

New or Little-Known Beetle Species (Coleoptera) of the Families Histeridae and Scarabaeidae in the Faunas of Ciscaucasia, Western and Southeastern Kazakhstan

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Abstract—New data are presented on the distribution of Histeridae and Scarabaeidae in Russia and Kazakhstan. Three species, *Pholioxenus schatzmayri* J. Müller, 1910, *Mendidaphodius linearis* (Reiche et Saulcy, 1856), and *Onthophagus ponticus* Harold, 1883, are recorded from Kazakhstan for the first time, and one species, *Atholus scutellaris* (Erichson, 1834), is new to the fauna of Russia. The distribution ranges are refined for *Microsaprinus therondianus* (Dahlgren, 1973), *Hypocacculus biskrensis* (Marseul, 1876), *Paravolvulus rector* (Reitter, 1904), *Hister megalonyx* Reichardt, 1922, *Bodilus longipennis* (Rakovič, 1984), *Protaetia cyanescens jacobsoni* (Kiseritzky, 1910), and *Valgus hemipterus* (Linnaeus, 1758). All these species are distributed mainly in the four zoogeographical regions: Hesperian, European, Saharo-Gobian (Sethian), and Scythian.

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Though the investigation of the insect faunas of Kazakhstan and Southern Russia has a rich history, large parts of these territories still remain poorly studied.

According to the data of one of the recent reports on the fauna of Histeridae (Kozminykh et al., 2009), at least 87 species are known from Western Kazakhstan. Within the genus *Aphodius* Illiger, 1798 (of which several subgenera are promoted recently to genera), about 150 species were recorded for the territory of Middle Asia and Kazakhstan (Nikolaev, 1987).

Data considerably expanding and specifying the understanding of the ranges of 11 species of the families Histeridae and Scarabaeidae are given below.

The present study is based on examination of the material collected by the author in Western, Southern, and Southeastern Kazakhstan and in Ciscaucasia (2008, 2016). Identification of the specimens is confirmed by comparison with the collection in the Laboratory of Insect Systematics, the Zoological Institute, Russian Academy of Sciences (the Coleoptera Department). Morphological characters of the species (the microsculpture and characters of the relief which are used in diagnostics) were examined with scanning electronic microscopes (TESCANVEGA 3 and AURIGA FIB-SEM workstation). The typology of the ranges follows those of Krivokhatsky and Emeljanov (2000) and Kryzhanovskij (2002). All the specimens

examined are deposited in the collection of the Institute of Plant and Animal Ecology, the Ural Branch of the Russian Academy of Sciences, Yekaterinburg.

Family **HISTERIDAE** Gyllenhal, 1808

Subfamily **SAPRININAE** C. É. Blanchard, 1845

Microsaprinus therondianus (Dahlgren, 1973)

Material. 1 ♀, Western **Kazakhstan**, *Aktyubinsk Prov.*, 68 km E of Bozoi Vill., dunes at the Aral Sea (46°20'N, 59°41'E), 60 m a.s.l., near colonies of *Rhombomys opimus* (Lichtenstein, 1832), in sand, 30.V.2011 (A.V. Ivanov).

This Irano-Turanian–Central-Asian species is known from Southern Kazakhstan, Uzbekistan, Turkmenistan, Iran, and Mongolia (the southern and southwestern parts); it inhabits rodent burrows.

Pholioxenus schatzmayri (J. Müller, 1910)

Material. 1 ♂, Western **Kazakhstan**, *Aktyubinsk Prov.*, environs of Emba Vill. (48°49'N, 58°06'E), 215 m a.s.l., in burrow of *Spermophilus* sp., 24.IV.2008 (A.V. Ivanov).

This Mediterranean–Irano-Turanian species is known from Southeastern Europe, the European part of Russia, and Turkmenistan; it inhabits burrows of mammals.

Hypocacculus (Colpellus) biskrensis (Marseul, 1876)

Material. 1 ♂, Western **Kazakhstan**, *Mangystau Prov.*, Mangyshlak Peninsula, Kulaat Mt. (44°20'N, 51°36'E), 126 m a.s.l., 14.V.2004 (V.A. Kozlov).

This Mediterranean–Irano-Turanian species is known from Northwestern Africa, Spain, Greece, Turkey, Kazakhstan, Turkmenistan, Uzbekistan, and Tajikistan. It was also recorded for the Afrotropical Region. It occurs on carrion and in excrements (Kryzhanovskij and Reichardt, 1976).

Paravolvulus refector (Reitter, 1904)

Material. 1 ♀, Western **Kazakhstan**, *Aktyubinsk Prov.*, Aktolagai Mt. Range (47°30'N, 055°07'E), 209 m a.s.l. on plateau among chalk outcrops, 17.V.2010 (A.V. Ivanov).

