

A new species of the genus *Archaeocallirhopalus* Legalov (Coleoptera: Curculionidae, Entiminae) in Baltic amber

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Legalov, A. A. & Bukejs, A. 2015: A new species of the genus *Archaeocallirhopalus* Legalov (Coleoptera: Curculionidae, Entiminae) in Baltic amber. — Entomol. Fennica 26: 25–29.

Archaeocallirhopalus alekseevi sp. n. is described and illustrated from the Baltic amber of Kaliningrad Region, Russia. The new species is similar to *A. larssoni* Legalov, 2013 but differs in the smaller body, forehead without strong tubercles over the eyes and a narrower scape. The genus *Archaeocallirhopalus* Legalov, 2013, **placem. n.** is transferred from tribe Cneorhinini to the tribe Trachyphloeini.

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Received 14 July 2014, accepted 29 October 2014

1. Introduction

The tribe Trachyphloeini is a small monophyletic group of soil-living weevils with more than 500 species in excess of 20 genera that is widespread in all biogeographical regions (Alonso-Zarazaga & Lyal 1999, Borovec 2014). Except for an old record of a genus *Trachyphloeus* Germar, 1817 in Baltic amber (Klebs 1910) (that may be incorrectly identified), fossil forms of Trachyphloeini were unknown until now.

Below we describe the second representative of the tribe Trachyphloeini from Upper Eocene Baltic amber.

2. Material and methods

The Baltic amber mines are located along the Baltic Sea coast at the Amber quarry of Yantarny near Kaliningrad (formerly Königsberg) in the Kaliningrad region (Russia). Amber from this de-

posit probably was produced by *Pinus succinifera* (Goepfert) Conwentz (Schubert 1961). Baltic amber from this Prussian Formation is dated from the Upper Eocene (Grigialis *et al.* 1971), although sometimes it is considered older (even Lowermost Eocene) (Weitschat and Wichard 2010).

The type specimens belong to the following collections: ACAB – private collection of Andris Bukejs (Latvia: Daugavpils), and ISEA – Institute of Systematics and Ecology of Animals (Russia: Novosibirsk).

Descriptions and photographs were taken using the Zeiss Stemi 2000-C dissecting stereomicroscope.

3. Description of *Archaeocallirhopalus alekseevi* sp. n. (Figs. 1–5)

Type material. Holotype: no. 022, male, depos-



Fig. 1. Lateral (right) view of *Archaeocallirhopalus alekseevi* **sp. n.** (holotype). Scale bar = 1 mm.

ited in ACAB. Paratype: no. BA2012/13, female, deposited in ISEA.

Diagnosis. This new species is similar to *A. larssoni* Legalov, 2013 but differs in a smaller body, forehead without strong tubercles over the eyes and a narrower scape.

Description. Male. Body length (without rostrum) 3.3 mm; rostrum length 0.5 mm.

Body black, with short, wide, very dense, grey-brown contiguous scales, appearing silvery shiny due to the presence of cavities between specimen and internal surface of its impression.

Head. Rostrum short, wide, 0.8 times as long as pronotum, equal in length and width, with almost straight sides, nearly straight, densely punctate, with two weak striae forming angle at base, epistomus almost bare, pterygia developed; scrobes visible dorsally, directed toward eyes, base with weak transverse stria; forehead wide, weakly flattened, coarsely punctate, with median stria but without tubercles on either side; eyes small, rounded, weakly convex; vertex weakly flattened, punctate; temples short, 0.5 times as long as eye, punctate; antennae inserted at first third of rostrum laterally; antennae long, reaching elytral humeri; scape 3.7 times longer than width, with dense contiguous and sparse decumbent scales, almost equal in length to flagellum; antennomeres conical, with dense scales and sparse long dark semierect setae; 1st antennomere 2.2 times longer than wide, 0.2 times as long and 0.4 times as wide as scape; 2nd antennomere 2.5 times longer than wide, 0.9 times as long and 0.8 times as wide as 1st antennomere; 3rd antennomere

