

Description of a female of *Electromethes alleni* Kazantsev, 2012, the only fossil omethid taxon (Insecta: Coleoptera) from Baltic amber

Описание самки *Electromethes alleni* Kazantsev, 2012, единственного ископаемого таксона семейства Omethidae (Insecta: Coleoptera) из балтийского янтаря

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КЛЮЧЕВЫЕ СЛОВА: Coleoptera, Omethidae, балтийский янтарь, палеоэнтомология, эоцен.

ABSTRACT: A female of the only fossil omethid taxon *Electromethes alleni* Kazantsev, 2012 from Eocene Baltic amber is described for the first time. The male of *Electromethes* was also known only from Baltic amber. The extant omethids are distributed in North America and eastern Asia.

РЕЗЮМЕ: Из эоценового балтийского янтаря впервые описывается самка единственного ископаемого таксона семейства Omethidae, *Electromethes alleni* Kazantsev, 2012, самец которого также был известен только из балтийского янтаря. Современные ометиды распространены в Северной Америке и восточной Азии.

The family Omethidae was established by Crowson [1972] and, despite its somewhat questionable status [e.g., Brancucci, 1980; Ramsdale, 2002], has been maintained in all major recent classifications of the order Coleoptera [e.g., Lawrence, Newton, 1995; Beutel, Leschen, 2005]. This small beetle family is distributed in North America and eastern Asia, exhibiting a relictual, disjunct distribution pattern, and is notable for the complete absence of any knowledge on its larval anatomy, which continues to be a major obstacle in clearly defining the family [Ramsdale, 2010]. The first fossil omethid taxon, however, was discovered in Europe, in Baltic amber. It was *Electromethes alleni* Kazantsev, 2012 [Kazantsev, 2012].

A further study of Baltic amber inclusions has resulted in the discovery of another omethid preserved in good condition in a transparent amber specimen. The discovered specimen, from the collection of K. Andrus-

chenko (Kaliningrad), seems also to belong to *Electromethes*, and probably to the same species, but appears to represent the opposite, yet undescribed sex of this extinct taxon.

The description of this female of *Electromethes alleni* is presented below.

Electromethes Kazantsev Kazantsev, 2012

Type species: *Electromethes alleni* Kazantsev, 2012

Electromethes alleni Kazantsev, 2012

Figs 1–2.

MATERIAL: Female, specimen No. KA-001, Baltic amber, Eocene (K. Andruschenko coll., Kaliningrad).

DESCRIPTION. Female. Dark brown, with lighter distal margin of penultimate ventrite.

Eyes relatively small, interocular dorsal distance ca. 2 times greater than eye diameter. Ultimate maxillary palpomere narrow, ca. 2 times longer than wide, almost parallel-sided and flattened distally. Antennae dentate, attaining to elytral third, gradually narrowing distally, antennomere 3 ca. 2.5 times longer than pedicel (antennomere 2) and ca. 1.2 times shorter than antennomere 4 and consequent antennomeres; antennal vestiture short and sub-erect (Figs 1–2).

Pronotum transverse, ca. 2 times as wide as long, almost straight posteriorly, with broadly rounded posterior angles (Fig. 1).

Elytra elongate, flattened, ca. 2.8 times as long as wide at humeri, somewhat widened in distal third; with three weak longitudinal costae, interstices densely granulate (Fig. 1).

Tarsomere lengths ratio: 2 : 1 : 1 : 0.7 : 2 (Fig. 2).

Ultimate ventrite elongate, semi-triangular, rounded distally; penultimate ventrite transverse, slightly rounded distally (Fig. 2).



Figs 1–2. General view of *Electromethes alleni*, female: 1 — dorsally; 2 — same, ventrally. Scale bars: 1 mm.
Рис. 1–2. Общий вид *Electromethes alleni*, самка: 1 — сверху; 2 — снизу. Масштабные линейки: 1 mm.

Length (from anterior head margin to end of elytra): 6.1 mm. Width (humeraly): 1.8 mm.

Syninclusions. Aphid.

Male. Similar to female, but eyes somewhat smaller, antennae ramose, body length 6.4 mm [Kazantsev, 2012].

Electromethes, distinguishable from other omethids by the combination of more prominent and more sclerotised labrum, almost parallel-sided or securiform ultimate palpomeres, non-ramose male antennomere 3, location of the bases of rami of male antennomeres 4–10 at the apices of antennomeres, triangular prosternum, absent elytral epipleuron, present plantar pads on tarsomeres 1–2 [Kazantsev, 2012, also Fig. 2], actually does not fit into any of the extant subfamilies of Omethidae. However, erecting a new higher level taxon to accommodate the genus seems premature; prior to that further studies should be carried out to define the family more clearly, with, preferably, premature stages taken also into consideration.

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