This species is similar to *P. assimilis* Kryzhanovskij, 1987 in appearance but differs in a coarse and dense punctation of the pronotum, especially that along the *stria lateralis* which is more distant from the lateral margin (see figure), and also in the absence of microsculpture between the punctures on the pygidium. The specimen collected has bluish tint of the integument similar to that in *P. assimilis*.

This Irano-Turanian species is known from Kazakhstan, Turkmenistan, Uzbekistan, Kyrgyzstan, and Afghanistan (Löbl and Löbl, 2015). The biology is unknown.

Subfamily HISTERINAE Gyllenhal, 1808

Hister megalonyx Reichardt, 1922

Material. 4 ♂, 2 ♀, Western **Kazakhstan**, *Mangystau Prov.*, sands of Karynzhar'yk, 16 km S of Akkuduk Vill., Alke Winterland Camp (42°49'N, 54°07'E), 107 m a.s.l., under sheep corpse, 25.IV.2009 (P.Yu. Gorbunov); 1 ♂, Southern **Kazakhstan**, *South Kazakhstan Prov.*, Karatau Mt. Range, 25 km SW of Chulakkurgan Vill. (43°41'N, 68°49'E), 860 m a.s.l., in manure, 03.V.2012 (A.V. Ivanov); 1 ♂, *Kyzylorda Prov.*, environs of Bugun Vill. (46°07'N, 61°14'E), 55 m a.s.l., under dry manure, 26.IV.2013 (A.V. Ivanov).

This Irano-Turano–Central-Asian species is known from Turkmenistan, Southern Kazakhstan, Uzbekistan, Afghanistan, and Northwestern China. The biology is little known (Kryzhanovskij and Reichardt, 1976). al., 2009) it was recorded for Aktyubinsk and Mangystau provinces of Kazakhstan by Kryzhanovskij and Tishechkin (1994) and by Kozminykh et al. (2009).

Atholus scutellaris (Erichson, 1834)

Material. 1 ♀, **Russia**, *Stavropol Terr.*, Georgievskii Distr., Nezlobnaya Cossack Village (44°06'N, 43°25'E), 301 m a.s.l., under corpse of *Pica pica* (Linnaeus, 1758), 26.VIII.2010 (A.V. Ivanov).

This Mediterranean–West-Scythian–Irano-Turanian species is known from the Mediterranean Area, Africa, Eastern Transcaucasia, and Middle Asia. It occurs on carrion, less frequently in manure (Kryzhanovskij and Reichardt, 1976).

Family SCARABAEIDAE Latreille, 1802

Subfamily APHODIINAE Leach, 1815

Tribe Aphodiini Leach, 1815

Subtribe Aphodiina Leach, 1815

Bodilus longipennis (Rakovič, 1984)

Material. 3 ♂, 2 ♀, Southeastern **Kazakhstan**, *Almaty Prov.*, 3 km NE of Aktogai Vill. (43°14'N, 078°52'E), 1160 m a.s.l., at light, 25.V.2016 (A.V. Ivanov).

This Middle Asian species is known from Afghanistan, Kyrgyzstan (Frolov, 2001), and Kazakhstan. The biology is unknown. The species inhabits hilly areas.

Mendidaphodius linearis (Reiche et Saulcy, 1856)

Material. 1 ♀, Western **Kazakhstan**, *Aktyubinsk Prov.*, 2 km W of Karatas Vill., sands of Kumzhiek-kuduk (48°09'N, 56°54'E), 139 m a.s.l., at light, 19.V.2010 (A.V. Ivanov); 2 ♂, 25 km SW of Emba Vill., sands of Kumzhargan (48°38'N, 57°54'E), 195 m a.s.l., at light, 25.IV.2012 (A.V. Ivanov).

