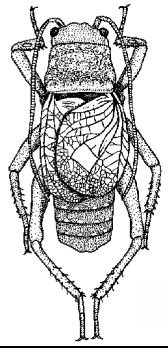

Far Eastern Entomologist

Дальневосточный энтомолог

Journal published by Far East Branch of the Russian Entomological Society and Laboratory of Entomology, Federal Scientific Center of the East Asia Terrestrial Biodiversity, Vladivostok

Number 467: 1-10 | ISSN 1026-051X (print edition) ISSN 2713-2196 (online edition) | December 2022

https://doi.org/10.25221/fee.467.1
https://elibrary.ru/btjeiz
https://zoobank.org/References/2464F304-F0D8-4B2F-A9BB-AB1A35478921

A NEW SPECIES OF *EUCHROEUS* LATREILLE, 1809 (HYMENOPTERA, CHRYSIDIDAE) FROM MONGOLIA, WITH TAXONOMIC NOTES ON CENTRAL ASIAN SPECIES

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Summary. A new species of cuckoo wasps, *Euchroeus armatus* **sp. n.**, is described from Mongolia. Taxonomic and nomenclatural notes on other Central Asian species are provided. A new synonymy is established: *Euchroeus limbatus* Dahlbom, 1854 = *Brugmoia kyrgyzica* Tarbinsky, 2000, **syn. n.**

Key words: cuckoo wasps, taxonomy, Palaearctic region.

П. Роза, М. Халада, М. Ю. Прощалыкин. Новый вид рода *Euchroeus* Latreille, 1809 (Hymenoptera, Chrysididae) из Монголии, с таксономическими заметками по центральноазиатским видам // Дальневосточный энтомолог. 2022. N 467. С. 1-10.

Резюме. Приведено описание нового вида ос-блестянок *Euchroeus armatus* **sp. n.** из Монголии, а также таксономические и номенклатурные замечания по другим центральноазиатским видам. Установлена новая синонимия: *Euchroeus limbatus* Dahlbom, 1854 = *Brugmoia kyrgyzica* Tarbinsky, 2000, **syn. n.**

INTRODUCTION

We recently provided a first preliminary checklist of the Mongolian cuckoo wasps (Rosa *et al*., 2020), followed by a compendium with addenda of several new records and descriptions of eleven new species (Rosa *et al*., 2021). The Mongolian fauna currently counts 107 species in 18 genera, yet many specimens remained unidentified and requested more studies. Among them, an outstanding *Euchroeus*, here described as a new species for science. The study of Central Asian cuckoo wasps is also far to be exhaustive (Rosa, 2019) and in the latest years we started a revision process of type material (Rosa *et al*., 2017a, c; Rosa, 2018) which is still going on. In this article we propose *Brugmoia kyrgyzica* Tarbinsky, 2000 as synonym of *Euchroeus limbatus* Dahlbom, 1854 after examination of type material.

MATERIAL AND METHODS

The terminology follows Kimsey and Bohart (1991). Abbreviations used in the descriptions are as follows: F, T and S are used for flagellomere, metasomal tergum and metasomal sternum, respectively; l/w=length/width; MOD = anterior ocellus diameter; MS = malar space, the shortest distance between base of mandible and lower margin of compound eye; OOL = the shortest distance between posterior ocellus and compound eye; P = pedicel; PD = puncture diameter; POL = the shortest distance between posterior ocelli.

This paper is based on the specimens deposited in the following collections: IBPK – Institute of Biology and Pedology of the National Academy of Sciences of Kyrgyzstan (Bishkek); MfN – Museum für Naturkunde, Berlin (Germany); MSNM – Museo di Storia Naturale, Milano (Italy); MHC – private collection of Marek Halada (České Budějovice, Czech Republic); PRC – private collection of Paolo Rosa (Bernareggio, Italy).

Pictures of the types were taken with a Nikon D700 connected to the microscope Togal SCZ and stacked with the software Combine ZP.

TAXONOMY

Subfamily Chrysidinae

Tribe Chrysidini

Genus *Euchroeus* Latreille, 1809

Euchroeus Latreille, 1809: 49. Type species: *Chrysis purpurata* Fabricius, 1787: 283 [= *Euchroeus purpuratus* (Fabricius, 1787)], by monotypy.

