Cretaceous Research 70 (2017) 111–116

Contents lists available at ScienceDirect

Cretaceous Research

journal homepage: www.elsevier.com/locate/CretRes

Short communication

A new weevil (Coleoptera; Nemonychidae; Oropsini trib. nov.) from Lower Cretaceous Lebanese amber

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ARTICLE INFO

Article history:
Received 18 August 2016
Received in revised form
12 October 2016
Accepted in revised form 13 October 2016
Available online 14 October 2016

Keywords:
Curculionoidea
Paleocartinae
New taxa
Lebanon
Cretaceous ambers

ABSTRACT

A new weevil, *Oropsis marinae* gen. et sp. nov., Oropsini trib. nov., is described from Lower Cretaceous Lebanese amber. The new genus is similar to the genera *Libanorhinus* Kuschel et Poinar, 1993 and *Arra* Peris, Davis et Delclòs, 2014. It differs from *Libanorhinus* in the long abdominal ventrite 1, prosternal process distinctly extends beyond procoxal cavities and tarsomere 3 weakly bilobed, and from *Arra* in the arcuate pronotal sides, antennal club with fused articles, long abdominal ventrite 1, procoxal cavities probably open posteriorly, and tarsal claws without teeth. Oropsini trib. nov. differs from the tribes Paleocartini, Selengarhynchini and Metrioxenoidini in the transversely oval and separated procoxal cavities, weakly convex and oval eyes, and the trochanters completely separating femora and coxae.

1. Introduction

The beetle family Nemonychidae Bedel, 1882 is a small relict group in the Recent fauna including about 80 species from 25 genera, however in the Mesozoic it was rather numerous and for now there have been already described more than 80 species belonging to 44 genera composing about 50% of Mesozoic curculinoids (Kirejtshuk et al., 2009b; Legalov, 2012; Gratshev and Legalov, 2014). The earliest and most numerous fauna of the family is known from the Upper Jurassic of Karatau (Gratshev and Legalov, 2014). More than 30 nemonychid species from 25 genera were described from Lower Cretaceous deposits (Legalov, 2015). The nemonychid subfamilies Rhinorhynchinae Voss, 1922 and Cimberidinae des Gozis, 1882 presented in the modern fauna are known from the Aptian–Albian of Baissa and the Barremian of Yixian (Chaomidian) (Davis et al., 2013; Gratshev and Legalov, 2014). Before current studies two nemonychid species were known, one from Lower Cretaceous Lebanese amber and another one from Spanish amber (Kuschel and Poinar, 1993; Peris et al., 2014). A new nemonychid specimen was recently recovered in Lebanese amber (Kirejtshuk and Azar, 2013) which is characterized by its better preservation in comparison with other species found in Cretaceous amber. It was possible to study many structural details of the new specimen (that were not clearly observable in others) and to propose a new tribe including three species each representing a separate genus (*Libanorhinus succinus* Kuschelet Poinar, 1993, *Arra legalovi* Peris, Davis et Delclòs, 2014 and *Oropsis marinae* gen. et sp. nov.).

2. Material and methods

The holotype examined is deposited in the Lebanese University, Faculty of Sciences II, Department of Natural Sciences. It is originated from Bouarij outcrop, Zahleh District, Central Lebanon (for geological map and illustration of the outcrop see Azar et al., 2010). The specimens were studied using an Olympus SCX9 stereomicroscope equipped by a camera Olympus at the Museum National d'Histoire Naturelle (Paris), a Leica MZ 12.0 stereomicroscope with a DFC290 digital camera, at the Zoological Institute of the Russian Academy of Sciences (St. Petersburg); a Leica MZ 9.0

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http://dx.doi.org/10.1016/j.cretres.2016.10.006
0195-6671/

stereomicroscope with a DFC290 camera, at the Paleontological Institute of the Russian Academy of Sciences; a Leica MZ 12.5; a Leica-M165C stereomicroscope and a Nikon SMZ-10R, and a Zeiss Stemi 2000-C stereomicroscope, at the Institute of Systematics and Ecology of Animals of the Siberian Branch of Russian Academy of Sciences (Novosibirsk). The additional pictures of the holotypes of *Libanorhinus succinus* and *Arra legalovi* with important structural details were obtained from G. Poinar (Oregon State University, Corvalios) and C. Soriano (University of Kansas Biodiversity Institute, Lawrence). The method of preparation of the specimens for study was described in Azar et al. (2003).

All taxonomic acts established in the present work together with the electronic publication have been registered in ZooBank under: urn:lsid:zoobank.org:pub:6183303B-AE63-4272-9B50-6A74A11D3295.

3. Systematic paleontology

Family Nemonychidae Bedel, 1882
Subfamily Paleocartinae Legalov, 2003
Tribe Oropsini Legalov et Kirejtshuk, trib. nov.

Type genus: *Oropsis* gen. nov.

