

A new *Malthodes* and some other interesting soldier beetles (Coleoptera: Cantharidae) from Late Eocene Rovno amber

Новый *Malthodes* и некоторые другие интересные жуки- мягкотелки (Coleoptera: Cantharidae) из позднеэоценового ровенского янтаря

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Cantharidae, новый вид, янтарь, палеонтология, эоцен, Украина.

ABSTRACT. A new fossil species, *Malthodes rovnoensis* **sp.n.**, is described from the Rovno amber. *Mimoplatycis notha* Kazantsev, 2013 and *Cacomorphocerus* sp. are for the first time signalled from the Rovno amber. A list of the fossil *Malthodes* species, now including seven taxa, is provided.

РЕЗЮМЕ. Из ровенского янтаря описывается новый ископаемый вид, *Malthodes rovnoensis* **sp.n.** *Mimoplatycis notha* Kazantsev, 2013 и *Cacomorphocerus* sp. впервые приводятся из ровенского янтаря. Приводится список ископаемых *Malthodes*, который сейчас включает семь видов.

Introduction

So far six fossil species of the cantharid genus *Malthodes* Kiesenwetter, 1852 have been known [Kazantsev, 2013], five described from the Baltic or Rovno ambers [Kuška & Kupryjanowicz, 2005; Kuška & Kania, 2010; Kazantsev, 2010] and one from the Brunstatt brown coals of Alsace [Förster, 1891]. Another taxon previously referred to this genus, *Malthodes sucinopenninus* Kuška et Kania, 2010, was transferred to *Macrocerus* Motschulsky, 1845 [Kazantsev, 2013].

A possibility to study further Rovno amber specimens from the collection of the Schmalhausen Institute of Zoology in Kiev yielded yet another fossil *Malthodes*. Description of this new taxon is presented below, along with first records of the genera *Mimoplatycis* Kazantsev, 2013 and *Cacomorphocerus* Schaufuss, 1892 in Rovno amber.

Material and Methods

Studied specimens were found in Pugach quarry (Klesov) [Perkovsky et al., 2010], some doubts we have only about the provenance of specimen UA-2286. The amber specimens with the insect inclusions were polished at their sides allowing best dorsal, ventral, anterior and lateral views of the included beetles. For examination and preparing the illustration MSP-1 stereo dissecting microscope with 8x–80x magnification range was used. Photographs were taken with Canon EOS 6D camera and Canon MP-E 65 mm lens. All specimens are deposited in Schmalhausen Institute of Zoology, Kiev (SIZK).

