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A new species of the enigmatic genus *Kuskaella* Fanti & Kupryjanowicz, 2017 (Coleoptera, Cantharidae) from Baltic amber

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Kuskaella petriolii n. sp. is described and illustrated. Comparative characters with the other species of the fossil genus *Kuskaella* Fanti & Kupryjanowicz, 2017 are added.

Key words**:** fossil, soldier beetle, new taxon, succinite.

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INTRODUCTION

Members of the subfamily Malthininae Kiesenwetter, 1852 show almost uniform characters: size small, elytra often shortened, last maxillary palpomere globular and apically pointed, midline of metasternum short and not bifurcate, basal piece of aedeagus strongly chitinized and forming a ventral plate (Brancucci 1980). The extinct genus *Kuskaella* Fanti & Kupryjanowicz, 2017 was described to accommodate in this subfamily species showing elongated elytra and a peculiar shape of the aedeagus. It includes only two species (Fanti & Kupryjanowicz 2017; Fanti & Damgaard 2018), both described from Baltic amber. A third member of this genus is described in the present note.

MATERIAL AND METHODS

The amber piece was re-polished in order to highlight all surfaces and both dorsal and ventral side of the specimen. Observations were made using a Carton stereomicroscope with 08-40x eyepieces and an Antares Geminar 3 stereomicroscope equipped with a micrometer system. Pictures were taken using a Nikon D80 camera mounted on a Nikon SMZ-U zoom 1:10 microscope. Tables were processed with PhotoImpact Viewer SE software. Terminology and systematic attribution follow Brancucci (1980) and Fanti & Kupryjanowicz (2017).

SYSTEMATIC PALAEONTOLOGY

Cantharidae Imhoff, 1856
Malthininae Kiesenwetter, 1852
Tribe *incertae sedis*
***Kuskaella* Fanti & Kupryjanowicz, 2017**

***Kuskaella petriolii* sp. nov.**
(Figs. 1–3)

Holotype. Male, Baltic amber, ex coll. W. Lewita (Gdańsk, Poland), F. Fanti coll., access code BaA06RU.

The amber piece is nearly shaped like a half-moon and measures approximately 26 x 10 mm. The inclusion is complete, except for the left antenna totally missing. The mandibles are covered by turbidity and not visible.

Type locality

Gdańsk Bay - Sambian Peninsula.

Syninclusions

One Scirtidae (Coleoptera), two Dipterans, two Heteropteran neanids, an indeterminable disarticulated insect, air bubbles, botanical remains, and stellate hairs.

Differential diagnosis

Kuskaella petriolii n. sp. is easily distinguishable from *K. bajerae* Fanti & Damgaard, 2018 and *K. macroptera* Fanti & Kupryjanowicz, 2017 by its last maxillary palpomere without an elongated tip at the apex (with a more or less elongated point in the other species). Furthermore, it differs from both species in its pronotum, sub-rectangular with straight sides instead of apically narrowed from the basal half, as in *K. bajerae*, or abruptly (male) or gradually (female) narrowed from the basal third, as in *K. macroptera*. Finally, *Kuskaella petriolii* n. sp. differs from *K. bajerae* in its longer antennomeres.

Description

Adult, winged, slender. Male, based on the long antennae and the last sternite elongated and narrower than last tergite. Body length about 5.8 mm. Entirely brown.

Head exposed, wide and broad, as wide as pronotum, slightly triangular behind eyes, covered with shallow dense punctation. Mandibles not visible. Maxillary palpomeres unequal; first segment very short, second elongated and globular; third small and short; last palpomere globular, apically thinner, without elongated point. Labial palps 3-segmented, last palpomere globular. Eyes large, roundish, prominent. Antennae 11-segmented, filiform, long, almost reaching the elytral apex; covered with short sparse setae; scape long, club-shaped; pedicel robust and more than two times shorter than scape; antennomeres III-IX very elongate, sub-equal, almost as long as scape; antennomere X very slightly shorter than previous ones; antennomere XI elongate with rounded apex.

Pronotum transverse, sub-rectangular, slightly convex; apical margin straight and very slightly bordered; basal margin undulate; sides straight and bordered; surface wrinkled, covered with shallow dense punctation and with a small depression near the middle of the basal margin. Scutellum triangular with rounded apex.

