

**New genus and four new species of the subfamily Eccoptarthrinae from
Middle - Upper Jurassic (Coleoptera: Nemonychidae)**

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Abstract. A new genus *Eccoptarthroides* gen. nov. with four new species *E. ponomarenkoi* sp. nov., *E. nikitskyi* sp. nov., *E. martynovi* sp. nov. and *E. longirostris* sp. nov. from Middle - Upper Jurassic are described and illustrated.

INTRODUCTION

The fauna of Curculionid-beetles from Karatau is the richest Mesozoic fauna, but remains still weakly described (Gratshev & Zherikhin, 2003). Two families (Nemonychidae and Ithyceridae (= Caridae)) are known from this locality (Legalov, 2009a, 2009b, 2009c). Nemonychidae from Karatau include 48 species from 22 genera (Arnoldi, 1977; Gratshev & Zherikhin, 1995, 1996; Gratshev & Legalov, 2009; Legalov, 2009b, 2009c; Martynov, 1926). In materials of the Paleontological Institute, there was one new genus with 4 new species from subfamily Eccoptarthrinae, which are described here.

MATERIAL AND METHODS

Types are stored in collections of the Paleontological Institute of the Russian Academy of Sciences (Moscow) (PIN).

TAXONOMY

Family Nemonychidae Bedel, 1882

Subfamily Eccoptarthrinae L. Arnoldi, 1977

***Eccoptarthroides* gen. nov.**
(Figs 4-12)

Description. Body flattened, strong sclerotized, brown. Rostrum elongated, almost straight. Mandible probably with tooth. Head large. Eyes large, weakly convex or not protruding

from contour of the head. Frons narrow. Antennae located near the rostrum middle, before the middle in males and in first third in females. Pronotum with almost flat and probably rarely punctate disk. Elytra flattened. Exterior margin of the elytra weakly curved near metacoxa. Precoxal part of the prothorax short. Postcoxal part of the prothorax part elongated. Metathorax weakly elongated. Procoxa located near prothorax first line. Femora usually widened. Tibiae almost straight. Tarsi widened and elongated, especially protarsi. Ventrites almost homonymic. Length of body: 6.7-8.7 mm.

Type species: *Eccoptarthroides martynovi* sp. nov.

Differential diagnosis. See the following key.

Etymology. The name is formed by addition of the ending “-ides” to “*Eccoptarthrus*”.