The genus *Euchroeus* is undoubtedly the most striking in the family Chrysididae, including species with noticeably chromatic dimorphism. They are middle sized to large and robust species, up to 11 mm in length. The head has a well developed transversal frontal carina, often with branches directed to mid-ocellus; the scapal

basin has dense and appressed hairs; the compound eyes are large and bulging; the clypeus is elongated as well as the mouthparts, protruding ventrally. The pronotum bears small antero-lateral teeth; the mesoscutum and scutellum are coarsely punctate; the mesopleuron ventrally is characterized by two small teeth; the wings have apex of radial sector distant more than 2 × MOD from anterior wing margin. The metasoma has tergum III with a marked swelling prior to pit row; its posterior margin is multidentate, with irregular teeth of variable number and size.

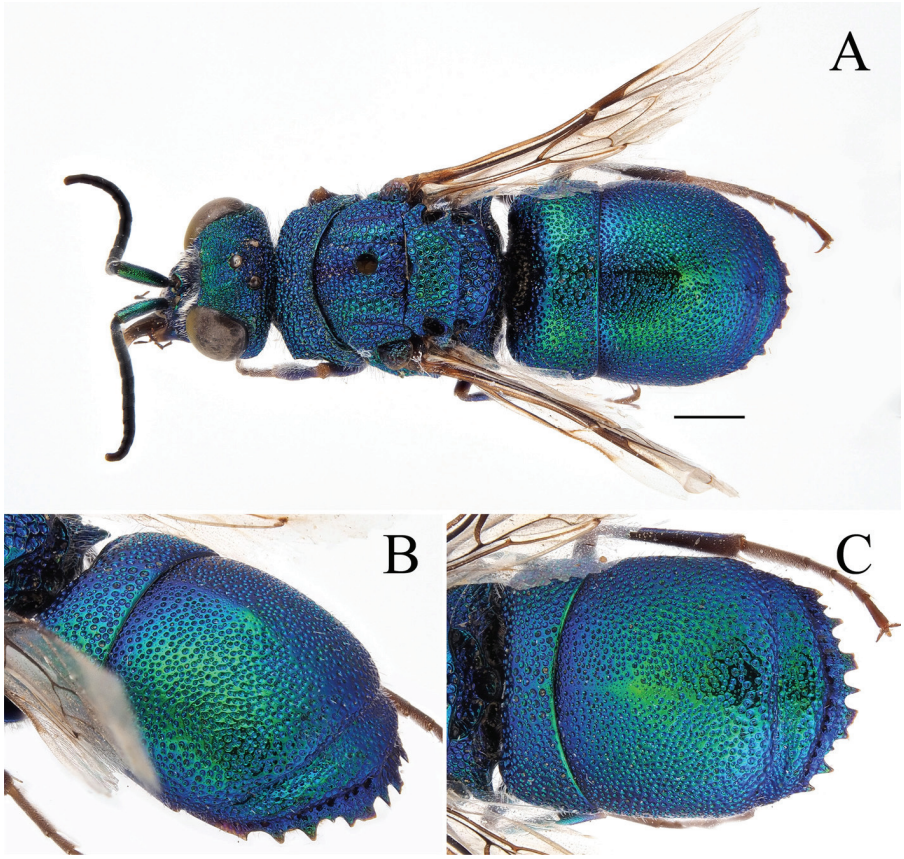

Fig. 1. *Euchroeus armatus* **sp. n.**, male, holotype. A – habitus, dorsal view; B, C – metasoma, postero-lateral view (B); dorsal view (C). Scale bar 1.0 mm.

The history of this genus name in Central Asia was confused and discussed in previous articles (Pavesi & Strumia, 1997; Rosa *et al*., 2017b). In fact, at least three names were used to assign members of this genus, *Brugmoia* Radoszkowski, 1877, *Pseudochrysis* Semenow, 1891, *Euchroeus* Latreille, 1809 and *Euchroeus* was also

used as subgenus of *Spinolia* Dahlbom, 1854. In particular, Kimsey & Bohart (1991) considered *Euchroeus* Latreille, 1809 a synonym of *Chrysis* Linnaeus, 1761 due to a misidentification of the type species, *Chrysis purpurata* Fabricius, 1787 (Pavesi & Strumia, 1997). Kimsey (1988) proposed the name *Brugmoia* Radoszkowski, 1877 as the first available name and Tarbinsky (2000) followed this interpretation for the revision of the Central Asian species. However, the International Commission on Zoological Nomenclature (ICZN, 1998, Opinion 1906) set aside the lectotype of *Chrysis purpurata* designated by Kimsey (1988), conserved the name *Euchroeus* Latreille, 1809 on the Official List of Generic Names in Zoology and conserved the name *Chrysis purpurata* Fabricius, 1787 [currently *Euchroeus purpuratus* (Fabricius, 1787)] on the Official List of Specific Names in Zoology. Consequently, the generic name *Brugmoia* Radoszkowski has to be considered a synonym of the generic name *Euchroeus* Latreille.

