

Rovnosoma gen. nov. (Hymenoptera, Chalcidoidea, Encyrtidae) from the Late Eocene Rovno Amber

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Abstract—*Rovnosoma gracile* gen. et sp. nov. is described from the amber collection of the Schmalhausen Institute of Zoology of the National Academy of Sciences of Ukraine (Kiev). A short comparative morphological analysis is provided. As all known Encyrtidae of the Late Eocene Rovno amber fauna, the new genus is characterized by long veins of the forewings. Archaic venation is combined in this genus with the presence of filum spinosum, transverse hypopygium not reaching the apex of the metasoma, and three-dentate mandibles. Such a combination of characters allows assigning the new genus to the subfamily Encyrtinae.

Keywords: Encyrtidae, Eocene, Rovno amber, filum spinosum, hypopygium, *Rovnosoma*

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INTRODUCTION

The presence of the filum spinosum among fossil encyrtids was first discovered in *Glaesus gibsoni* Simutnik, 2014 from the Baltic amber (Simutnik et al., 2014). This morphological structure is typical of encyrtids of the subfamily Encyrtinae; it is a row of short, wide setae situated along the distal margin of the linea calva on the disc of the forewing (Pl. 7, fig. 6). It is presumably a part of the wing coupling mechanism, which allows these insects to fix their wings at the moment of jumping.

The specimen containing the holotype of the new encyrtid comes from the Pugach quarry (Klesov, Rovno Region, Ukraine) and is stored in the Schmalhausen Institute of Zoology of the National Academy of Sciences of Ukraine, Kiev (SIZK). General data on the locality and composition of the Rovno amber fauna are provided in reviews by the second author (Perkovsky et al., 2010; Perkovsky and Rasnitsyn, 2013).

The images were taken using a Canon A-510 camera connected to MBS-10 and MBI-9 stereomicroscopes.

SYSTEMATIC PALEONTOLOGY

Family Encyrtidae Walker, 1837

Subfamily Encyrtinae Walker, 1837

Genus *Rovnosoma* Simutnik, gen. nov.

E t y m o l o g y. From the toponym Rovno and the ancient Greek σῶμα (body); neutral gender.

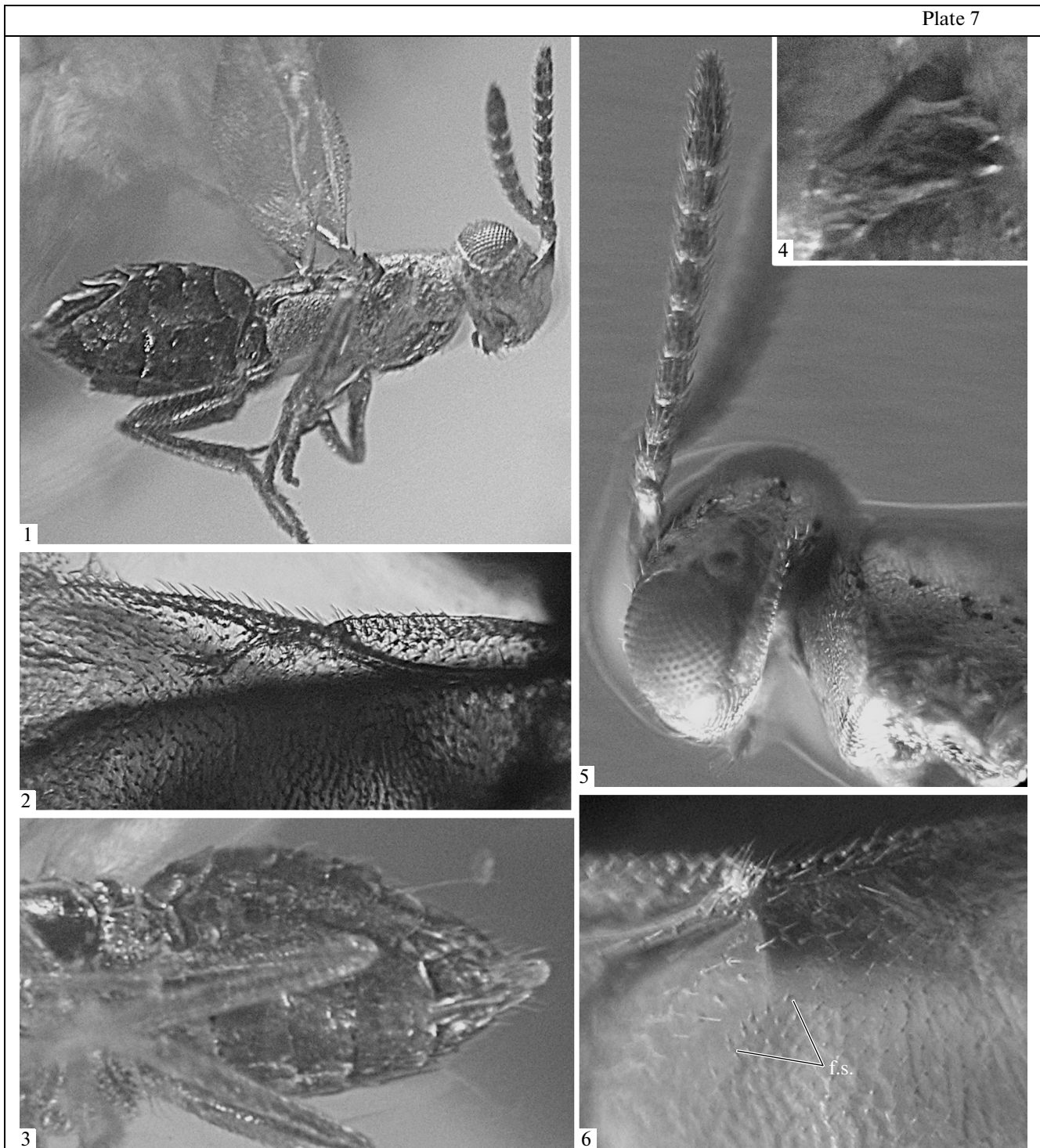
Type genus. *Rovnosoma gracile* sp. nov.

