

## Revision of the type material of the Saprinae and Histerinae (Coleoptera: Histeridae) described by V.O. Kozminykh

### Ревизия типового материала видов Saprinae и Histerinae (Coleoptera: Histeridae) описанных В.О. Козьминых

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**ABSTRACT.** Type species of Histeridae (Coleoptera) described by V.O. Kozminykh are revised and their taxonomic status determined. The following new synonymies are proposed: *Atholus nemkovi* Kozminykh, 2003 = *Atholus bimaculatus* (Linnaeus, 1758) **syn.n.**; *Saprinus (Saprinus) antennatus* Kozminykh, 2001 = *Saprinus (Saprinus) jacobsoni* Reichardt, 1923 **syn.n.**; *Saprinus (Saprinus) kazakhstanicus* Kozminykh, 2000 = *Saprinus (Saprinus) virescens* (Paykull, 1798) **syn.n.**; *Saprinus (Saprinus) lautus arkaimicus* Kozminykh, 2000 = *Saprinus (Saprinus) lautus* Erichson, 1839 **syn.n.**; *Saprinus (Saprinus) melyakhi* Kozminykh, 2000 = *Saprinus (Saprinus) niger* Motschulsky, 1849 **syn.n.**; *Saprinus (Saprinus) orenburgensis* Kozminykh, 2001 = *Saprinus (Saprinus) godet* (Brullé, 1832) **syn.n.** *Saprinus (Saprinus) niger* Motschulsky, 1849 is reported as new to the Russian fauna.

**РЕЗЮМЕ.** Ревизованы типовые виды Histeridae (Coleoptera), описанные В. О. Козьминых, и установлен их таксономический статус. Предложены следующие случаи новой синонимии: *Atholus nemkovi* Kozminykh, 2003 = *Atholus bimaculatus* (Linnaeus, 1758) **syn.n.**; *Saprinus (Saprinus) antennatus* Kozminykh, 2001 = *Saprinus (Saprinus) jacobsoni* Reichardt, 1923 **syn.n.**; *Saprinus (Saprinus) kazakhstanicus* Kozminykh, 2000 = *Saprinus (Saprinus) virescens* (Paykull, 1798) **syn.n.**; *Saprinus (Saprinus) lautus arkaimicus* Kozminykh, 2000 = *Saprinus (Saprinus) lautus* Erichson, 1839 **syn.n.**; *Saprinus (Saprinus) melyakhi* Kozminykh, 2000 = *Saprinus (Saprinus) niger* Motschulsky, 1849 **syn.n.**; *Saprinus (Saprinus) orenburgensis* Kozminykh, 2001 = *Saprinus (Saprinus) godet* (Brullé, 1832) **syn.n.** *Saprinus (Saprinus) niger* Motschulsky, 1849 указан впервые для фауны России.

#### Introduction

Vladislav O. Kozminykh described between 2000–07 several taxa of Histeridae, some of which were found

to be unavailable names or junior synonymies of already known species [see e.g. Mazur, 2011 or Lackner et al., 2015 for details]. Descriptions were published in local and often obscure Russian journals and consequently most of the described taxa were even omitted by the subsequent major review publications on the Histeridae [e.g. Mazur, 2011]. This paper attempts to deal with all of the Histeridae species and subspecies V.O. Kozminykh described. Oddly enough, all species, as far as is known, were described based on single females. In 2011, one of us (T.L.) visited Mr. Kozminykh in his home in Perm, Russia. During this visit he was able to examine most of Mr. Kozminykh's type material and the bulk of the type specimens were donated by V.O. Kozminykh to him. According to Mr. Kozminykh's wishes, the type specimens will be deposited in the Zoological Institute of Russian Academy of Sciences (ZIN), St. Petersburg, Russia. Based on these examinations, as well as careful check of the literature, we can conclude that most of the taxa described by Kozminykh are junior synonyms of already known species. The details are presented below.

#### Material and methods

Type specimens were observed under Zeiss Discovery V8 Stereo binocular microscope and compared to reliably identified specimens from our own collections. Habitus photographs were taken by Fero Slamka (Bratislava, Slovakia). Holotype labels are given verbatim in AKT's translation from Russian where necessary, data from different labels are separated by back slashes ‘\’).

#### Taxonomy

*Atholus nemkovi* Kozminykh, 2003  
= *Atholus bimaculatus* (Linnaeus, 1758) **syn.n.**  
Fig. 1.

