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Bees of the subgenus *Allocoelioxys* Tkalců of the genus *Coelioxys* Latreille (Hymenoptera: Apoidea: Megachilidae) from the Russian Far East

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Abstract

Coelioxys (*Allocoelioxys*) *manchurica* sp. nov. is described and illustrated from the Russian Far East (Primorskii krai). *Coelioxys* (*A.*) *afra* Lepeletier 1841 is newly recorded from the Russian Far East. A key is given for the females of both species from this area.

Key words: Hymenoptera, Apoidea, *Coelioxys*, bees, cleptoparasite, taxonomy, new species, Palaearctic, Russian Far East

Introduction

The bees of the subgenus *Allocoelioxys* Tkalců, 1974 are widespread in the Old World, including the Palaearctic region from Europe to China. It also occurs throughout Africa and southern Asia, at least south to Java. Pasteels (1977) reports 21 species in sub-Saharan Africa, and Warncke (1992) reports 15 species in the western Palaearctic. There are at least nine European species and a four additional species in China (Friese 1935). Over 40 species of this subgenus are known (Michener 2000). Only one species (*Coelioxys emarginata* Förster 1853) of this subgenus has been recorded from the Russian Far East (Romankova 1995). After we examined Romankova's material, we came to the conclusion that these specimens were misidentified and belong to a new species. A second *Allocoelioxys* species, unknown in the Russian Far East, has been collected during field survey to Amur region in 2003.

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Material and methods

The bee collections deposited in the Institute of Biology and Soil Science, Russian Academy of Sciences (Vladivostok) [IBSS] and Zoological Institute, Russian Academy of Sciences (St. Petersburg) [ZIS] have been studied. For the identification of material from the Russian Far East, seven *Allocoelioxys* Palaearctic species (both males and females) have been studied in ZIS. Descriptive terminology follows Michener (2000). Metasomal terga and sterna are referred to as T1, T2, etc., and S1, S2, etc.

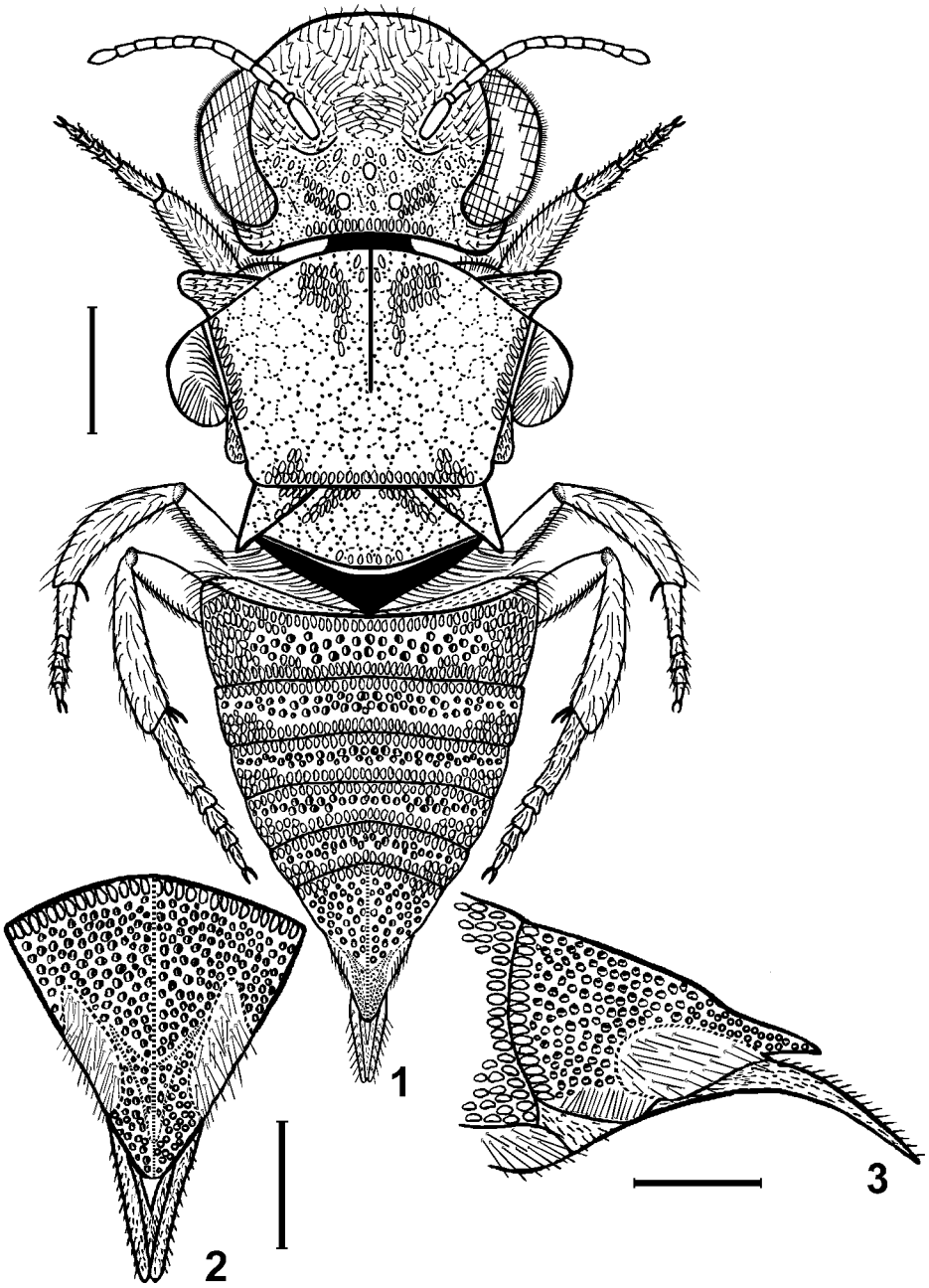
Coelioxys (*Allocoelioxys*) *manchurica* Proshchalykin et Lelej, sp. nov. (Figs 1–3)