Elytra long, slender, slightly wider than pronotal base and slightly surpassing the last abdominal segment, parallel-sided, rounded at apex, surface wrinkled and covered with short recumbent setae. Posterior wings as long as elytra and com-

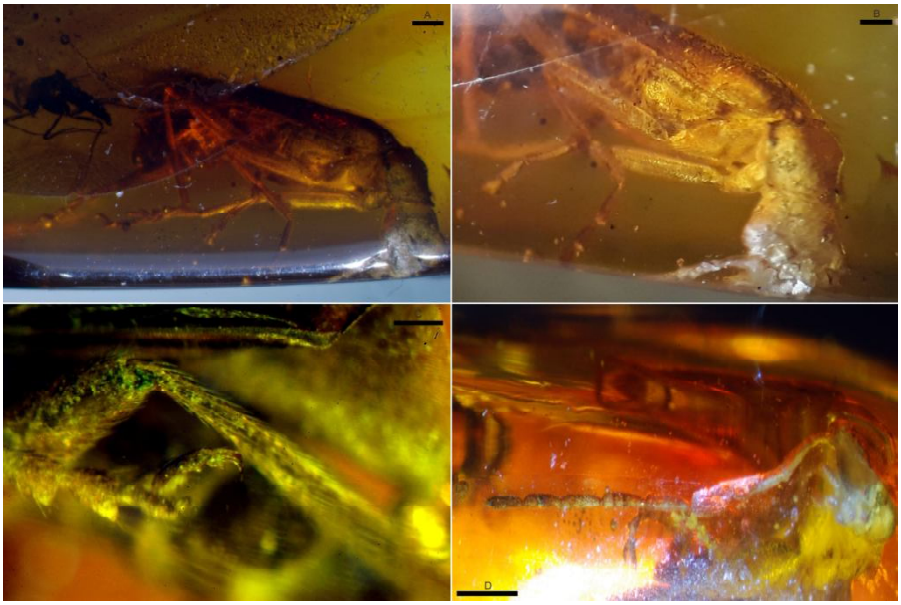

Fig. 1. *Kuskaella petriolii* n. sp. in Baltic amber (BaA06RU). A: Holotype, habitus (lateral view), scale bar = 500 μm; B: Holotype, habitus (frontal view), scale bar = 400 μm; C: Holotype, detail of tarsomeres and claws, scale bar = 50 μm; D: Holotype, detail of antenna, scale bar = 1.0 mm.

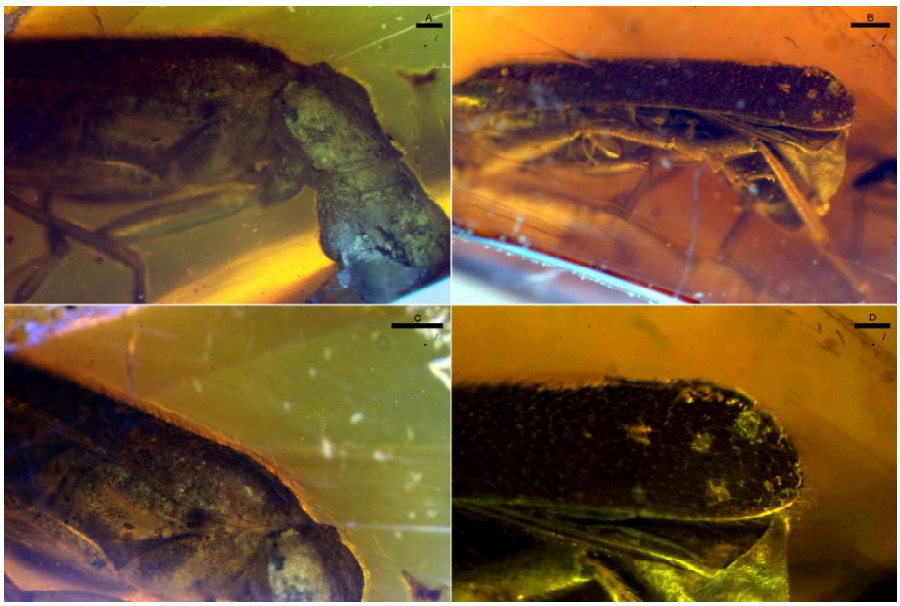

Fig. 2. *Kuskaella petriolii* n. sp. in Baltic amber (BaA06RU). A: Holotype, detail of head and pronotum, scale bar = 100 μm; B: Holotype, detail of elytra (lateral view), scale bar = 500 μm; C: Holotype, detail of humeral zone, scale bar = 500 μm; D: Holotype, detail of elytral apex, scale bar = 400 μm.