*Atholus nemkovi* Kozminykh, 2003: 86.

TYPE MATERIAL EXAMINED: Holotype, female: “[Oren-

burg Area, Belyaevsky Distr., Burtinskaya steppe, traps, pasture, V. A. Nemkov leg. [in Russian, printed.] / S. Urals, Orenburg Area, Belyaevsky Distr., Burtinskaya pitfall traps, 26–30.05.2002 Nemkov V.A. leg. [printed] / ♀ [printed] / Holotype [small rectangular red hand-written label] / *Atholus nemkovi* Kozminykh, 2002 Holotype, female Kozminykh V.O., 2002 [printed]” (ZIN).

This is a specimen of *Atholus bimaculatus* (L.) with somewhat smaller red maculae (limited internally by the fifth dorsal elytral striae) and slightly more distinct pygidial punctation. The distinguishing characters mentioned in the diagnosis [Kozminykh, 2003] lay well within the variability of this common and widespread species; one of them, ‘rounded, not emarginate anterior margin of mesoventrite’ does not make any sense at all, since the lack of emargination on anterior margin of mesoventrite is a major diagnostic character of *Atholus*. Kozminykh, in his later works mentions multiple specimens, however, we were only able to examine the holotype.

NOTE. Omitted by Mazur [2011]. Lackner [2015: 2] states that *Atholus nemkovi* is an unavailable name, since the holotype depository was not explicitly mentioned by Kozminykh [2003]. This was a mistake, as Kozminykh [2003:

87] mentions the type depository as his private collection. The type specimen is currently deposited in ZIN.

*Eosaprinus frontalis* Kozminykh, 2000

= *Chalcionellus decemstriatus* (P. Rossi, 1792) — synonymized by Mazur [2011: 197].

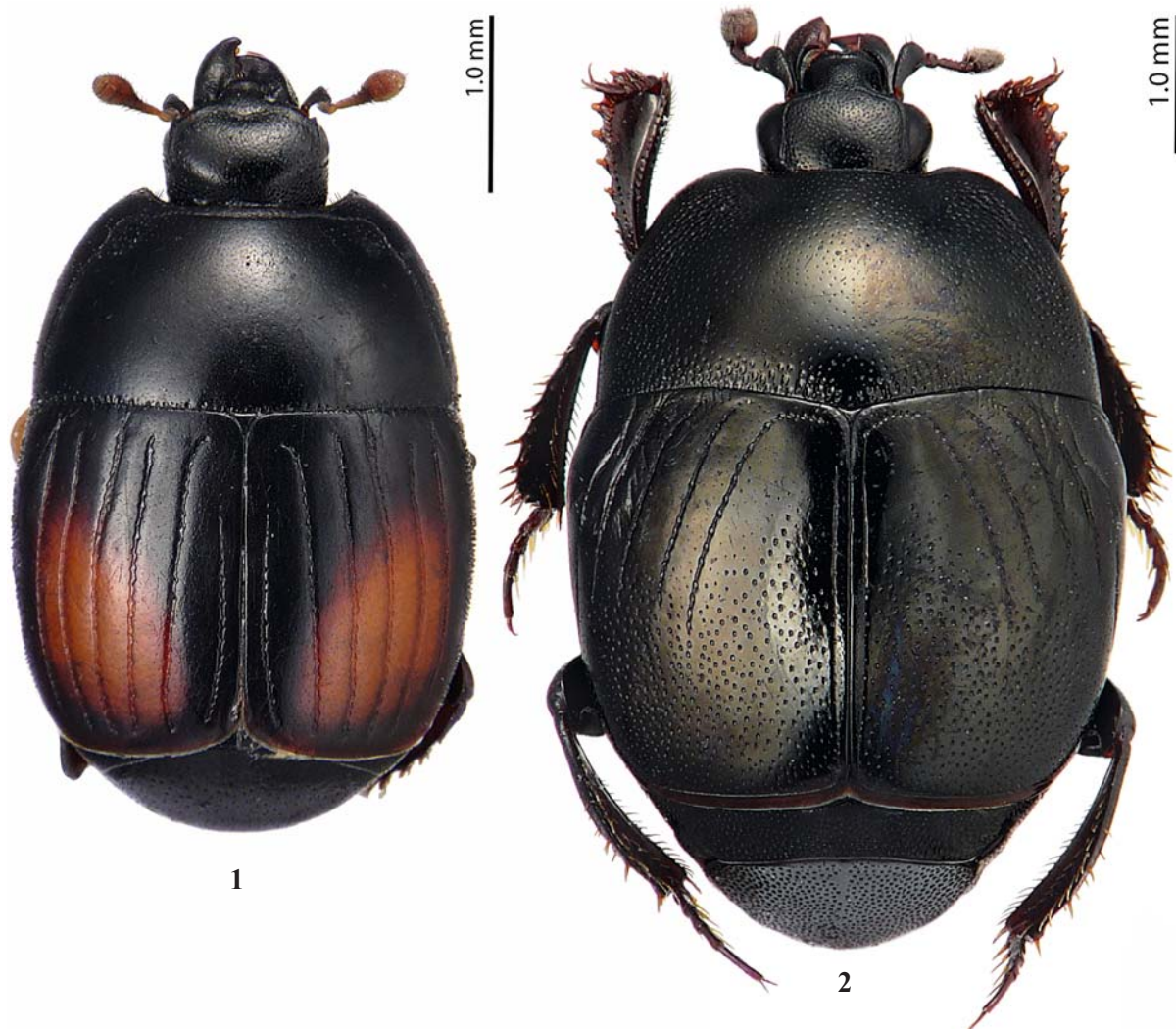
TYPE MATERIAL EXAMINED: One of us (T.L.) examined the holotype of this taxon, which is still housed at the private collection of V.O. Kozminykh. Upon inspection, it was concluded that it is conspecific with *Chalcionellus decemstriatus decemstriatus* (P. Rossi, 1792), promptly synonymized by Mazur [2011].

