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New genus of flea beetle (Coleoptera: Chrysomelidae: Galerucinae: Alticini) from the Upper Eocene Baltic amber

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New genus of flea beetle (Coleoptera: Chrysomelidae: Galerucinae: Alticini) from the Upper Eocene Baltic amber

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Abstract. *Ambraaltica baltica* **new genus** and **new species** (Chrysomelidae: Galerucinae: Alticini) is described from Upper Eocene Baltic amber. It is illustrated and compared to recent flea beetle genera and genera known from fossil resins.

Key words: flea beetles, Baltic amber, new genus, new species

Introduction

Flea beetles (Alticini) are one of the most species rich family group taxa in leaf beetles (Chrysomelidae) with about 12,000 available species names speared over about 900 available generic names. Most flea beetles feed on foliage of various, mostly angiosperm, plants. They occur virtually everywhere with the largest diversity concentrated in tropical environments of Asia, Africa and South America.

Representatives of Alticini were recorded from Baltic amber (Russia and Poland), Chiapas amber (Mexico), Dominican amber (Dominican Republic), Oise amber (France), and Rovno amber (Ukraine). Twelve flea beetle species of nine genera are known from fossil resins (Bukejs and Nadein 2013; Gressitt 1971; Moseyko et al. 2010; Nadein and Perkovsky 2010; Santiago-Blay et al. 2004). Their list is provided in Bukejs and Nadein (2013). Most such records contain a generic or higher taxon attribution, with no detailed species descriptions (Hieke and Pietrzeniuk 1984; Klebs 1910; Kubisz 2000, 2001; Santiago-Blay 1994; Santiago-Blay and Craig 1999; Santiago-Blay et al. 1996; Spahr 1981; etc.). Until now, only a single species – *Psyllototus doeberli* Bukejs and Nadein, 2013 is known from Baltic amber.

Baltic amber is mainly found on the southern coasts of the Baltic Sea and originates from the Eocene. Although an early Middle Eocene (Lutetian) age has been estimated for the Baltic amber-bearing sediments by K-Ar dating (Ritzkowski 1997), palynological biostratigraphy supports a younger, Upper Eocene (Priabonian) determination of the Prussian formation (Aleksandrova and Zaporozhets 2008). A detailed discussion of the stratigraphic basis for the age of Baltic amber deposits can be found in Perkovsky et al. (2007). According to Turkin (1997) Baltic amber was produced by *Pinus succinifera* (Conw.) Schub., which together with oak in the Eocene dominated the humid mixed forests cover of Northern and Central Europe. So far 434 species of Coleoptera belonging to 287 genera (149 extinct and 138 recent) have been described from Baltic amber (Alekseev 2013).

Material and methods

Descriptive terminology follows Konstantinov (1998). Observations were made with a Zeiss Stemi SV11 Apo microscope with Plan-Apochromat S 1.6x. Photographs were taken with Axiovision software

and Zeiss AxioCam HRc camera attached to a Zeiss Discovery V.20 stereomicroscope with Sycop motorized zoom and focus and a PlanApo S 1.0x objective.

***Ambraaltica* new genus Konstantinov and Bukejs**

(Figures 1 – 4)

Description. Body elongate, length 1.79 mm, width 0.94 mm. Color black without metallic luster. Legs and antenna dark chestnut brown.

Head with antennal callus well developed. Supracallinal sulci straight, well visible. Interocular space 1.75 times as wide as transverse diameter of eye. Interantennal space about as equal to transverse diameter of eye. Frontal ridge sharp distally. Antenna with 11 antennomeres, reaching about middle of elytra.

Pronotum 1.94 times wider than long, with deep transverse antebasal impression. Impression curved. Sides straight, parallel to each other. Anterolateral callosity relatively long, situated at about 45° to longitudinal body line, with posterior corner sharply angulate. Anterior pore situated near basal margin and near posterior pore. Posterolateral callosity with seta, not protruding. Basal margin with slightly extended lobe in middle.

Mesoscutellum small, flat, and triangular. Elytra 1.3 times as long as wide, with maximum width near mid-length. Humeral callus present. Elytral apex narrowly rounded. Elytral punctures arranged in regular rows placed in shallow furrows laterally. Hind wings present.

Pro- and mesofemora more or less cylindrical. Pro- and mesotibiae round in cross section. Metafemur only slightly enlarged. Metatibia nearly straight in lateral view, slightly excavated before apex, 8.07 times as long as wide, without serration on the outer edge. Claw appendiculate (Fig. 5, 13). Third tarsomere with indentation in middle. First metatarsomere 1.9 times as long as metatibia and as long as three following tarsomeres together.