KEY TO THE GENERA OF SUBFAMILY ECCOPTARTHRIINAE

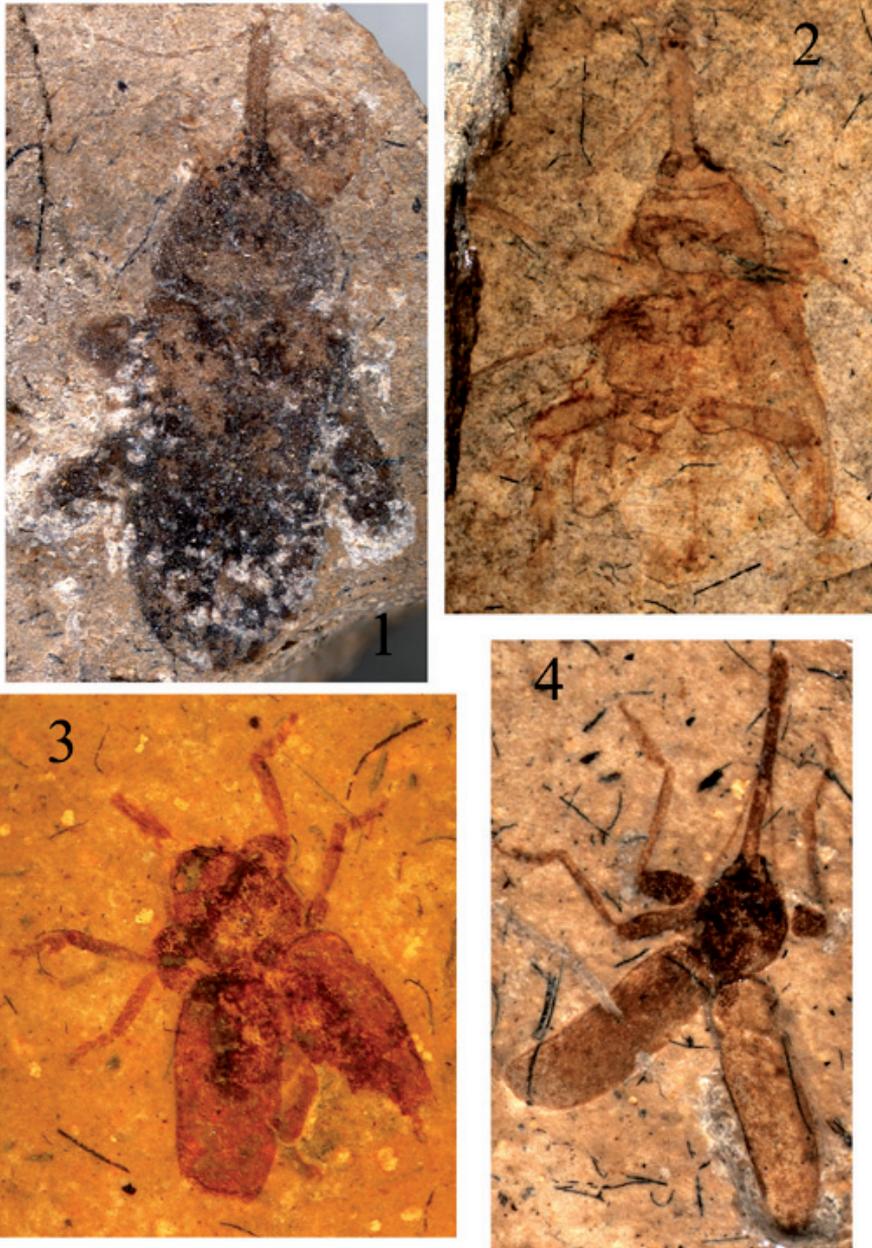
1. Antennae located before the rostrum middle. Rostrum long (Figs 4-12 *Eccoptarthroides* gen. nov.
- . Antennae located in apical part or behind the rostrum middle. Rostrum shorter (Figs.1-3) 2.
2. 1st-2nd segments of funicle widened (Fig 3). Body smaller (3.1-6.4 mm) *Eccoptarthrus* L. Arnoldi, 1977
- . 1st-2nd segments of funicle not widened (Figs 1-2). Body larger (6.5-10.0 mm) . . *Procurculio* L. Arnoldi, 1977

Eccoptarthroides martynovi sp. nov.

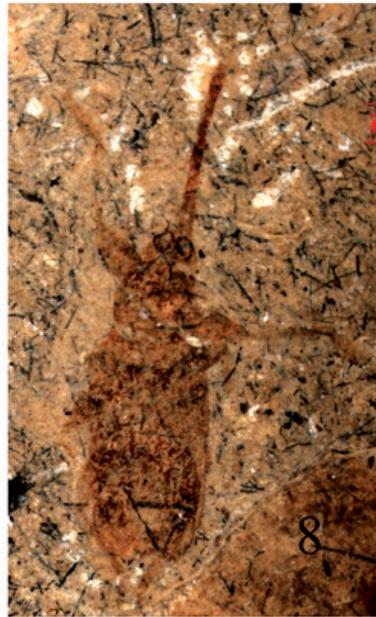
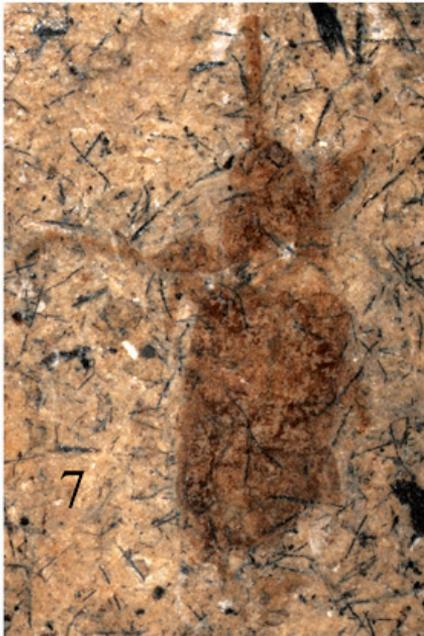
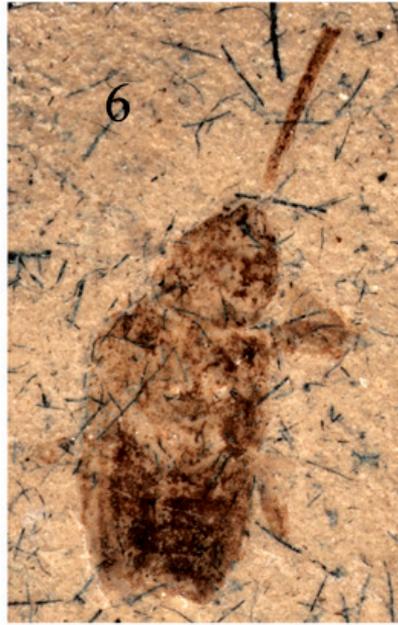
(Figs 4, 9)