NOTE. Since Kozminykh [2000: 23] did not mention the holotype depository, the name *Eosaprinus frontalis* is made unavailable by the IZCN, Art. 16.4.2.

*Hypocaccus (Hypocaccus) rugiceps ermolajevi*  
Kozminykh, 2006

= *Hypocaccus rugiceps* (Duftschmid, 1805) — synonymy established by Lackner [2015: 2].

TYPE MATERIAL EXAMINED: One of us (T.L.) examined the holotype of this taxon, which is still housed at the private



Figs 1–2. Holotypes, dorsal view: 1 — *Atholus nemkovi* Kozminykh, 2003 [= *Atholus bimaculatus* (L.)]; 2 — *Saprinus (Saprinus) antennatus* Kozminykh, 2001 [= *Saprinus jacobsoni* Reichardt].

Рис. 1–2. Голотипы, сверху: 1 — *Atholus nemkovi* Kozminykh, 2003 [= *Atholus bimaculatus* (L.)]; 2 — *Saprinus (Saprinus) antennatus* Kozminykh, 2001 [= *Saprinus jacobsoni* Reichardt].

collection of V.O. Kozminykh. Upon inspection, it was concluded that it is conspecific with *Hypocaccus rugiceps* (Dufschmid, 1805).

NOTE. Omitted by Mazur [2011]. Since Kozminykh [2006: 59] does not mention the type depository of this species, the name *Hypocaccus rugiceps ermolaevi* is made unavailable by IZCN Art. 16.4.2.

*Saprinus (Saprinus) antennatus* Kozminykh, 2001  
= *Saprinus (Saprinus) jacobsoni* Reichardt, 1923 **syn.n.**  
Fig. 2.

*Saprinus (Saprinus) antennatus* Kozminykh, 2001: 113, fig. 1: 1–3; Lackner et al. [2015]: 122.

TYPE MATERIAL EXAMINED: Holotype, female: “[Troitsk-1995 (vertical along the left side of the label) Chelyabinsk Area, Troitsk Dist., Troitsk Reserve, birch grove, traps, S. L. Esyunin leg.] [In Russian, printed] / South Urals [vertical along the left side of the label] Russia, Chelyabinsk Prov., Troitsk Reserve, birch park, pit-fall traps, 24.06.-13.07.1995 S.L. Esyunin leg. [printed] / [rectangular red label without inscriptions] / *Saprinus (Saprinus) antennatus* Kozminykh sp. n. № 17–95 Kozminykh V.O., 2000 [printed]” (ZIN).

This is a large, but typical female specimen of *S. jacobsoni*. The distinguishing characters mentioned in the diagnosis (antennal club paler than in *S. jacobsoni*, widely separated oblique subhumeral and first dorsal elytral striae, large size) are either non-existent or lay within the normal variability of *S. jacobsoni*.

NOTE. Omitted by Mazur [2011]. The type specimen is currently deposited in ZIN.