***Euchroeus armatus* Rosa, Halada et Proshchalykin, sp. n.**

https://zoobank.org/NomenclaturalActs/B455AFAC-55FE-453F-A45E-0B29AE332C7D

Figs 1A–C, 2A–B, 3A–B

TYPE MATERIAL. Holotype: ♂, **Mongolia**: Sukhbaatar, 100 km SSW of Baruun-Urt, 1100 m, 30.VII 2007, leg. M. Halada (MSNM). Paratypes: 1♂, Khentii, 100 km NE of Ondorkhaan, Kerulen River, 970 m, 22.VII 2007, leg. J. Halada (PRC); 2♂, Dornod, 20 km W of Choibalsan, 48°01' N, 114°14' E, 800 m, 24.VII 2007, leg. M. Halada (MHC); 1♂, Sukhbaatar, 100 km SSW of Baruun-Urt, 1100 m, 30.VII 2007, leg. M. Halada (MHC).

DESCRIPTION. MALE. Length 7.0–8.5 mm. (holotype full length 8.5 mm). *Head.* Scapal basin concave; median stripe polished, with sparse, small punctures; scapal basin widely polished below frontal declivity, laterally micropunctate, covered with dense, short, silvery setae; frons prominent over scapal basin; transverse frontal carina sharp, straight, placed 2.0 × MOD in front of anterior ocellus; malar space elongated, 1.6 × MOD; punctation on frons, with small, dense to contiguous punctures; punctures larger on vertex, and laterally to posterior ocelli. OOL 2.6 × MOD; POL 2.2 × MOD; MS 1.6 × MOD; relative length of P:F1:F2:F3 = 1.0:1.5:1.0:1.0; subantennal space 2.5 × MOD. *Mesosoma.* Pronotum as long as scutellum; antero-median pronotal line wide and shallow, as long as ½ pronotal length; punctation irregular and contiguous with punctures of different size without polished or micropunctate interspaces; propleuron ventrally bearing bilateral, large, spiniform tooth; mesoscutum basally with punctures rounded to polygonal; mesoscutellum with slightly larger, similar punctures; metanotum with irregular and larger punctures; posterior propodeal projections divergent and basally evidently concave; mesopleuron with hardy visible episternal sulcus, formed by confluent punctures; wide scrobal sulcus formed by subrectangular foveae and subtended by anterior large, digitate tooth and posterior shorter tooth. Wings hyaline, unmodified. *Metasoma.* Tergum I with double punctation and micropunctate interspaces; tergum II

dorsally with smaller and denser punctation, laterally with wider polished interspaces; medial longitudinal carina slightly raised and formed by polished stripe with tiny dots; pit row of tergum III with deep pits; apical margin with irregular teeth; black spots on sternum II small, subsquare.