Type material. Holotype ♂ (PIN): № 2904/974 “South Kazakhstan, Chimkent Oblast, Algabass District, Kara-Tau Range, outcrops near villages of Kitaevka and Uspenovka, right bank of Kashkar-Ata River valley, Kara-Bas-Tau, Tchokhay, Mikhailovka, Galkino; Middle - Upper Jurassic, ?Oxfordian, Karabastau Formation”.

Description. Body strongly sclerotized, light brown. Rostrum 15.2 times longer than width at the middle and 2.68 times longer than pronotum, weakly widened near apex. Epistome with 2 teeth. Eyes large, not convex. Frons little wider than rostrum on the basis. Temples short. Antennae located before the rostrum middle, long, reaching the elytral basis. Funicle segments elongated. Clava much wider than funicle, not long, compact. 1st segment longer than 2nd segment. 3rd segment tear-shaped. Pronotum 1.24 times wider than length, equally narrowed to apex and basis. Disk probably flattened and almost smooth. Elytra elongated, 3.0 times longer than pronotum, 1.55 times longer than width, probable sparsely punctate and without striae. Exterior margin of the elytra, probably very weakly curved near metacoxa. Precoxal part of the prothorax short. Postcoxal part of the prothorax elongated. Procoxa located near prothorax first line. Profemora distinct widened. Mesofemora weakly widened. Tibiae almost straight, thinner than rostrum. Tarsi elongated, little shorter than tibiae, widened. 1st segment widened, elongated-trapezoid. 2nd segment wide, probable shorter than 1st segment. 3rd segment wide, weakly bilobed. Length of body: 6.9 mm.



Figs 1-4. Eccoptarthrinae gen. spp.: 1- *Procurculio fortipes* L. Arnoldi, 1977 (habitus, dorsal view, № 2554/731), 2- *Procurculio pallens* Gratshev et Zherikhin, 1995 (habitus, ventral view, holotype, № 2904/977), 3- *Eccoptarthrus crassipes* L. Arnoldi, 1977 (habitus, dorsal view, holotype, № 2239/1507), 4- *Eccoptarthroides martynovi* sp. nov. (habitus, dorsal view, holotype, № 2904/974).



Figs 5-8. *Eccoptarthroides* spp.: 5- *E. nikitskyi* sp. nov. (habitus, dorsal view, holotype, № 2904/977), 6- *E. longirostris* sp. nov. (habitus, ventral view, holotype, № 2904/979), 7- *E. ponomarenkoi* sp. nov. (habitus, dorsal view, holotype, № 2904/957), 8- *E. ponomarenkoi* sp. nov. (habitus, ventral view, holotype, № 2904/957).

Differential diagnosis. See the following key.

Distribution. Known from the type locality only.

Etymology. This new species is named in honour of A. V. Martynov (Moscow, Russia).

Eccoptarthroides nikitskyi sp. nov.

(Figs 5, 10)

Type material. Holotype ?♂ (PIN): № 2904/977, “South Kazakhstan, Chimkent Oblast, Algabass District, Kara-Tau Range, outcrops near villages of Kitaevka and Uspenovka, right bank of Kashkar-Ata River valley, Kara-Bas-Tau, Tchokhay, Mikhailovka, Galkino; Middle - Upper Jurassic, ?Oxfordian, Karabastau Formation”.