*Saprinus (Saprinus) kazakhstanicus* Kozminykh, 2000  
= *Saprinus (Saprinus) virescens* (Paykull, 1798) **syn.n.**  
Fig. 3.

*Saprinus (Saprinus) kazakhstanicus* Kozminykh, 2000: 110; Kozminykh [2001]: 115, fig. 1: 4–6; Lackner et al. [2015]: 124.

TYPE MATERIAL EXAMINED: Holotype, female: “[26.V.1998 (vertical along the left side of the label) SW Kazakhstan, Mangyshlak Peninsula, near Sagiz settlement, T. P. Malyskina leg.] [In Russian, printed] / ♀ [printed] / [rectangular red label without inscriptions] / *Saprinus (Saprinus) kazakhstanicus* Kozm. sp. nov. descr. 1999 Kozminykh V. det. 1999 [printed]” (ZIN).

Reference to *Saprinus (Saprinus) niger* Motschulsky, 1849 in the differential diagnosis by Kozminykh [2000] does not make any sense, the species is not closely related to it. This is, without a doubt, a specimen of *S. virescens* with weakly developed greenish tinge.

NOTE. Omitted by Mazur [2011]. The type specimen is currently deposited in ZIN.

*Saprinus (Saprinus) lautus arkaimicus* Kozminykh, 2000  
= *Saprinus (Saprinus) lautus* Erichson, 1839 **syn.n.**

*Saprinus lautus arkaimicus* Kozminykh, 2000: 111; Kozminykh (2001): 117, fig. 2: 1–3; Lackner et al. (2015): 124.

TYPE MATERIAL EXAMINED: None. Synonymy established on the literature reference.

According to Kozminykh [2000: 111] the new subspecies ‘differs from nominative subspecies by coarse, “wrinkled” punctuation of elytral disc and relative position of oblique and fragment of outer subhumeral striae. Probably, deserves a status of separate species, but the lack of serial material does not allow to make the final conclusion.’ Kozminykh [2000] examined only one specimen, whose sex was not mentioned.

The same author [Kozminykh, 2001: 117] repeats the above-mentioned information, but specifies the sex of the holotype as a female.

The more detailed description of the subspecies *S. l. arkaimicus* [Kozminykh 2001] is mostly generic and fitting for *Saprinus lautus*, with several exceptions: in the fourth elytral interval along the suture the elytral punctuation reaches elytral



Fig. 3. *Saprinus (Saprinus) kazakhstanicus* Kozminykh, 2000 (= *Saprinus virescens* [Paykull]). Holotype, dorsal view.

Рис. 3. *Saprinus (Saprinus) kazakhstanicus* Kozminykh, 2000 (= *Saprinus virescens* [Paykull]). Голотип, сверху.

base (this would eliminate the existence of elytral ‘mirror’ [= polished area], but further down in the text the author states ‘mirrors indistinct and not clearly delineated [corresponds well with the state in typical *S. lautus*]’). Also, carinal prosternal striae in *S. l. arkaimicus* ‘end freely anteriorly, anterior loop formed by lateral carinal striae’. This condition, however, occasionally occurs in *S. lautus*; out of longest series collected from a single locality at hands, 22 specimens, we were able to establish this condition in three of them. Summarising the above information, it can be concluded that we are dealing with a single, slightly aberrant (apparently, with somewhat coarser discal elytral punctuation and uncommon, but regularly observed carinal strial structure) female specimen. Given this situation as well as wide distribution of the nominative subspecies in the Urals (reported to be ‘highly variable’ there and including a record of 25 specimens from the *S. l. arkaimicus* type locality [Kozminykh, 2011]), we consider these subspecies to be synonymous.

NOTE. Omitted by Mazur [2011].

*Saprinus (Saprinus) melyakhi* Kozminykh, 2000  
= *Saprinus (Saprinus) niger* Motschulsky, 1849 **syn.n.**  
Fig. 4.

*Saprinus (Saprinus) melyakhi* Kozminykh, 2000: 111; Kozminykh [2001]: 118, fig. 3: 1–3; Lackner et al. [2015]: 124.

