



First record of a fossil larva of Hemerobiidae (Neuroptera) from Baltic amber

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Abstract

A fossil larva of Hemerobiidae (Neuroptera) is recorded for the first time from Baltic amber. The subfamilial and generic affinities of this larva are discussed. It is assumed that it may belong to *Prolachlanius resinatus*, the most common hemerobiid species from the Eocene Baltic amber forest. An updated list of extant species of Hemerobiidae with described larvae is provided.

Key words: Insecta, Neuroptera, Hemerobiidae, Baltic amber, Eocene, larva

Introduction

The Hemerobiidae is the most widely distributed family of Neuroptera. Hemerobiid species occur from the subpolar tundra to tropical regions, but with approximately 550 species they are not particularly speciose (Oswald 2007). Their fossil record extends to the Late Jurassic (Makarkin *et al.* 2003); however, records of fossils older than the Eocene are rare. The larvae of Hemerobiidae feed on small arthropods (e.g., aphids, mites) and are often used for pest control. For this reason, the larvae of many species have been described. A list of these species was provided by Gepp (1984). Later, Oswald & Tauber (2001) considerably added to these data. We give here an updated list (Table 1).

The Hemerobiidae are the most common Neuroptera in Baltic amber in terms of specimens after the Nevrothidae and Coniopterygidae, and a most diverse family in terms of number of species. Five species have been described from there (Pictet-Baraban & Hagen 1856; Krüger 1923; Makarkin & Wedmann 2009; Jepson *et al.* 2010), and at least the same number awaits description (see below). Nevertheless, hemerobiid larvae were hitherto unknown from Baltic amber. In this paper we describe a fossil larva of this family for the first time. Although this larva is rather poorly preserved, its general appearance and all preserved details support its hemerobiid affinity.

Material and methods

The amber is from the private collection of Thomas Weiterschan, Höchst im Odenwald, Germany. The photographs were taken by Sonja Wedmann and Thomas Weiterschan using a Leica MZ12.5 stereomicroscope and a Nikon D300 digital camera. Extension of depth of focus was achieved by stacking several photos with a test version of the program Helicon Focus, version 5.2.16 of December 2011. The drawings were prepared by Thomas Weiterschan. The terminology follows MacLeod (1964) and Tauber (1991).

Institutional abbreviations: GZG, Geowissenschaftliches Zentrum der Universität Göttingen [Geoscience Centre of the University of Göttingen], Germany; SMF, Senckenberg Forschungsinstitut und Naturmuseum Frankfurt, Frankfurt am Main, Germany.