Description. Body strongly sclerotized, light brown. Rostrum 8.25 times longer than width on the middle and 1.53 times longer than pronotum, almost straight. Eyes large, weakly convex. Frons convex, wide. Temples short. Antennae located before the rostrum middle, probably long. Funicle segments probably elongated. Pronotum of almost equal length and width, with almost parallel sides. Disk weakly convex and almost smooth. Elytra elongated, 4.23 times longer than pronotum, 2.68 time longer than width, probably sparsely punctate and with very weak striae. Precoxal part of the prothorax short. Postcoxal part of the prothorax elongated. Procoxa located near prothorax first line. Femora widened. Tibiae almost straight, thinner than rostrum. Tarsi elongated, little shorter than tibiae, widened. 1st segment widened, elongated-trapezoid. 2nd segment wide, shorter than 1st segment. 3rd segment wide, probably bilobed. Length of body: 6.7 mm.

Differential diagnosis. See the following key.

Distribution. Known from the type locality only.

Etymology. This new species is named in honour of N. B. Nikitsky (Moscow, Russia).

Eccoptarthroides longirostris sp. nov.

(Figs 6, 11)

Type material. Holotype ?♀ (PIN): № 2904/979, “South Kazakhstan, Chimkent Oblast, Algabass District, Kara-Tau Range, outcrops near villages of Kitaevka and Uspenovka, right bank of Kashkar-Ata River valley, Kara-Bas-Tau, Tchokhay, Mikhailovka, Galkino; Middle - Upper Jurassic, ?Oxfordian, Karabastau Formation”.

Description. Body strongly sclerotized, light brown. Rostrum 12.14 times longer than width on the middle and 1.81 times longer than pronotum, almost straight, weakly widened to apex. Mandible probably with tooth. Eyes large, no protruding from contour of the head. Frons little wider than rostrum at the basis. Temples short. Antennae located in first third of rostrum.

Pronotum 1.17 times wider than length, flattened. Greatest width at the middle. Disk probably almost smooth. Elytra probably weakly convex, 2.91 times longer than pronotum. Exterior margin of the elytra weakly curved near metacoxa. Precoxal part of the prothorax probably short. Metathorax weakly elongated. Metepisternum probably wide. 1st ventrite probably little elongated. 2nd-5th ventrites of almost equal length. Femora widened. Mesofemora wider than metafemora. Tibiae probably narrow. Length of body: 6.7 mm.

Differential diagnosis. See the following key.

Distribution. Known from the type locality only.

Etymology. The name is formed from the words for “longulus” and “rostrum”.

Eccoarthroides ponomarenkoi sp. nov.

(Figs 7, 12)