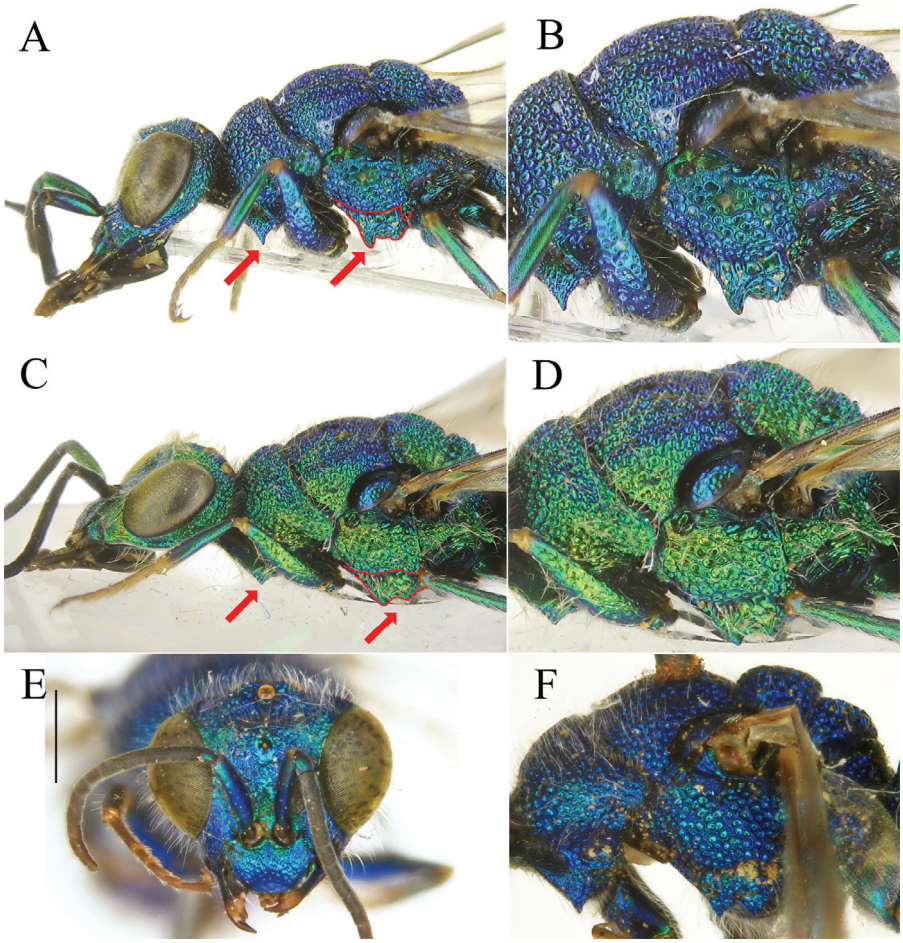

Fig. 2. *Euchroeus armatus* **sp. n.**, male, holotype (A, B), *E. purpuratus* (Fabricius, 1787) from Russia (C, D) and *E. arenarius* (Tarbinsky, 2000) from Central Asia (E, F). A, C – head and mesosoma, lateral view; B, D, F – mesosoma, lateral view; E – head, frontal view. Scale bar 1.0 mm.

Colouration. Body entirely metallic blue with green reflections; tergum II with a basal, narrow, darker stripe, faint in some paratypes; tegulae metallic green; mandibles light brown medially, metallic green at base. Scape, pedicel and large

part of flagellomere I metallic green, following flagellomeres blackish; legs metallic green, tarsi yellowish, becoming darker distally; sterna metallic green.

PARATYPES. Body size variable, from 7.0 to 8.5 mm; tergum II without basal, darker stripe; apical teeth on tergum III differently shaped, as in other members of the *Euchroeus purpuratus* species group.

FEMALE. Unknown.