Diagnosis. Female. Body elongate, slightly flattened; head hypognathous, with rounded occipital margin; ocelli in obtuse triangle; eye slightly higher than malar space; scrobal depression rather shallow; antennal cavities situated at level of ventral eye margin; scape slender, almost not dilated, somewhat flattened; funicle six-segmented; pedicel conical, 1.5 times as long as wide and equal in length to first funicular segment; basal funicular segments subequal in length and width, 1.5 times as long as wide; funicle slightly dilating towards apex; distal funicular segment square; clava three-segmented, not wider than distal funicular segment, pointed apically, equal in length to three preceding funicular segments; mandibles tridentate, with short upper tooth. Pronotum short, transverse; mesoscutum flat, without notauli, slightly longer than scutellum; surface of head, mesonotum, and scutellum smooth, shiny, finely reticulate, without deep punctuation; interior axillar angles connected; scutellum triangular, flat; forewing transparent; linea calva with row of setae (filum spinosum) along distal margin; marginal vein thrice as long as wide; apical one-third of submarginal vein without dilation; postmarginal vein twice as long as marginal vein; stigmal vein curved, 1.5 times as long as marginal vein, with long uncus; setae of marginal fringe short; tarsi five-segmented; mesotibial spur thick, equal in length to mid basitarsus. Propodeum short. Metasoma slightly shorter than mesosoma; pygostyles (cerci) positioned close to middle of metasoma (Pl. 7, fig. 1); hypopygium transverse, not reaching metasomal apex (Pl. 7, fig. 3); ovipositor slightly protruding.

Male unknown.

Species composition. Type species.

Plate 7



Explanation of Plate 7

Figs. 1–6. *Rovnosoma gracile* gen. et sp. nov., holotype SIZK, K-7267, female: (1) lateral view; (2) forewing venation; (3) metasoma in ventral view; (4) mandible; (5) antenna and sculpture of head and mesosoma; (6) linea calva with filum spinosum (f.s.).

Comparison and remarks. The assignment of the new genus to the family Encyrtinae is based on the presence of a linea calva with differentiated margins, tridentate mandibles, and transverse

apical metasomal sternite (sternite 7 or hypopygium). The new genus differs from the majority of extant genera of Encyrtinae in the long veins in the forewing. This venation is found in some species of the genus

Exoristobia Ashmead, 1904, which is widespread in the tropics. The new genus differs from *Exoristobia* in the shape of the antennae, elongate mesosoma with flat mesoscutum and scutellum. *Eocencyrtus* Simutnik, 2001 and *Eocencnemus* Simutnik, 2002, described earlier from Late Eocene ambers, lack a filum spinosum and were distinguished by short, ring-shaped basal funicular segments (Simutnik, 2001, 2002; Simutnik et al., 2014). The new genus is characterized by weakly differentiated, i.e., almost identical, funicular segments. The fossil genus *Glaesus* Simutnik, 2014, described from the male, also has filum spinosum setae, but it clearly differs from the new genus in the habitus with the convex mesoscutum and scutellum.

Rovnosoma gracile Simutnik, sp. nov.

Plate 7, figs. 1–6

E t y m o l o g y. Neutral form of the Latin *gracilis* (slender).

H o l o t y p e. SIZK, K-7267, 1♀, Klesov, Rovno amber; Late Eocene.

D e s c r i p t i o n. The sculpture of the head, mesoscutum, and scutellum is finely reticulate (Pl. 7, fig. 5). The proportions and pubescence of the antennomeres are as in Pl. 7, fig. 5. The mandible is shown in Pl. 7, fig. 4. The mesoscutum is as long as the scutellum. The location of the setae along the linea calva and

forewing venation are as in Pl. 7, figs. 2 and 6. The ventral view of the metasoma is shown in Pl. 7, fig. 3.

M e a s u r e m e n t s, mm. Body length, 1.28; mesosoma length, 0.5; metasoma length, 0.5.

M a t e r i a l. Holotype.

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