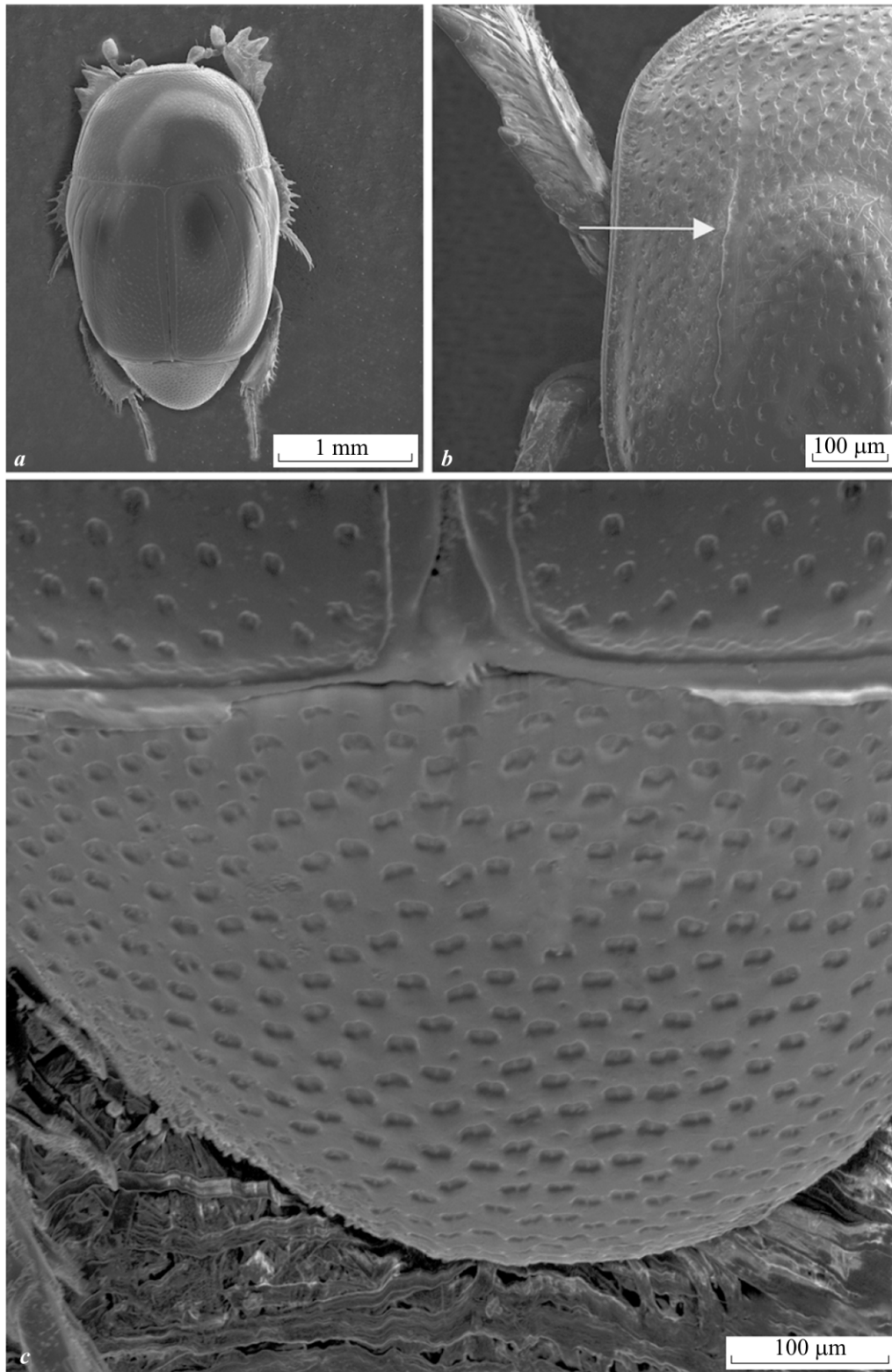
This Euro-Mediterranean–North-Turanian plain species is known from Egypt, Turkey, Syria, Israel, Ukraine, the forest zone of the European part of Russia, and also from Volgograd and Kurgan provinces and Tatarstan (Akhmetova and Frolov, 2014).

Subfamily SCARABAEINAE Latreille, 1802

Tribe Onthophagini Burmeister, 1846

Onthophagus (Palaeonthophagus) ponticus
Harold, 1883

Material. 1 ♂, **Russia**, *Orenburg Prov.*, Belyaevskii Distr., 4 km W of Donskoe Vill. (51°23'N, 056°48'E), 329 m a.s.l., in excrements of *Vulpes vulpes* Linnaeus, 1758, 10.V.2009 (P.V. Rudoiskatel);



The sculpture of integument of *Paravolvulus rector* Reitter: (a) general view, (b) sculpture of pronotum, (c) punctation of pygidium. The arrow points to the *stria lateralis*.

1 ♂, environs of the city of Kuvandyk (51°28'N, 57°21'E), 232 m a.s.l., 27.IV.2011 (Yu.A. Shevnin); 1 ♂, 3 ♀, Western **Kazakhstan**, *Aktyubinsk Prov.*, 43 km NW of Miyaly Vill., Aktolagai Mt. Range (47°30'N, 55°07'E), 176 m a.s.l., in manure, 17.IV.2013 (A.V. Ivanov).