Abdomen with five visible distinct sternites.

Discussion. Among flea beetles known from fossil resins, *Ambraaltica* is similar to *Manobiomorpha* Nadein (Nadein and Perkovsky 2010) in the shape of the pronotum, including the antebasal transverse impression and the shape of the anterolateral callosity. *Ambraaltica* can be easily separated from *Manobiomorpha* by the shape of the first metatarsomere, it is as long as 3 following tarsomeres together while it is only slightly longer than second metatarsomere in *Manobiomorpha*. The comparative length of the first metatarsomere is a well-known, reliable generic level character (Konstantinov and Vandenberg 1996) known to occur in *Longitarsus* Latreille, *Horaia* Chujo, *Ogloblinia* Csiki and a few other recent mostly Oriental genera. However, *Ambraaltica* can be immediately separated from all of them based on the shape of the pronotum with its nearly parallel lateral sides, the elytral striae placed in a shallow furrow laterally and the shape of the metatibial apex, which is nearly cylindrical [the apex is flat (*Longitarsus*) to excavated (*Horaia* and *Ogloblinia*)].

Type species. *Ambraaltica baltica* Konstantinov and Bukejs

Etymology. This genus name is derived from the word “ambra” meaning amber in Medieval Latin and the name of the type genus of the tribe (*Altica*) to which the genus belongs. The name is feminine.

***Ambraaltica baltica* new species Konstantinov and Bukejs**

(Figures 1 – 4)

Diagnosis. Body length 1.79 mm, width 0.94 mm. Color black without metallic luster. Legs and antenna dark chestnut brown. Proportions of antennomere lengths: 8:5:5:5:5:4:6:6:6:6:9. Proportions of pro- and mesotarsomere lengths: 8:5:4:6. Metatibia slightly constricted in apical one fourth, widening and tapering towards apex. First pro- and mesotarsomeres as wide as length of second pro- and mesotarsomeres. Proportions of metatarsomere lengths: 11:4:4:6. First metatarsomere as wide as second metatarsomere.

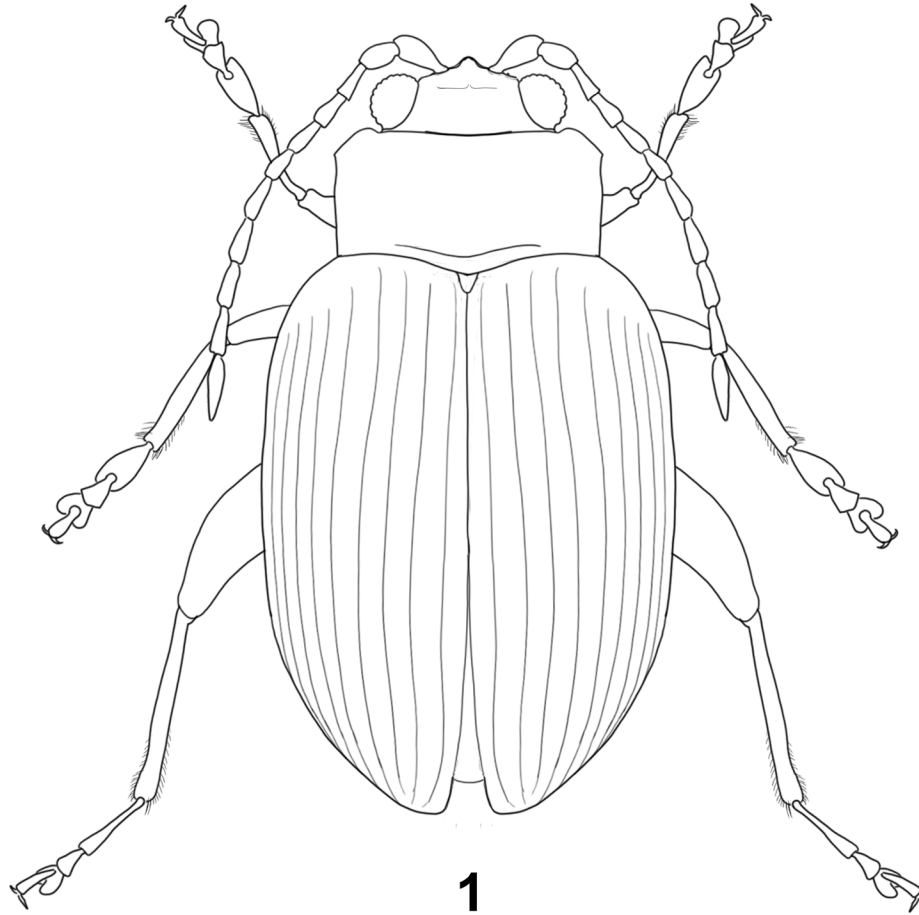


Figure 1. *Ambraaltica baltica* new species, dorsal habitus, reconstruction.

