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A description of *Promanodes serafini* gen. et sp. nov. from Baltic amber, with a review of related New Zealand *Promanus* Sharp, 1877 (Coleoptera: Trogossitidae)

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Abstract

A new genus and species of Trogossitidae (Lophocaterinae: Lophocaterini), *Promanodes serafini*, is described from Baltic amber. The fossil is considered related to three species of the extant *Promanus* Sharp, 1877 from New Zealand. It differs from the latter especially in larger postcoxal projection and coniform maxillary palpi. A close morphological similarity between recent and fossil representatives of the both genera allows to suppose predaceous way of life of the new Eocene species. All extant species of the genus *Promanus* are reviewed, their types illustrated and a differential diagnosis given. Biogeography of *Promanus* is discussed.

Key words: Coleoptera, Trogossitidae, Lophocaterinae, new species, new genus, *Promanodes serafini*, *Promanus*, New Zealand, Baltic amber, Eocene, biogeography

Introduction

Trogossitidae is one of the lesser families of Cleroidea, with about 600 recent species described so far. Its modern classification evolved from the classic work of Reitter (1876). A century or more later, it was studied by Crowson (1964, 1966, 1970), Barron (1971), Ślipiński (1992) and most recently Kolibáč (2005, 2006). The tribe Lophocaterini was originally established at subfamily rank (Crowson 1964), and the same author later erected the independent family Lophocateridae (Crowson 1970). This concept was called into question by Barron (1971) but frequently followed by many other Coleoptera specialists. Kolibáč (2006) reduced Lophocateridae to a cluster of three tribes (Decamerini, Ancyronini, Lophocaterini) within Peltinae but the same author later suggested to return a rank of the subfamily Lophocaterinae for the cluster (Kolibáč 2008; Kolibáč & Zaitsev 2010). A key to Lophocaterini has been recently published by Kolibáč (2010).

The general trogossitid fossil record, like most other insect groups (Grimaldi & Engel 2005), is best for the Cenozoic Era. As is typical for other groups known from deposits like the Baltic ambers (e.g., Kulicka & Ślipiński 1996), the majority of Cenozoic trogossitid fossils belong to extant infrasubfamilial groups. Older fossils from the Mesozoic (Cretaceous and Jurassic) are also known but these are comparatively rare and some are taxonomically problematic (Schmied *et al*. 2009). The remaining Tertiary species are partially very well preserved in limnic sediments or as inclusions in middle Eocene (Lutetian) amber from the Baltic region. A list of fossil members of the family includes about 25 species from Tertiary and Mesozoic. They are cited by Schmied *et al*. (2009) in detail.

The remarkably life-like preservation of fossils in amber (Grimaldi 1996) enables collection of important data for phylogenetic, biogeograhic, and evolutionary studies (e.g., Cognato & Grimaldi 2009), particularly in

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