TYPE MATERIAL EXAMINED: Holotype, female (contrary to the original statement of being a male, genitalia apparently

extracted and lost, sexed by the setae on protarsi): “[Mid Urals ’85 (vertical along the left side of the label) Near Sverdlovsk (currently Ekaterinburg), Sokolovka village, F. V. Melyakh leg.] [In Russian, printed] / *Saprinus intractabilis* Rehd. [hand-written] / near Sverdlovsk Sokolovka 15.06.1985. [In Russian, printed/written] / [rectangular red label without inscriptions] / *Saprinus (Saprinus) melyakhi* Kozminykh sp. nov. 1999 descr. Kozminykh V. det., 1999 [printed]” (ZIN).

Reference to *S. intractabilis* Reichart, 1929 and *S. tenuisitrius sparsutus* Solsky, 1876 in the differential diagnosis [Kozminykh, 2001] does not make any sense, the species is not closely related to either of these two taxa. This is, without a doubt, a small specimen of *S. niger* Motschulsky, 1849. According to Lackner et al. [2015], the species *Saprinus (Saprinus) niger* is distributed in the following countries: Afghanistan, Algeria, Armenia, Azerbaijan, Georgia, Greece, Iran, Iraq, Israel, Jordan, Kazakhstan, Libya, Morocco, Pakistan, Portugal, Spain, Syria, Tunisia, Turkey, Turkmenistan and Uzbekistan. New record for the Russian fauna.

NOTE. Omitted by Mazur [2011]. The type specimen is currently deposited in ZIN.

*Saprinus (Saprinus) orenburgensis* Kozminykh, 2001 = *Saprinus (Saprinus) godet* (Brullé, 1832) **syn.n.**

Fig. 5.

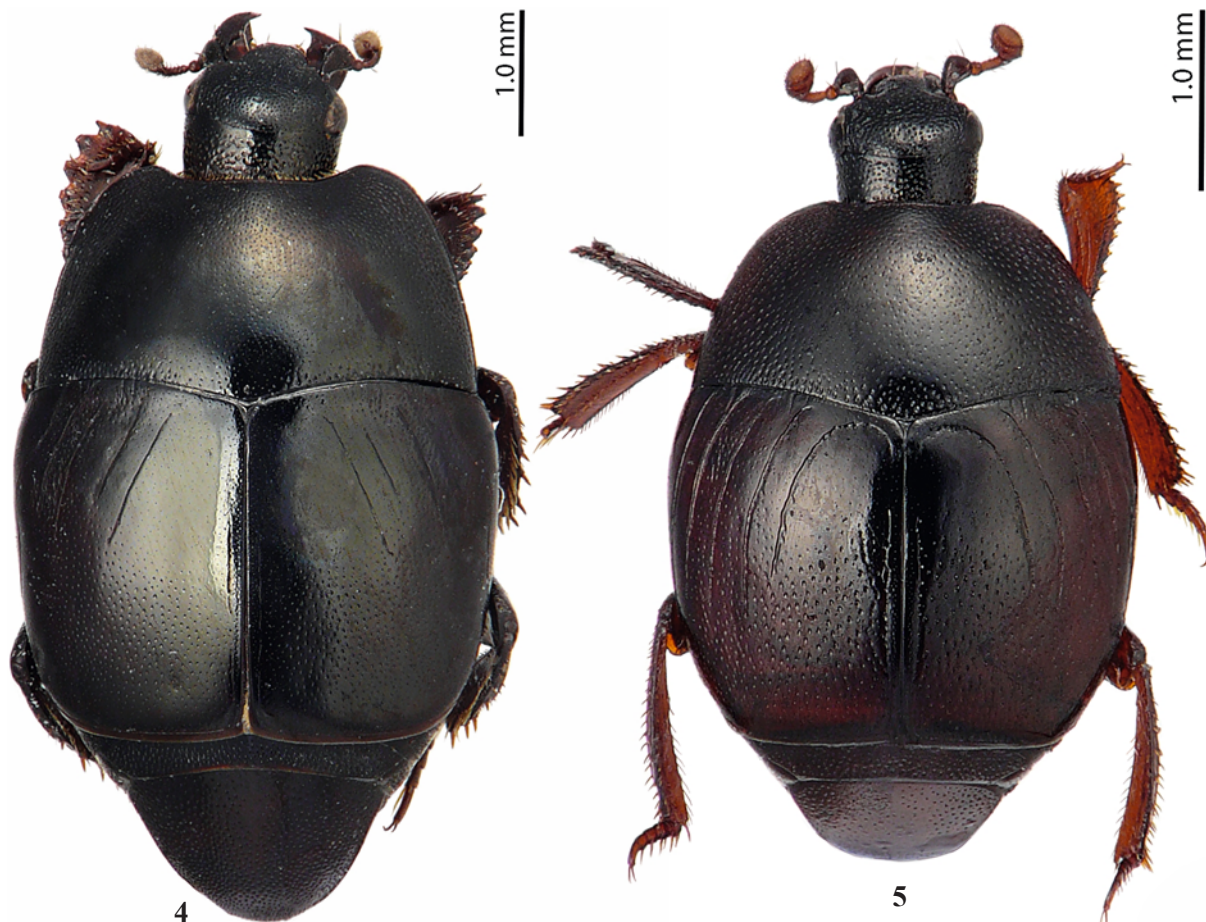
TYPE MATERIAL EXAMINED: Holotype, female: “[5–9.VII.2000 (vertical along the left side of the label)] South Urals,

