

## New fossil soldier beetle (Coleoptera: Cantharidae) from Baltic amber

Vitalii I. Alekseev, Sergey V. Kazantsev

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The fossil soldier beetle *Curche pauli* gen.nov., sp.nov. is described from Baltic amber. The new taxon is compared with the morphologically close extant and fossil ones.

Key words: Baltic amber, Eocene, Silinae, *Curche pauli*

Vitalii I. Alekseev. Department of Zootechny, FGBOU VPO “Kaliningrad State Technical University”, Sovetsky av. 1. 236000 Kaliningrad, Russia. E-mail: alekseew0802@yahoo.com

Sergey V. Kazantsev. Insect Centre, Donetskaya str. 13-326, Moscow, Russia. E-mail: kazantss@mail.ru

### INTRODUCTION

The subfamily Silinae Mulsant, 1862 is distributed worldwide, but the regions of the present-day tropical Southeastern Asia and Central and South America are especially rich in species. Representatives of the subfamily are known from Eocene Baltic amber (Klebs 1910; Kazantsev 2013), but only one extinct genus of the subfamily is described till now: *Electrosilis* Kazantsev, 2013.

In this paper, one new species of Silinae, assigned to the new genus *Curche* gen.nov., is described and illustrated from Baltic amber.

### MATERIAL AND METHODS

The amber piece with the beetle inclusion was obtained from a commercial source in Kaliningrad in 2013. The piece was polished by hand and

faceted on three sides allowing improved views of the included specimen. Photos were taken with a Zeiss AxioCam ICc3 digital camera attached to a Zeiss Stemi 2000-c stereomicroscope. Illustrations were made based on free-hand drawing during examination of the original specimen. The drawings were scanned and edited using Adobe Photoshop CS8.

### SYSTEMATICS

**Family Cantharidae Imhoff, 1856 (1815)**

**Subfamily Silinae Mulsant, 1862**

**Tribe Silini Mulsant, 1862**

**Genus *Curche* Alekseev & Kazantsev gen.nov.**

**Type species *Curche pauli* Alekseev & Kazantsev sp.nov.**

**Diagnosis.** The new fossil genus may be referred to the tribe Silini due to a combination of morphological characters (such as: head in front of

eyes wider than long; pronotum transverse with large pores and lateral margin characteristically modified, tibial spurs conspicuous, ultimate ventrite greatly reduced in width with penultimate deeply incised). *Curche* gen.nov. may be distinguished from the extant genera *Silis* Charpentier, 1825 and *Autosilis* Kazantsev, 2011, to which it seems to be related: from the former by the lateral pronotal structures, more reminiscent of those of *Autosilis*, and from the latter by the additional anterior incision and angular process in the pronotal lateral margin and by the conspicuously narrowed ultimate ventrite. *Curche* can be easily differentiated from the other fossil siline from Baltic amber, *Electrosilis minuta* Kazantsev, 2013, by the body size (*Electrosilis* is 2.1 mm long), shape of pronotum (not modified in *Electrosilis*) and structure of the antennae, e.g., pedicel (2<sup>nd</sup> antennomere) in *Electrosilis* is about as long as antennomere 3 and subsequent antennomeres and distinctly shorter in *Curche*. **Etymology.** The name of the new genus is a theonym and derived from Curche (Curcho, Kurche, Kurkas) - the name of the god from the Old Prussian mythology (the god of crop-producing power, crop and food). The gender is masculine.

**Remarks.** The area of the frons and clypeus is not well visible because of milky foam, first ventrite is not visible because of the legs position.

***Curche pauli* sp. nov.**  
(Figs. 1-5)

**Material examined:** Holotype: Nr. AWI-100, male; deposited in the private collection of the first author (Kaliningrad, Russia). The type will be deposited in the Paleontological Institute, Russian Academy of Science (Moscow) for permanent preservation. The beetle is included in a polished piece of transparent amber with a yellow shade. The amber was not subjected to any fixation. Measurements of the amber piece of the irregular form are 20 mm x 10 mm x 8 mm. This

amber piece also contains a spider, 3.7 mm in length.