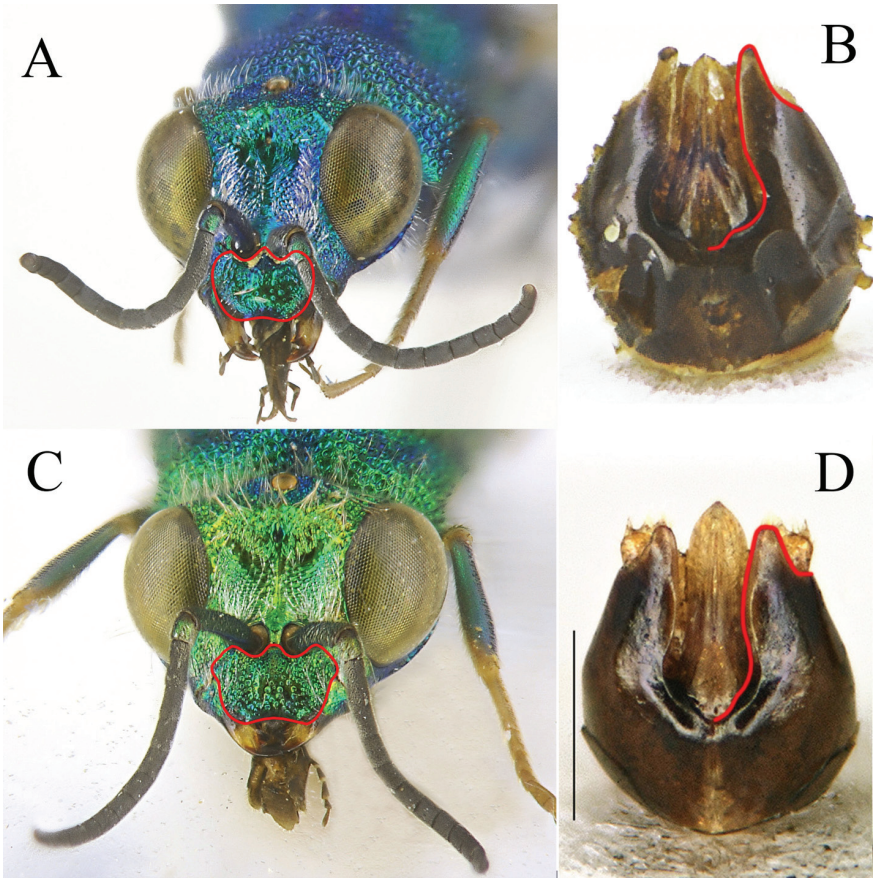

Fig. 3. *Euchroeus armatus* **sp. n.**, male, holotype (A, B) and *E. purpuratus* (Fabricius) from Russia (C, D). A, C – head, frontal view; B, D – genital capsule. Scale bar 1.0 mm.

DIAGNOSIS. *Euchroeus armatus* **sp. n.** is characterized by the elongate, spiniform processes on propleuron and antero-ventrally on mesopleuron (Fig. 2A, B); the body blue coloured (Fig. 1A), with greenish reflections, without darker marks and bands; metasomal sculpture distinctly double on tergum I and with small and dense punctures on tergum II (Figs 1B, C). *Euchroeus armatus* **sp. n.** is separated

from *E. purpuratus* (Fabricius) by the elongate clypeus (Fig. 3A); the elongate, spiniform process on propleuron and antero-ventrally on mesopleuron (Fig. 2A); by its colouration with metasoma without large darker bands, and different genital capsule (Fig. 3B). The male can be easily separated from the other two known Mongolian species by its body colouration (red colored as the female, with purple marks in *E. mongolicus*) or by its sculpture (with large, punctures in *E. orientis* Semenov, 1967 – see the pictures of the type specimen in Rosa *et al*., 2017a). *Euchroeus armatus* **sp. n.** is similar to the Central Asian *E. arenarius* (Tarbinsky, 2000) for the spiny ventral process of propleuron, but it can be separated by the different shape of the lower mesopleuron, with spiny anterior tooth (digitate in *E. armatus*) and narrow, arched interval between the anterior and posterior tooth (with a distinct, wide and straight interval in *E. armatus*).

ETYMOLOGY. The specific epithet *armatus* (= armed, masculine, adjective) refers to the spiniform processes on propleuron and mesopleuron.

DISTRIBUTION. Mongolia (Dornod, Khentii, Sukhbaatar).

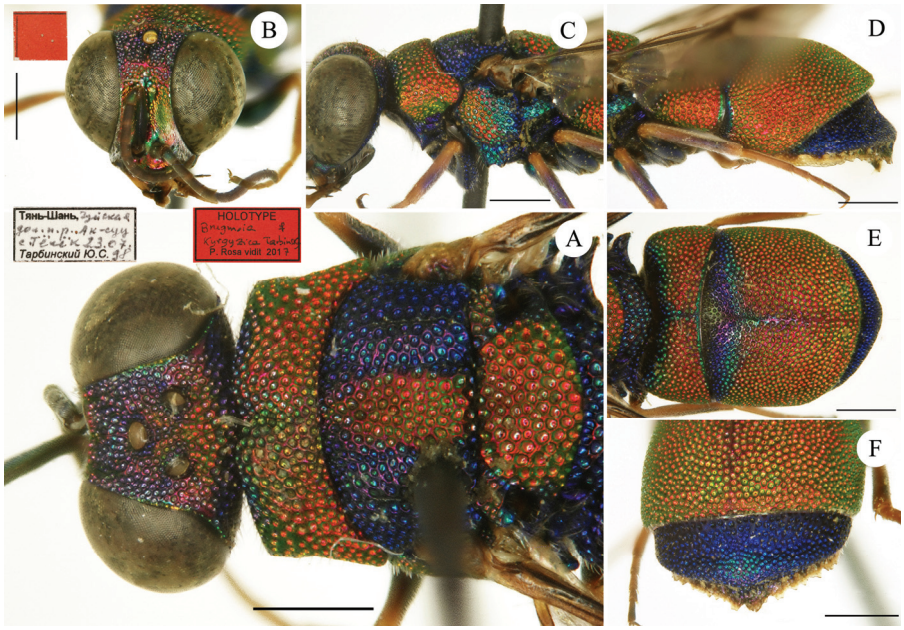

Fig. 4. *Brugmoia kyrgyzica* Tarbinsky, 2000, holotype, female. Head and mesosoma, dorsal view (A); lateral view (C); B – face, frontal view; D–F – metasoma, lateral view (D); dorsal view (E); posterior view (F). Scale bars 1.0 mm.