Orenburg Area, Orenburg State Nat. Reserve, Burtinskaya steppe, abandoned field, pitfall traps Victor A. Nemkov leg.] [In Russian, printed] / ♀ [printed] / *Saprinus (Saprinus) orenburgensis* sp. n. Histeridae Kozminykh V.O., 2000 [printed]” (ZIN).

This is a female specimen of *Saprinus (Saprinus) godet* (Brullé, 1832) possessing the specific antennal club, broken connection of sutural and fourth dorsal striae and complete lack of pronotal foveae. According to Lackner et al. [2015], the species *Saprinus (Saprinus) godet* is distributed in the following countries: Azerbaijan, France, Georgia, Greece, Italy, Kazakhstan, Mongolia, Portugal, Saudi Arabia, Spain, Turkey and Uzbekistan. Kozminykh’s own first records of this species for Russia (as *Saprinus biterrensis* Marseul, 1862), in a table for ‘Orenburg Region’ without any more precise information [Kozminykh 2003] and with exact localities in the same area [Kozminykh, 2011], were omitted by the previous publication.

NOTE. Omitted by Mazur [2011]. The type specimen is currently deposited in ZIN.

Kozminykh [2007: 170, 171] published additional three names: *Gnathoncus striatus*, *Gnathoncus victor* and *Orenewmus aituaricus*. The type specimens (each species was represented again by a single female specimen) of these taxa were likewise donated by Mr. Kozminykh during the visit of junior author (T.L.) and are currently deposited in ZIN. Inasmuch the author did not accompany these names with either a



Figs 4–5. Holotypes, dorsal view: 4 — *Saprinus (Saprinus) melyakhi* Kozminykh, 2000 [= *Saprinus niger* (Motschulsky)]; 5 — *Saprinus (Saprinus) orenburgensis* Kozminykh, 2001 [= *Saprinus godet* (Brullé)].

Рис. 4–5. Голотипы, сверху: 4 — *Saprinus (Saprinus) melyakhi* Kozminykh, 2000 [= *Saprinus niger* (Motschulsky)]; 5 — *Saprinus (Saprinus) orenburgensis* Kozminykh, 2001 [= *Saprinus godet* (Brullé)].



Fig. 6. *Xestipyge puncticulatum* Desbordes, 1919. Syntype, dorsal view.

Рис. 6. *Xestipyge puncticulatum* Desbordes, 1919. Синтип, сверху.

description, or a holotype designation or depository, these names were made unavailable (IZCN Art. 16.4.2); published already by Lackner [2015].

Having examined the “type” specimens of these above-mentioned taxa we came to the following conclusions. First, in our view, both *G. striatus* and *G. victor* represent the same species, only slightly differing among each other morphologically. We endeavoured to identify the species using the key of Kryzhanovskij and Reichardt [1976: 114], but were unable to determine the species they represent. Unfortunately, both specimens are females and this has made further identification very complicated. We admit that this might be indeed an undescribed species of *Gnathoncus* Jacquelin du Val, 1858, but would advocate for collecting more (especially male) specimens from the type locality. Second, the type specimen of *Orenemus aituaricus* in fact represents a female of *Xestipyge puncticulatum* Desbordes, 1919. According to Lackner et al. [2015], *X. puncticulatum* is found in Southern Russia, Armenia and Turkey. We compared the Kozminykh’s specimen with the syntype of *X. puncticulatum* (housed in Muséum national d’Histoire naturelle, Paris, France; A. Taghavian

and concluded that they form the same taxonomic entity, albeit they slightly differ in elytral punctuation. We include the habitus image of this rare and poorly known species to facilitate its future recognition (Fig. 6).

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