Taxonomy

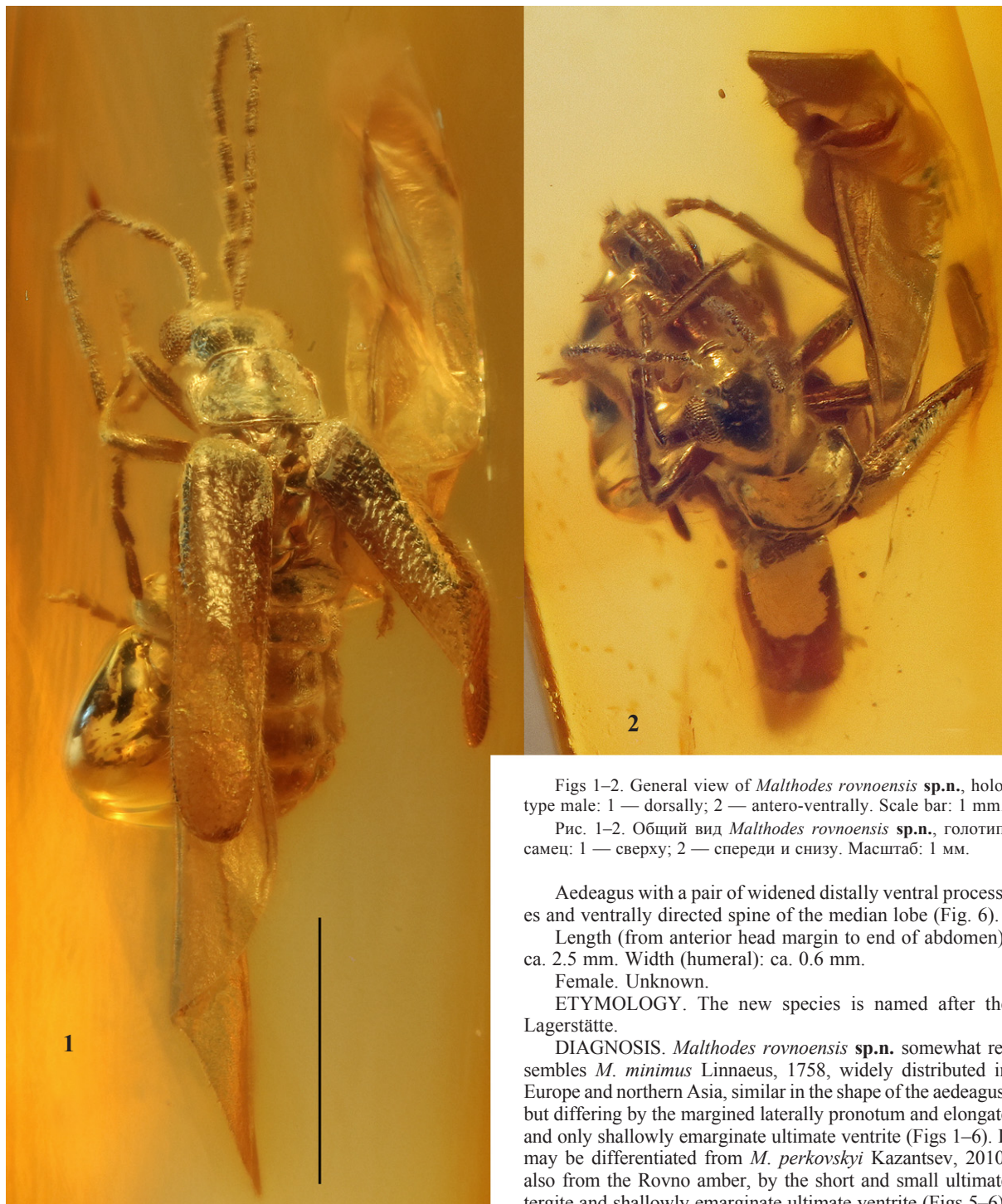
Malthodes rovnoensis Kazantsev et Perkovsky, **sp.n.**
Figs 1–6

MATERIAL: Holotype, ♂, specimen SIZK No. K-25818, Klesov, Rovno amber, Late Eocene. DESCRIPTION. Male. Brownish; head black.

DESCRIPTION. Head noticeably narrowed behind eyes. Eyes relatively small, interocular dorsal distance ca. 1.4 times greater than eye diameter. Terminal palpomeres roundish, distally pointed. Antennae filiform, attaining to elytral apices, with antennomere 3 ca. 1.3 times longer than pedicel (antennomere 2) and subequal in length to antennomere 4; pubescence erect, relatively long (Figs 1–4).

Pronotum transverse, ca. 1.5 times wider than long, almost straight at sides, margined throughout, with almost straight anterior and posterior margins, noticeable anterior and posterior angles (Figs 1–4). Scutellum elongate, triangular, rounded at apex.

Elytra elongate, ca. 3 times longer than wide at humeri, shortened, covering two thirds of abdomen, shining, almost



Figs 1–2. General view of *Malthodes rovnoensis* sp.n., holotype male: 1 — dorsally; 2 — antero-ventrally. Scale bar: 1 mm.

Рис. 1–2. Общий вид *Malthodes rovnoensis* sp.n., голотип, самец: 1 — сверху; 2 — спереди и снизу. Масштаб: 1 мм.

Aedeagus with a pair of widened distally ventral processes and ventrally directed spine of the median lobe (Fig. 6).

Length (from anterior head margin to end of abdomen): ca. 2.5 mm. Width (humeral): ca. 0.6 mm.

Female. Unknown.

ETYMOLOGY. The new species is named after the Lagerstätte.