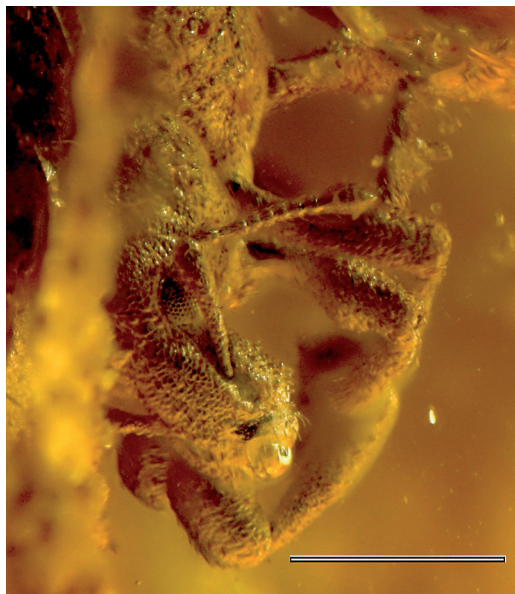


Fig. 2. Lateral view of head of *Archaeocallirhopalus alekseevi* **sp. n.** (holotype). Scale bar = 1 mm.



Fig. 3. Dorsal view of *Archaeocallirhopalus alekseevi* **sp. n.** (paratype). Scale bar = 1 mm.



Fig. 4. Lateral (left) view of *Archaeocallirhopalus alekseevi* sp. n. (paratype). Scale bar = 1 mm.

1.4 times longer than wide, 0.5 times as long and 0.9 times as wide as 2nd antennomere; 4th – 6th antennomeres subequal to 3rd antennomere; 7th antennomere 1.3 times longer than wide, almost equal in length and 1.1 times as long as 6th antennomere; club compact, 0.4 times as long as flagellum, 1.8 times longer than wide, with fused antennomeres, weakly acuminate.

Pronotum. Pronotum transverse, slightly shorter than elytral base; disk narrowed at apex and at base, densely punctate, with weak longitudinal bare line and weak ocular lobes.

Mesonotum. Scutellum reduced.

Elytra. Elytra weakly elongate and convex, 3.6 times as long as pronotum; greatest width behind middle; humeri completely flattened; punctured striae regular and distinct; punctures oval, small and dense; intervals weakly convex, 4.0–7.0 times as wide as striae, with middle row of short decumbent narrow scales.

Thorax. Prosternum punctate; precoxal part of prosternum weakly elongate, equal in length to procoxa length; procoxal cavities round, joined; postcoxal part of prosternum short, 0.4 times as long as procoxa length; mesocoxal cavities rounded, narrowly separated; metasternum short, 0.4 times as long as metacoxa length, convex, punctate; metepisternum narrow, barely visibile.

Abdomen. Abdomen flattened in middle; metaventral process as wide as transverse diameter of metacoxa; 1st and 2nd ventrites elongate, equal in length; 1st ventrite 1.2 times as long as



Fig. 5. Ventral view of *Archaeocallirhopalus alekseevi* sp. n. (paratype). Scale bar = 1 mm.

metacoxa; 3rd and 4th ventrites short, equal in length; 3rd ventrite 0.4 times as long as 2nd ventrite; 5th ventrite 3.2 times as long as 4th ventrite.

Legs. Legs long, with dense, broad scales and contiguous sparse elongate setae; femora weakly clavate, without teeth; profemur length/width ratio 2.7; mesofemur length/width ratio 2.9; metafemur length/width ratio 3.6; trochanter conical; tibiae almost straight, weakly flattened, widened at apices, with apical dark setose fringe; metatibial corbels closed; protibia length/width ratio 4.2; metatibia length/width ratio 5.1; tarsi long, with thick light erect setae dorsally; 1st and 2nd tarsomeres triangular; 3rd tarsomere widely bilobed; 5th tarsomere elongate; claws large, free, without teeth; mesotarsi: 1st tarsomere barely wider than long; 2nd tarsomere 0.8 times longer than wide, 0.8 times as long and wide as 1st tarsomere; 3rd tarsomere 0.8 times longer than wide, 1.4 times as long and 1.3 times as wide as 2nd tarsomere; 5th tarsomere 3.6 times longer than wide, 1.4 times as long and 0.3 times as wide as 3rd tarsomere.

Female. Body length (without rostrum) 3.3 mm; rostrum length 0.6 mm.

Head. Rostrum 0.7 times as long as pronotum, equal in length and width; temples 0.7 times as long as eye.

Pronotum. Pronotum 1.4 times longer than wide at apex, 0.7 times longer than wide in middle, 0.8 times longer than wide at base.