This Euro–West-Scythian–Irano-Turanian species is known from Central and Southeastern Europe, Eastern Georgia, Azerbaijan, Turkey, Syria, Northern Iran, Crimea, Ciscaucasia, and the south of the European part of Russia (Kabakov, 2006). It is recorded for Kazakhstan for the first time.

Subfamily CETONIINAE Leach, 1815

Tribe **Cetoniini** Leach, 1815

Subtribe Cetoniina Leach, 1815

Protaetia (Pseudonetocia) cyanescens jacobsoni
(Kiseritzky, 1910)

Material. 2 ♂, Southeastern **Kazakhstan**, *Dzhambul Prov.*, 3 km NW of Kyzyltas Vill., Chu-Ili Mts. (43°16'N, 74°47'E), 777 m a.s.l., on flower head of *Carduus* sp., 23.V.2016 (A.V. Ivanov).

This is an Irano-Turanian–Trans-Ili subspecies. In Southeast Kazakhstan it was known only from the type locality, the environs of Almaty (Vernyi).

Valgus hemipterus hemipterus (Linnaeus, 1758)

Material. 1 ♂, 1 ♀, Southeastern **Kazakhstan**, *Almaty Prov.*, 20 km E of Kyzylagash Vill., Konyrtau Mt. (45°23'N, 78°57'E), 592 m a.s.l., 30.V.2016 (K.I. Fadeev).

This Euro-Mediterranean–Irano-Turano–East-Siberian species is widely distributed in Europe, North-western Africa; single records: Uralsk, Guryev, Alma-Ata, Tajikistan (Nikolaev, 1987); Uzbekistan, Kyrgyzstan, Iran, Eastern Siberia, the Far East (Löbl and Löbl, 2016).

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REFERENCES

1. Akhmetova, L.A. and Frolov, A.V., “A Review of the Scarab Beetle Tribe Aphodiini (Coleoptera, Scarabaeidae) of the Fauna of Russia,” *Entomologicheskoe Obozrenie* **93** (2), 403–447 (2014) [*Entomological Review* **94** (6), 846–879 (2014)].
2. Frolov, A.V., “Species of the Subgenus *Bodilus* (Genus *Aphodius*) from Russia and Adjacent Countries (Coleoptera: Scarabaeidae),” *Zoosystematica Rossica* **10**, 89–95.
3. Kabakov, O.N., *Lamellicorn Beetles of the Subfamily Scarabaeinae (Insecta: Coleoptera: Scarabaeidae) of the Fauna of Russia and Adjacent Countries* (KMK, Moscow, 2006) [in Russian].
4. Kozminykh, V.O., Nemkov, V.A., Rusakov, A.V., Shapovalov, A.M., and Kazakov, E.P., “New Records of Histeridae Beetles (Insecta: Coleoptera) in Orenburg Region and Western Kazakhstan, Part 3,” *Vestnik OGU*, No. 9, 83–100 (2009).
5. Krivokhatsky, V.A. and Emeljanov, A.F., “Use of General Zoogeographic Subdivisions in Particular Zoogeographic Researches by the Example of the Palearctic Antlion Fauna (Neuroptera, Myrmeleontidae),” *Entomologicheskoe Obozrenie* **79** (3), 557–578 (2000) [*Entomological Review* **80** (9), 1042–1056 (2000)].
6. Kryzhanovskij, O.L., *Composition and Distribution of Entomofaunas of the Globe* (KMK, Moscow, 2002) [in Russian].
7. Kryzhanovskij, O.L. and Reichardt, A.N., “Beetles of the Superfamily Histeroidea (Families Sphaeritidae, Histeridae, Synteliidae),” in *Fauna of the USSR. Coleoptera. Vol. 5. No. 4* (Nauka, Leningrad, 1976) [in Russian].
8. Kryzhanovskij, O.L. and Tishechkin, A.K., “New Data on Distribution of Palearctic Histeridae with Description of a New Species of *Saprinus* (Coleoptera),” *Zoosystematica Rossica* **3**, 93–95 (1994).
9. Löbl, I. and Löbl, D., “Hydrophiloidea–Staphylinoidea. Revised and Updated Edition,” in *Catalogue of Palearctic Coleoptera. Vol. 1* (Brill, Leiden, Boston, 2015).
10. Löbl, I. and Löbl, D., “Scarabaeoidea, Scirtoidea, Dasycilloidea, Buprestoidea, Byrrhoidea. Revised and Updated Edition,” *Catalogue of Palearctic Coleoptera. Vol. 3* (Brill, Leiden, Boston, 2016).
11. Nikolaev, G.V., *Lamellicorn Beetles (Coleoptera, Scarabaeoidea) of Kazakhstan and Middle Asia* (Nauka, Alma-Ata, 1987) [in Russian].