Euchroeus limbatus **Dahlbom, 1854**

Figs 4A–F, 5A–F

Euchroeus limbatus Dahlbom, 1854: 368 (holotype: ♀, southern Russia, MfN; examined).
Brugmoia kyrgyzica Tarbinsky, 2000: 26 (holotype: ♀, Kyrgyzstan: Tian-Shan, Telek, near Ak-Suu River, 23.07.1998, leg. Yu.S. Tarbinsky, IBPK; examined); **syn. n.**

TAXONOMIC NOTES. Tarbinky (2000) described three new Central Asian species of *Euchroeus* (=*Brugmoia*): *E. arenarius*, *E. kyrgyzicum* and *E. silaphilus*. We examined the type series housed at the Institute of Biology and Pedology of the National Academy of Sciences of Kyrgyzstan (Bishkek). The types of *E. kyrgyzicum* resulted conspecific with *E. limbatus* Dahlbom, 1854, one of the most common *Euchroeus* species from Turkey to Central Asia (type examined). For some reasons, Tarbinsky (2000) in the differential diagnosis compared *Euchroeus kyrgyzicum* to *E. eous* (Semenov-Tian-Shanskij, 1912), which clearly belongs to the *purpuratus* species group and not to the *limbatus* species group *sensu* Linsenmaier (1959). Conversely, in the article he did not mention and key *Euchroeus limbatus* which has been previously listed in the checklist of the Kyrgyz species (Tarbinsky, 1996). Female holotype and male paratypes of *Brugmoia kyrgyzica* were examined and photographed (Figs 4, 5). We here synonymize *Brugmoia kyrgyzica* Tarbinsky, 2000 with *Euchroeus limbatus* Dahlbom, 1854.

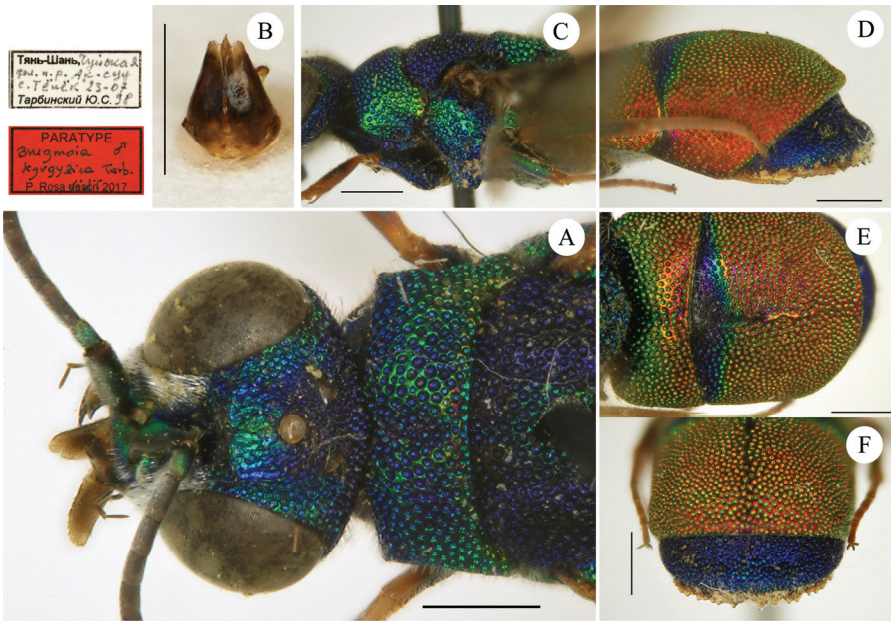

Fig. 5. *Brugmoia kyrgyzica* Tarbinsky, 2000, paratype, male. A – head and mesosoma, dorsal view; B – genital capsule; C – mesosoma, lateral view; D–F – metasoma, lateral view (D); dorsal view (E); posterior view (F). Scale bars 1 mm.

DISTRIBUTION. Russia (North Caucasus, European part, Urals), Turkey, Central Asia (Rosa et *al*., 2019).

ACKNOWLEDGEMENTS

This investigation was supported by the Russian Funds for Basic Research (grant number 20–54–44014), and the state assignment of Ministry of Science and Higher Education of the Russian Federation (theme No. 121031000151-3).

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