Elytra. Elytra 3.1 times as long as pronotum, 2.1 times longer than wide at apex, 1.5 times longer than wide in middle, 2.9 times longer than wide at apical fourth; greatest width behind middle; intervals 4.5–6.7 times as wide as striae.

Thorax. Precoxal part of prosternum 0.9 times as long as procoxa length; postcoxal part of prosternum 0.6 times as long as procoxa length.

Abdomen. 1st and 2nd ventrites weakly convex, equal in length; 1st ventrite 1.1 times as long as metacoxa length; 3rd–5th ventrites flattened; 3rd and 4th ventrites equal in length; 3rd ventrite 0.2 times as long as 2nd ventrite; 5th ventrite 3.3 times as long as 4th ventrite.

Legs. Profemur length/width ratio 2.7; mesofemur length/width ratio 3.4; metafemur length/width ratio 3.2; protibia length/width ratio 7.0; mesotibia length/width ratio 7.0; metatibia length/width ratio 5.4; mesotarsi: 1st tarsomere 1.6 times longer than wide; 2nd tarsomere 0.7 times longer than wide, 0.6 times as long and 1.4 times as wide as 1st tarsomere; 3rd tarsomere 0.7 times longer than wide, 1.4 times as long and 1.4 times as wide as 2nd tarsomere; 5th tarsomere 3.0 times longer than wide, 1.7 times as long and 0.4 times as wide as 3rd tarsomere; metatarsi: 1st tarsomere 1.4 times longer than wide; 2nd tarsomere 0.9 times longer than wide, 0.7 times as long and 1.1 times as wide as 1st tarsomere; 3rd tarsomere 0.8 times longer than wide, 1.4 times as long and 1.5 times as wide as 2nd tarsomere; 5th tarsomere 3.8 times longer than wide, 1.5 times as long and 0.3 times as wide as 3rd tarsomere.

Type locality and type strata. Amber mines located along the Baltic Sea coast and Yantarny Amber quarry near Kaliningrad (formerly Königsberg), Kaliningrad region, Russia; Upper Eocene, Prussian Formation.

Etymology. The name of this new species is dedicated to our dear colleague, Dr. Vitalii I. Alekseev (Kaliningrad, Russia).

4. Discussion

Some representatives of the tribe Cneorhinini (particularly with small bodies) are similar to representatives of the tribe Trachyphloeini and their taxonomic position is sometimes interpreted incorrectly (Zherikhin & Egorov 1991). The tribe Trachyphloeini is characterized by closed metatibial corbels, and the tribe Cneorhinini is characterized by open metatibial corbels (vertically divided into two parts) as Borovec (2009) noted. This character was poorly studied in the genus *Archaeocallirhopalus* (Legalov 2013). For this study, metatibial corbels were observed in detail in the holotype of *Archaeocallirhopalus larssoni* Legalov, 2013 and the type specimens of *A. alekseevi* sp. n. We concluded that both species have closed corbels on the metatibiae, and therefore this genus belongs to the tribe Trachyphloeini. The genus *Archaeocallirhopalus* differs from the genus *Cathormiocerus* Schoenherr, 1842 by having the anterior margin of the pronotum with ocular lobes and the metaventral process as wide as the transverse diameter of the metacoxae. It can be differentiated from the genus *Pseudocneorhinus* Roelofs, 1873 by the weak ocular lobes and free claws. *Archaeocallirhopalus* is habitually similar to the genus *Callirhopalus* Hochhuth, 1851 (Cneorhinini) but differs in closed metatibial corbels and a pronotum with ocular lobes.

Weevils of the subfamily Entiminae are quite abundant in the Baltic amber. Ten species from 6 genera of the tribes Polydrusini, Anypotactini, Naupactini, Sciaphilini and Trachyphloeini have been described (Yunakov and Kirejtshuk 2011, Legalov 2012, 2013). Entiminae comprise approximately one third of the Baltic amber Curculionidae. The genera *Sitona* Germar, 1817 (Sitonini) and *Phyllobius* Germar, 1824 (Phyllobiini) have also been recorded (Klebs 1910).

Acknowledgements. The authors thank Dr. Alexander S. Konstantinov (National Museum of Natural History, Washington, U.S.A.) for linguistic suggestions for the earlier version of the manuscript, and Dr. Vitalii I. Alekseev (Kaliningrad, Russia) for constructive advice. The study was partially supported by the Federal Fundamental Scientific Research Programme for 2013–2020, Project No. VI.51.1.7.

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