Coelioxys emarginata (non Förster): Romankova 1995: 545, female. Misidentification.

Etymology. The specific name originates from Manchuria (biogeographic province of Palaearctic) with reference to the area where the new species was collected.

Type material: Holotype, female, **RUSSIA**: Primorsky region, 7 km east of Khasan, 26.VIII 1986 (Lelej) (IBSS); paratypes, female, the same place, 27.VIII 1986 (Lelej) (IBSS).

Description. FEMALE (Fig. 1). Body length 8.5–8.6 mm, forewing length 5.4 mm, hindwing length 4.3 mm. Head wider than long; width 3.0 mm, length 2.3 mm. Mandible tridentate. Labrum longer than wide; length 0.9 mm, width 0.7 mm. Flagellum length 2.4 mm. Malar space exceedingly short, base of mandible almost touching compound eye. Hypostomal ridge carinate, anterior angle acuminate. Preoccipital carina complete, weakly angled dorsally, joining hypostomal carina. Transverse subocular carina parallel to hypostomal carina, and joining preoccipital carina; there is acute tubercle at the point of contact, distance between this point and eye 1.2 times longer than distance between point and hypostomal tubercle. Gena well developed, about half as broad as compound eye. Compound eye setose, setae dense, shorter towards inner orbit, longest setae more than five times of ommatidium diameter. Supraclypeal area not carinate. Clypeus weakly convex; length 0.6 mm, width 1.2 mm. Distance between antennal sockets 0.6 mm. Median (admedian) line of mesoscutum more than half of mesoscutum length (Fig. 1). Humeral angle of pronotum with lamellate carina. Mesoscutellum slightly rounded apically, dorsal surface projects and overhangs metanotum and propodeum. Axilla strongly dentate apically, axillar tooth not projecting over mesoscutellum apex (Fig. 1). Fore- and midtibia apically with two short black spines; arolium absent. Forewing venation normal for genus. Anterior surface of T1 concave. S6 long and narrow (lateral view), not visible above, its free part longer more than two times of free part of T6 (Fig. 3). T6 (dorsal view) and S6 (ventral view) gradually narrowed to apex, without constriction. S6 apically slightly emarginated (Fig. 2).



FIGURES 1–3. *Coelioxys manchurica* **sp. nov.,** female, holotype. 1, habitus (dorsal view), scale = 1.0 mm; 2, metasomal segment 6 (dorsal view), scale = 0.5 mm; 3, metasomal segment 6 (lateral view), scale = 0.5 mm.

Frons and vertex with deep large punctures, interstitial region narrow and micropunctate. Pronotum with shallow punctures, interstitial region micropunctate. Mesoscutum,

mesoscutellum and axilla rugoso-punctate, size of punctures larger than those on vertex. Propodeal triangle (metapostnotum) rugulate basally, with dense small punctures, size of punctures smaller than those on lateral propodeal area. T1 laterally and apically with punctures smaller than those medially. T2–T5 with round large punctures separated by less than puncture width, integument micropunctate between punctures. T6 with dense punctures smaller than those on T2–T5, separated by more than puncture width; median line weak; free apical part with dense punctures smaller than those on base of T6.

