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Chauliodites niedzwiedzkii sp. n. (Grylloblattida: Chaulioditidae) from Triassic sediments of Poland

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Abstract

A new representative of the family Chaulioditidae (Insecta, Grylloblattida), *Chauliodites niedzwiedzkii* **sp. n.**, is described from the Upper Olenekian-Lower Anisian sediments of Pałęgi in Holy Cross Mountains, Poland. This is the first formal description of any fossil insect from Pałęgi area.

Key words: fossil insects, Pałęgi locality, taxonomy

Introduction

The Grylloblattids are very sparse contemporary group, consisting of only 26 species. All of the recent representatives belong to the same family and are referred to as 'living fossils', while in the fossil record more than 44 families have been described (Vrsansky *et al.* 2001). The earliest Grylloblattida known are from the beginning of the Late Carboniferous (Aristov 2005). At the beginning of the Permian and in Middle Permian this group increased its diversity but after this time many of the families became extinct. Most of the Late Permian families were not found in the Early Triassic (Aristov *et al.* 2011). One of the families that crossed the Permian-Triassic boundary was Chaulioditidae Handlirsch, 1906 (= Tomidae Martynov, 1936), characterized by a wide costal area crossed by simple SC branches, M bifurcated beyond the RS base, simple and S-shaped CuA_1, and the area between CuA and CuP not widened basally (Aristov 2004). The earliest Chaulioditidae are known from a few records from the Middle Permian of European Russia (Soyana locality in the Arkhangelsk) (Aristov 2009a). Towards the end of the Permian the family became diverse and abundant in many locations in European Russia (for example the Kargala locality in Orenburg Region, Isady locality in the Vologda region) (Aristov 2004) and also was recorded in South Africa (KwaYaya locality in KwaZulu-Natal) (Aristov *et al.* 2009). Near the Permo-Triassic transition, Chaulioditidae and particularly the genus *Chauliodites* were dominant among Grylloblattida and among the most common insects (Aristov 2003). Chaulioditidae are recorded in central Russia (Nedubrovo in Vologda Region), in Siberia (Anakit, Nirungdakan-1= Tura and Khungtukun-2 in Krasnoyarsk Region; Aristov 2003; 2011), Mongolia (Yamaan Us locality, Gobi Altai Province; Aristov 2005) and China (Fuyan locality, Guizhou Province; Lin 1978; Liu & Yao 2002; Aristov 2003). The Lower Triassic Olenekian deposits of Russia (Tikhvinskoe locality in Yaroslavl Region) yielded only Chaulioditidae (Aristov 2003). The same is true for the Olenekian of Middle Buntsandstein of Germany in Gödevitz (Sachsen-Anhalt) and, probably, Bremke (Lower Saxony; Ansorge & Brauckmann 2008; Aristov *et al.* 2009). The uncommon species *Chauliodites picteti* Heer, 1864 is the only representative of Grylloblattida in the Upper Buntsandstein (Lower Anisian in the Middle Triassic) of Gambach (Bavaria), Lengfurt, Hammelburg (Lower Franconia) and Schwarza (Thuringia) in Germany (Bashkuev *et al.* 2011). Chaulioditidae are found in the Middle Triassic of China (Nanshenghu in Guizhou Province) as well (Lin 1978; Aristov 2003). In the Lower Anisian of Grès à Voltzia of the Vosges in France, Chaulioditidae is also represented by one species of the type genus, accounting for 20% of all grylloblattids (Aristov *et al.* 2011).

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