



Fossil carabids from Baltic amber – I – A new species of the genus *Calathus* Bonelli, 1810 (Coleoptera: Carabidae: Pterostichinae)

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Abstract

In this paper a new species of fossil ground-beetle, *Calathus elpis* n. sp. (Coleoptera, Carabidae) preserved in a piece of Baltic amber (Eocene) is described. A comparison with extant fauna is made, and paleobiology of the species is studied.

Key words: Arthropoda, Hexapoda, taxonomy, palaeoentomology

Introduction

Carabids (ground beetles) probably originated in the Mesozoic. Oldest fossils have appeared in the Triassic of Virginia (USA) (Grimaldi & Engel 2005). At present they are widely distributed being present in all continents but Antarctica. The family Carabidae is a speciose group with more than 34000 described species (Lorenz 2005). Although amber carabid fossils are known from the Tertiary only a small number of species have been described, three of them from Baltic amber: Yablokov-Khinzoryan (1960) described *Dyschiriomimus stackelbergi* (Scaritinae), Abdullah (1969) described *Dromius bakeri* (Lebiinae) and Erwin (1971) described *Tarsitachys bilobus* (Trechinae).

There are some other descriptions in classic literature (XIX century) but they must be regarded with caution as they were never redescribed and type material is lost; for a complete list see Larsson (1978).

Oldest lineages of carabids seem to be tropical (Erwin 1985). However, in the Cenozoic, modern lineages appeared and produced most of present diversity. The specimen studied in this paper belongs to this modern radiation.

Several tribes are included in the subfamily Platyninae. One of them, Sphodrini, has a Holarctic distribution (Jeannel 1942). Its diagnosis is mainly based on genitalic features to separate it from related tribes (Lindroth 1956; Casale 1988; Machado 1992). However its systematics is controversial and some authors consider it as a tribe while others prefer to consider it as a subtribe. In this paper we follow Hovorka & Sciaky (2003) who consider it as a tribe divided in six subtribes, being *Calathina* the most widely distributed (Casale 1988: 933). *Calathina* includes the genus *Calathus* Bonelli, 1810 with 129 Palearctic species (Hovorka & Sciaky 2003) and 22 Nearctic species (20 endemic and 2 introduced) (Ball & Nègre, 1972). Its distribution is mainly Holarctic but some species have invaded Ethiopic and Oriental regions (Schatzmayer 1937).