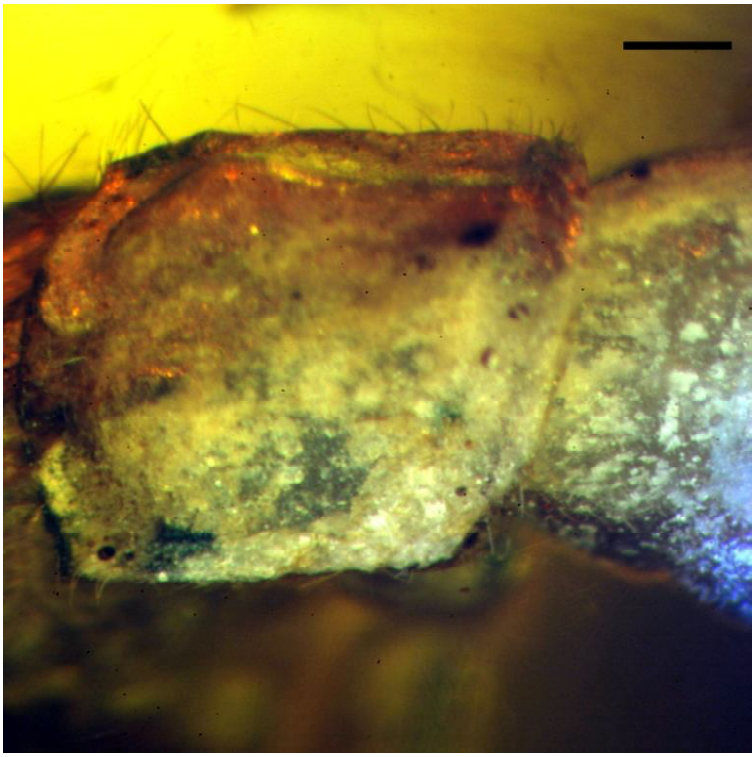

Fig. 3. *Kuskaella petriolii* n. sp. in Baltic amber (BaA06RU). Holotype, detail of pronotum, scale bar = 100 μm.

pletely covered by them except for a small part near the elytral apex.

Sternum sub-quadrate and robust, abdominal segments strongly transverse, pubescence short, last sternite triangular and narrower than last tergite. Aedeagus not visible.

Legs short and robust; coxae extremely massive; trochanteres small, slightly elongated and roundish at apex; femora robust, enlarged, not curved; tibiae cylindrical; protibiae shorter than profemora; mesotibiae as long as mesofemora (or very slightly longer); metatibiae longer than metafemora; tarsal formula 5-5-5; first tarsomere elongated, slightly widened apically and approximately 1.6 times as long as second; second elongated; third shorter than previous; fourth bilobed; fifth elongated and flat; claws simple with a very small obtuse denticle at the base.

Etymology

The new species is dedicated to our friend Andrea Petrioli (Asciano, Italy), specialist of endogenous fauna, especially Carabidae.

Discussion

Mouth characters of *Kuskaella* provide a strong basis to classify this genus in the Malthininae, but the fact that the mandibles are not visible in all known specimens leaves it questionable to its exact systematic position.

In fact, though long elytra are only known in Malchinini Brancucci, 1980, Mimoplatycini Kazantsev, 2013 and some extinct Malthinini Kiesenwetter, 1852 (Brancucci 1980; Kazantsev 2013; Fanti & Castiglione 2017), and the pronotal structure excludes Mimoplatycini, the absence of the mandibular characters does not allow discriminating between the remaining tribes.

In addition, *Kuskaella* shows a peculiar aedeagus with a very elongated lobe, which is rounded-globular at the apex and equipped with a horizontal appendix (Fanti & Kupryjanowicz 2017).

Brancucci (1980) considered Malthininae as the most recently evolved subfamily within Cantharidae, but their subsequent discovery in the Cretaceous Burmese amber (Hsiao *et al*. 2016; Fanti 2017), suggested that this subfamily (Fanti 2019; Kupryjanowicz & Fanti 2019; Parisi & Fanti 2019) is however older than assumed, back-dating even more the origin of Cantharidae.

According to Fanti & Kupryjanowicz (2017), *Kuskaella* could be a specialized genus; however, the elongated elytra and the unspecialized urites make considering this taxon as the basis of the lineage of Malthininae, close to Malchinini, from which it differs in the peculiar aedeagus.

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