Diagnosis. Body small (length from 0.9 to 2.0 mm); body moderately convex dorsally and subflatened ventrally, weakly to moderately sclerotized; rostrum thin and long; antennae inserted subapically with one "false segmented" in loose 3-segmented club; eyes weakly convex and oval; pronotum with arcuate or straight sides and distinct lateral carinae; elytra with striae; lateral elytral edges straight; procoxal cavities transversely oval and separated, procoxal cavities weakly distant from posterior edge of prosternum; prosternal process usually distinctly extends beyond procoxal cavities; trochanters completely separating femora and coxae; abdominal ventrites free, subequal in length or ventrite 1 longer than ventrites 2 and 3 together; tarsi narrow; tarsomere 3 weakly bilobed; claws without teeth or appendiculate.
Comparison. After Legalov (2015) the subfamily Paleocartinae was interpreted as consisting of three Mesozoic tribes (Paleocartini sensu stricto, Selengarhynchini Gratshevet Legalov, 2009, and Metrioxenoidini Legalov, 2009). The new tribe differs from all mentioned tribes of this subfamily in the transversely oval and separated procoxal cavities, weakly convex and oval eyes, and the trochanters completely separating femora and coxae. The first and third features are absent in other subfamilies. The new tribe differs from the tribe Selengarhynchini also in the straight lateral edge of the elytra. From the tribe Metrioxenoidini it is distinguished also by the thin and long rostrum. The new tribe also differs from the tribe Paleocartini sensu stricto in the procoxal cavities weakly distant from the posterior edge of the prosternum.
Composition. Except the type genus, *Libanorhinus* Kuschelet Poinar, 1993 (Barremian–lowermost Aptian Lebanese amber) and *Arra* Peris, Davis et Delclòs, 2014 (Albian Spanish amber).

Genus *Oropsis* Legalov et Kirejtshuk, gen. nov.
Type species: *Oropsis marinae* sp. nov.

Etymology. The name of the new genus is formed from the Greek "ὄρος" (oros – mountain) and "ὄψις" (opsis – resembling a (specified) thing). Gender feminine.
Composition. Only type species.
Diagnosis. Labrum free; maxillary palpi elongate; gular sutures separated; antennae not geniculate, antennae inserted subapically; pronotum with distinct lateral carina; prosternal process distinctly extends beyond procoxal cavities; abdominal ventrites free and ventrite 1 long; procoxae located basally; procoxal cavities probably open posteriorly; external edges of mesocoxae not covering by mesepimeron and mesepisternum; trochanters completely separating femora and coxae; tibiae with spurs; tarsomere 3 weakly bilobed.
Comparison. The new genus seems to be closely related to *Libanorhinus* but differs in the long abdominal ventrite 1, prosternal process distinctly extends beyond procoxal cavities, and tarsomere 3 weakly bilobed. From the genus *Arra* it differs in the rounded pronotal sides, antennal club with fused articles, long abdominal ventrite 1, procoxal cavities probably open posteriorly, claws without teeth.
Notes. This new genus belongs to the family Nemonychidae because its type species shows the free labrum, separated gular sutures, not geniculate antennae, free abdominal ventrites, elongate ultimate maxillary palpomere and tibiae with spurs. It falls in the subfamily Paleocartinae because its type species has the pronotum with distinct lateral carina, procoxae located basally, antennae inserted subapically and external edges of mesocoxae not covering by mesepimeron and mesepisternum.

Oropsis marinae Legalov et Kirejtshuk, sp. nov.
Figs. 1–4

Holotype. "TAR-171A", Azar Collection, deposited in the Lebanese University, Faculty of Sciences II, Department of Natural Sciences. It was mentioned in Kirejtshuk and Azar 2013 as "genus *Libanorhinus* Kuschel et Poinar, 1993". This piece of amber is placed in a rectangular parallelepiped (1.2 × 3.0 × 23.0 mm) with the Canada Balsam medium made from microscope cover slips.
Locality and strata. Bouarij outcrop, Zahleh District, Central Lebanon; lower Barremian (Maksoud et al., 2014, 2016; Maksoud, 2015; Granier et al., 2016).
Etymology. The epithet of this species is devoted to the wife of one author of this paper, Marina V. Kirejtshuk.
Description of holotype. Body length (without rostrum) 0.9 mm, length of rostrum 0.3 mm. Body moderately sclerotized, elongate, and moderately convex dorsally and subflattened ventrally. Body dark-brown; palpi, antennae, distal part of abdomen and legs reddish. Integument covered with sparse semierect hairs.

Head capsule (without rostrum) equal in length and wide, not constricted behind eyes. Labrum well developed, separated from rostrum, semicircular. Mandibles quite small. Maxillary palpi long, probably 3-segmented. Labial palpi 3-segmented. Rostrum elongate, weakly curved, densely punctate, with weakly subflattened above plane, thickened at apex, about 4.3 times as long as wide at apex and base, and 5.2 times as long as wide in middle, about 1.2 times as long as pronotum; dorsal surface of rostrum lacking carinae. Antennae long, thin, not geniculate, reaching pronotal base, inserted at middle of rostrum. Antennomeres subconical; antennomere 1 similar in shape to other flagellomeres, about 2.7 times as long as wide; antennomere 2 subequal to antennomere 1; antennomere 3 about 3.0 times as long as wide, 0.9 times as long as and 0.7 times as wide as antennomere 2; antennomeres 3 and 7 subequal in width; antennomere 4 equal to antennomere 3; antennomeres 5–8 subequal in length and width; antennomere 5 about twice as long as wide and 0.6 times as long as antennomere 4; club compact, 2.8 times as long as wide and 0.3 times as long as funicle; its three segments fused; antennomere 9 about 1.8 times as long as antennomere 10; antennomere 10 about 0.7 times as long as antennomere 9; antennomere 11 about 0.4 times as long as antennomere 10. Antennal fovea quite deep. Eyes convex, oval, about 1.7 times as long as wide. Temples short, punctate, about 0.4 times as long as longitudinal diameter of eye. Gular suture separated and distinct.

Pronotum with arcuate sides, about 1.3 times as long as wide at apex, 0.8 times as long as wide in middle, 0.9 times as long as wide