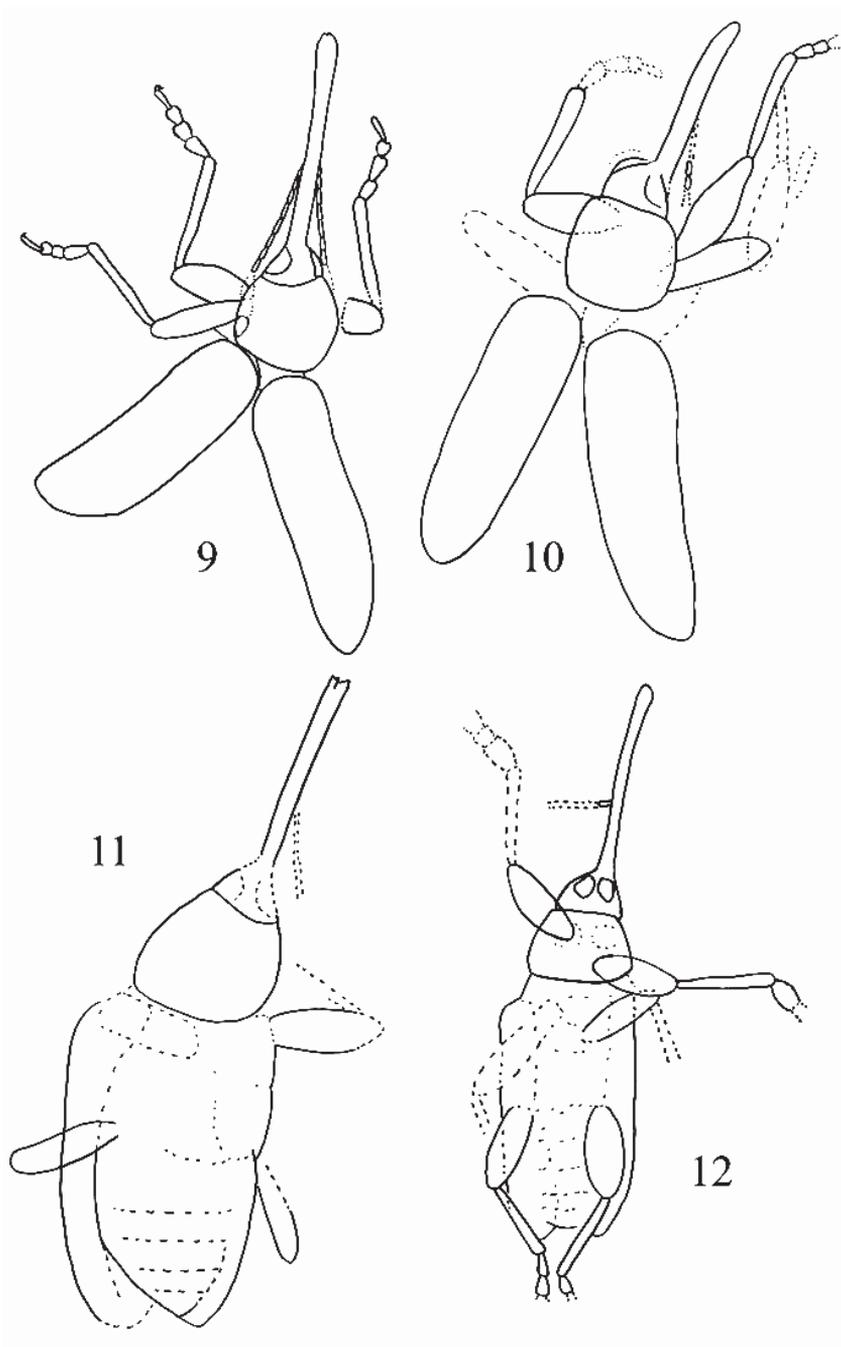
Type material. Holotype ♀ (PIN): № 2904/957, “South Kazakhstan, Chimkent Oblast, Algabass District, Kara-Tau Range, outcrops near villages of Kitaevka and Uspenovka, right bank of Kashkar-Ata River valley, Kara-Bas-Tau, Tchokhay, Mikhailovka, Galkino; Middle - Upper Jurassic, ?Oxfordian, Karabastau Formation”.

Description. Body strongly sclerotized, dark brown. Rostrum 17.78 times longer than width at the middle and 1.95 longer than pronotum, very weakly curved, weakly widened near apex. Eyes oval, large. Frons narrow, narrower than eyes. Temples weakly elongated. Antennae located before the rostrum middle. Pronotum 1.46 times wider than length, flattened, with the greatest width near the basis. Disk probably almost smooth. Elytra flattened, 1.93 times wider than length and 2.59 times longer than pronotum, probably without striae. Precoxal part of the prothorax strongly short. Postcoxal part elongated. Metathorax weakly elongated. Metepisternum probably wide. Ventrites almost homonomic. Procoxa located near prothorax first line. Femora widened. Tibiae almost straight, weakly widened. Tarsi elongated. Protarsi elongated. 1st segment of protarsi wide, flattened, trapezoid. 2nd segment wide, short. 1st and 2nd segments of metatarsi elongated-trapezoid. Length of body: 8.7 mm.

Differential diagnosis. See the following key.

Distribution. Known from the type locality only.

Etymology. This new species is named in honour of A. G. Ponomarenko (Moscow, Russia).



Figs 9-12. *Eccoptarthroides* spp.: 9- *E. martynovi* sp. nov. (habitus, dorsal view, holotype, № 2904/974), 10- *E. nikitskyi* sp. nov. (habitus, dorsal view, holotype, № 2904/977), 11- *E. longirostris* sp. nov. (habitus, ventral view, holotype, № 2904/979), 12- *E. ponomarenkoi* sp. nov. (habitus, ventral view, holotype, № 2904/957).

KEY TO THE SPECIES OF GENUS *ECCOPTARTHROIDES*

1. Greatest width of the pronotum before the basis *E. ponomarenkoi* sp. nov.
- Greatest width of the pronotum near the middle 2.
2. Pronotum sides almost parallel *E. nikitskyi* sp. nov.
- Pronotum sides narrowed to the basis and apex 3.
3. Rostrum longer. Pronotum equally narrowed to apex and basis *E. martynovi* sp. nov.
- Rostrum shorter. Pronotum more strongly narrowed to apex *E. longirostris* sp. nov.

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