**Type strata:** Baltic Amber. Eocene.

**Type locality:** Baltic Sea coast, Yantarny settlement [formerly Palmnicken], Kaliningrad region, Russia.

**Diagnosis.** As for genus (see above).

**Description.** Length (from anterior head margin to end of elytra): 7.2 mm. Width (humeraly): 2.5 mm. Alate, flattened, elongate (Figs. 1-3). Body (head, elytra, ventrally) black; pronotum, ventrites distally, legs, head appendages reddish brown (it is possible that these body parts were red or orange in lifetime.).

Head (Fig. 1) transverse, exposed. Eyes hemispherical. Interocular dorsal distance ca. 2.5 times greater than eye diameter. Palps slender; ultimate palpomeres elongate, flattened, triangular. Ultimate maxillary palpomere ca. 1.8 times longer than wide, widened distally. Antenna 11-segmented, relatively long, attaining to 3/4 of elytra, filiform; pedicel (antennomere 2) short, as long as wide, about three times shorter than first or third antennomere; pubescence on antennomeres 3–11 short and scarce.

Pronotum transverse (at least 1.6x as wide as long), broad, with modified lateral sides (angular process, lobes and long acute lateral triangle) and two deep, symmetrical and rounded pronotal depressions (Fig. 1). Prosternum short. Scutellum triangular, rounded at apex. Elytra elongate (1.7x as long as wide), slightly convex, parallelsided, rounded apically, with irregular rows of punctures. Punctuation coarse, dense. Elytra with short, uniform, semirecumbent pubescence. Epipleuron absent. Metathoracic wings fully developed.

Legs (Fig. 4) relatively long and slender; hind coxae elongate and subapproximate; trochanters oval and comparatively large; femurs and tibiae straight, tibiae narrow, subequal in length to femurs; tibial spurs conspicuous; tarsomeres 1–3 narrow, seemingly without plantar pads,

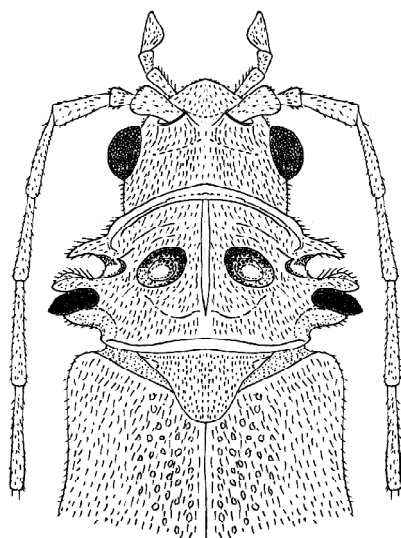


Fig. 1. *Curche pauli* gen. nov., sp. nov. Forebody



Fig. 2. *Curche pauli* gen. nov., sp. nov. Holotype. Dorsal view

tarsomere 4 deeply incised; metatarsomere 1 longer than metatarsomere 2 and shorter than metatarsomeres 3–5 combined. Claws appendiculate. Abdomen with eight ventrites, seventh ventrite with U-shaped incision; eighth ventrite greatly reduced in width (Fig. 5).



Fig. 3. *Curche pauli* gen. nov., sp. nov. Holotype. Ventral view



Fig. 4. *Curche pauli* gen. nov., sp. nov. Holotype. Hind leg

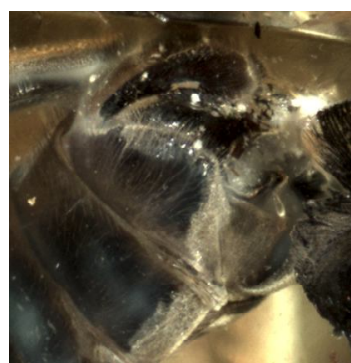


Fig. 5. *Curche pauli* gen. nov., sp. nov. Holotype. Abdominal apex. Vento-lateral view

**Etymology.** Patronymic, specific epithet is derived from the name of the senior author's brother, Pavel I. Alekseev (Sankt-Petersburg, Russia), in appreciation of his kind assistance over a long period of time.

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**Remarks.** Female of the new species is unknown. Sexual dimorphism is supposed.

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