Labrum except basal triangle with suberect whitish plumose setae; setae on basal part of mandible similar but recumbent. Clypeus, supraclypeal area, paraocular area and gena with dense silver recumbent plumose setae; frons and around antennal socket has additional erect pale simple setae. Scape beneath with silver erect plumose setae. Oval silver scales located laterad and posterad of posterior ocelli. Pronotum dorsally with long erect whitish plumose setae, humeral angle with dense recumbent setae. Mesopleura with dense silver acuminated scales obscuring the sculpture.

Oval silver scales on mesoscutum, mesoscutellum and axilla depicted in figure 1. Tegula, except shiny part, with recumbent yellowish plumose setae. Posterior surface of mesoscutellum with oval silver scales gradated to scale setae, latter forms triangle medial spot on metanotum. Propodeum, except medial area, with long dense erect whitish plumose setae. Anterior surface of T1 with short suberect whitish plumose setae. Oval silver setae on metasomal terga depicted in figure 1. T6 with basal row of silver scales and lateral spot of dense white suberect simple setae. S1 medially with triangle spot of acuminated white scales. S2-S4 with wide apical band narrowed medially of acuminated white scales. S5 except base with suberect pale plumose setae. S6 dorsally with lateral row of short simple setae. Femora and tibia outside with dense recumbent silver scale setae mixed with scattered long erect simple setae of same color. Femora and tibia anterad and posterad with scattered short fuscous simple setae. Basitarsus with dense pale recumbent simple setae.

Mandible and labrum reddish-brown. Head, mesosoma and T1–T5 black; T6 black, apically reddish-brown; S1–S4 black, medially reddish-brown; S5 brownish, S6 reddish-brown. Legs brownish.

MALE. Unknown.

Discussion. The female of this new species belongs to subgenus *Allocoelioxys* by having a transverse subocular carina joining preoccipital carina. From Palaearctic *Allocoelioxys* species the female of *C. manchurica* differs by the shape of T6 and S6 except *C. polycentris* Förster 1853 and *C. brevis* Eversmann 1852. The female of this new species is most similar to the European species *C. polycentris* because of the presence of the long narrow S6 with an emarginated apex, but it differs from this European species by having an almost black T6 (reddish-brown in *polycentris*), by having numerous simple setae placed in lateral pits on T6 (only ten setae are present in *polycentris*), by having a pale band of scales on T6 (a band of pale plumose setae is present in *polycentris*), by having a weak medial line on T6 (the line is well visible and shiny in *polycentris*), by having the

axillar tooth not projecting over mesoscutellum apex (projecting over mesoscutellum apex in *polycentris*), by having a maculation of white scales on the mesoscutum (Fig. 1) (the whole mesoscutum is covered by white scales in *polycentris*). The female of *C. manchurica* resembles that of *C. brevis*, which distributed from Western Europe to China, by the shape of T6 and S6, but differs by having an emarginated apex of S6 (not emarginated in *brevis*), by having an almost black T6 (reddish-brown in *brevis*), by having numerous simple setae placed in lateral pits on T6 (only scales are present in *brevis*). From other Palaearctic *Allocoelioxys* species the female of *C. manchurica* differs by the shape of T6 and S6.

Distribution. Russian Far East: Primorsky region.

Natural History. The type specimens were collected in a sandy area on seashore with rare bushes of *Rosa rugosa*.

Coelioxys (*Allocoelioxys*) *afra* Lepeletier, 1841

Coelioxys afra Lepeletier 1841: 525; Schwarz *et al.* 1996: 111.

Material Examined. RUSSIA: male, Jewish autonomous region, 5 km northeastern of Pashkovo, 11.VII 2003 (Proshchalykin); male, Radde, 15.VII 2003 (Proshchalykin). Additional males and females from European part of Russia have been examined also.

Distribution. Russia (Far East - new record, European part - Osytshnjuk *et al.* 1978). China (Hebei, Shanxi, Jiangsu, Fujian, Guangdong) (Wu 1965). From Western Europe to China and Indonesia (Java), and including all of Africa (Pasteels 1977).

Key to the species of *Allocoelioxys* of Russian Far East (females)

1. S6 broad and short, visible from above, free apical part of S6 a slightly longer than free apical part of T6 (lateral view); supraclypeal area with sharp longitudinal carina . ..... (*A.*) *afra* Lepeletier
- S6 narrow and long, not visible from above, free apical part of S6 almost 2 times longer than free apical part of T6 (Fig. 3); supraclypeal area not carinated .... (*A.*) *manchurica* Proshchalykin et Lelej, sp. nov.

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