Material examined. Holotype: “Nr. AB 008”; male; deposited in the private collection of A. Bukejs (Daugavpils, Latvia). The holotype will be deposited in the Institute of Systematic Biology, Daugavpils University (Daugavpils, Latvia) for permanent preservation. The complete beetle is included in a small and thin elongate amber piece is 22 mm long, 12 mm wide and 3 mm thick. Syninclusions are absent.

Type strata. Baltic Amber, Upper Eocene, Prussian Formation.

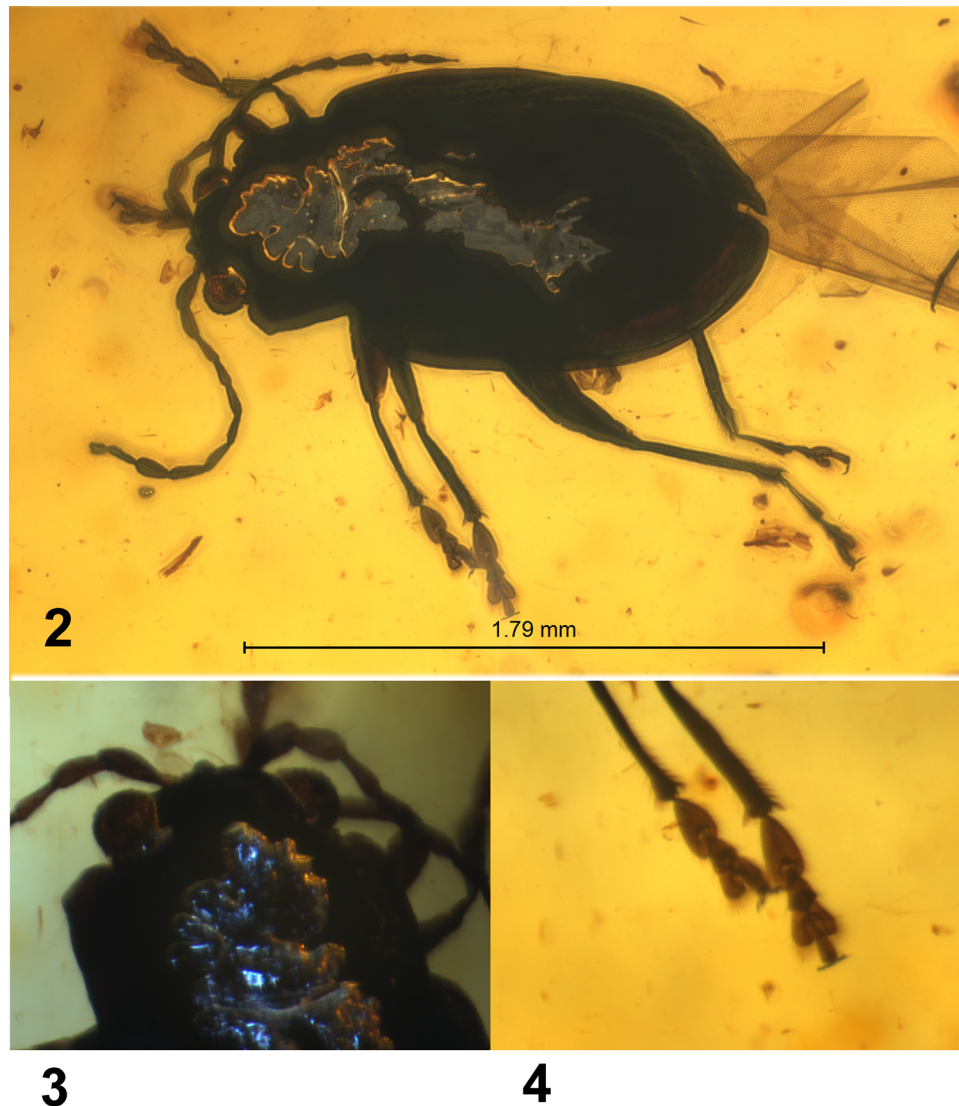
Type locality. Baltic Sea coast, Yantarny village [formerly Palmnicken], Kaliningrad Region, Russia.

Etymology. The specific epithet refers to the place of the specimen origin.

Comments. The shape of the first of pro- and mesotarsomeres suggest that the holotype is male.

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Figures 2-4. *Ambraaltica baltica* new species. 2) Dorsal habitus. 3) Head and pronotum. 4) Front and middle legs.

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