Diptera: Nematocera), represented by a well-preserved male specimen of *Macrocera furastica* sp. nov. and a single wing belonging to an unidentified *Macrocera* species. Both specimens were found in the formation unit corresponding to the PETM recovery phase.

Key words: Keroplatidae, Diptera, fossil insects, paleodiversity, Baltic amber, Fur Formation, Denmark, Eocene.

Alicja Pełczyńska [alicja.pelczynska@edu.uni.lodz.pl; ORCID: <https://orcid.org/0000-0002-7000-3552>], University of Lodz, Faculty of Biology and Environmental Protection, Department of Invertebrate Zoology and Hydrobiology, 90-237 Łódź, Poland; University of Copenhagen, Faculty of Science, Natural History Museum of Denmark, 2100 Copenhagen, Denmark. Wiesław Krzemiński [wieslawk4@gmail.com; ORCID: <https://orcid.org/0000-0001-5685-891X>], Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, 31-016 Kraków, Poland. Agnieszka Soszyńska [agnieszka.soszynska@biol.uni.lodz.pl; ORCID: <https://orcid.org/0000-0002-2661-6685>], University of Lodz, Faculty of Biology and Environmental Protection, Department of Invertebrate Zoology and Hydrobiology, 90-237 Łódź, Poland.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(1,968.3 kB\)](#)