DIAGNOSIS. *Malthodes rovnoensis* sp.n. somewhat resembles *M. minimus* Linnaeus, 1758, widely distributed in Europe and northern Asia, similar in the shape of the aedeagus, but differing by the margined laterally pronotum and elongate and only shallowly emarginate ultimate ventrite (Figs 1–6). It may be differentiated from *M. perkovskyi* Kazantsev, 2010, also from the Rovno amber, by the short and small ultimate tergite and shallowly emarginate ultimate ventrite (Figs 5–6).

parallel-sided, separately rounded at apices, with large obscure punctures (Figs 1–4).

Legs slender, tibiae straight, slightly longer than femurs; tarsomeres 1–2 narrow, without plantar pad, tarsomeres 3–4 widened, with plantar pad (Figs 1–4).

Ultimate ventrite elongate, slightly concave at sides shallowly and broadly emarginate at apex, penultimate ventrite broad, without lateral processes; ultimate tergite simple, small, very short, penultimate tergite broad, without lateral processes (Figs 5–6).

A list of the currently known fossil members of the genus *Malthodes*, which includes seven species, is presented below.

Genus *Malthodes* Kiesenwetter, 1852

type species *Malthinus marginatus* Latreille, 1806
ceranoviczae Kuška et Kupryjanowicz, 2005: 310. Baltic amber. Late Eocene.

kotejai Kuška et Kupryjanowicz, 2005: 311. Baltic amber. Late Eocene.



Figs 3–4. General view of *Malthodes rovnoensis* sp.n., holotype male: 3 — laterally, left side; 4 — laterally, right side. Scale bar: 1 mm.

Рис. 3–4. Общий вид *Malthodes rovnoensis* sp.n., голотип, самец: 1 — слева; 2 — справа. Масштаб: 1 мм.

obtusus Förster, 1891: 373. Brunstatt brown coals of Alsace. End of Eocene.

perkovskiyi Kazantsev, 2010: 105. Rovno amber. Late Eocene.

rovnoensis Kazantsev et Perkovsky, 2014, sp.n. Rovno amber. Late Eocene.

serafini Kuška et Kupryjanowicz, 2005: 312. Baltic amber. Late Eocene.

sucini Kuška et Kania, 2010: 55. Baltic amber. Late Eocene.



Figs 5–6. Terminal abdominal segments of *Malthodes rovnoensis* sp.n., holotype male: 5 — ventrally; 6 — laterally.

Рис. 5–6. Вершинные сегменты брюшка *Malthodes rovnoensis* sp.n., голотип, самец: 5 — снизу; 6 — сбоку.



Figs 7–9. Details of *Mimoplatycis notha*, male: 7 — general view, dorsally; 8 — same, ventrally; 9 — terminal abdominal segments, ventrally. Scale bar (for Figs 7–8): 1 mm.

Рис. 7–9. Детали строения *Mimoplatycis notha*, самец: 7 — общий вид, сверху; 8 — то же, снизу; 9 — верхние сегменты брюшка, снизу. Масштаб (для рис. 7–8): 1 мм.

Mimoplatycis notha Kazantsev 2013
Figs 7–9

Mimoplatycis notha Kazantsev 2013: 288

MATERIAL: ♂, specimen SIZK No. K-6089, Klesov, Rovno amber, Late Eocene; male, specimen SIZK No. UA-2286, Rovno amber, Late Eocene.

REMARKS. The other two known specimens of this taxon are from the Baltic amber: the holotype — from the Danish amber and the paratype — from the East Baltic amber (Kalinin-grad oblast) [Kazantsev, 2013]. In one of the Rovno amber specimens the abdomen may be observed with greater detail (Figs 7–9), clearly showing six ventrites and allowing to suggest the occurrence of vestiges of the seventh ventrite making up a pair of divided ventral lobes of the aedeagus (Fig. 9).

Cacomorphocerus sp.

MATERIAL: ♂, specimen SIZK No. K-541, Klesov, Rovno amber, Late Eocene.

SYNINCLUSIONS. One Diptera (Chironomidae).

REMARKS. The other known specimens of *Cacomorphocerus* Schaufuss, 1892 originate from the East Baltic amber [Schaufuss, 1892; Kuška & Kania, 2010; Kazantsev, 2013].

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