

A new species of *Malthodes* Kiesenwetter, 1852 (Coleoptera: Cantharidae) from the Greater Caucasus

Новый вид *Malthodes* Kiesenwetter, 1852 (Coleoptera: Cantharidae) с Большого Кавказа

S.V. Kazantsev
С.В. Казанцев

Insect Centre, Donetskaya 13-326, Moscow 109651 Russia. E-mail: kazantss@mail.ru. <https://orcid.org/0000-0001-6982-3337>
Инсект-центр, ул. Донецкая 13–326, Москва 109651 Россия.

Key words: Coleoptera, Cantharidae, Malthininae, *Malthodes*, new species, Caucasus, Palearctic.

Ключевые слова: Coleoptera, Cantharidae, Malthininae, *Malthodes*, новый вид, Кавказ, Палеарктика.

Abstract. A new species of the genus *Malthodes* Kiesenwetter, 1852, *M. samegreloensis* Kazantsev **sp.n.**, is described from the Greater Caucasus (Samegrelo-Upper Svaneti province in northwestern Georgia). The new species somewhat resembles another Caucasian species, *M. circassicus* Švihla, 1980, as well as *M. debilis* Kiesenwetter, 1852, from the adjacent plains to the north. The ultimate abdominal segments of males of the three species and their aedeagi are illustrated by colour photographs, and their distribution is presented on a map.

Резюме. Новый вид рода *Malthodes* Kiesenwetter, 1852, *M. samegreloensis* Kazantsev **sp.n.**, описывается с Большого Кавказа из провинции Самегрело-Верхняя Сванетия в северо-западной Грузии. Он несколько напоминает другой кавказский вид, *M. circassicus* Švihla, 1980, а также *M. debilis* Kiesenwetter, 1852, из прилегающих равнин к северу. Приводятся цветные фотографии вершинных сегментов брюшка всех трёх видов и их эдеагусов, а также карта их распространения.

Introduction

The genus *Malthodes* Kiesenwetter, 1852 of malthinine soldier beetles is widely distributed in the Holarctic realm, accounting for over 635 species, the greater part of which occur in the Palearctic region [Delkeskamp, 1977; Kazantsev, Brancucci, 2007]. Identification of *Malthodes* in the majority of cases is possible only by males, as it requires studying structures of their apical abdominal segments and genitalia (females are characterised by the unmodified abdominal segments and more uniform copulatory organs [eg, Constantin, 2014; Takahashi, 2021]).

Studies on *Malthodes* of the Caucasus started at the end of the nineteenth century [Reitter, 1888], but most of the taxa were described in the second half of the twentieth and at the turn of the twenty-first centuries [Wittmer, 1958, 1960, 1970, 1979, 1992; Švihla, 1980, 1990, 2002]. Recently studies on the genus of the area resumed and brought the number of *Malthodes* species registered in the Greater Caucasus to 25 [Kazantsev,

2021a, b, 2024].

The type species of the genus *Malthodes*, as demonstrated recently by Liberti [2025], is not *Malthinus marginatus* Latreille, 1805, subsequently designated by Brancucci [1980], but *Cantharis sanguinolenta* Gyllenhal, 1808 (currently *Malthodes minimus* Linnaeus, 1758), designated more than a century earlier by Desmarest [1860]. The situation with the type species of the genus had been so complicated that in the World Catalogue of Cantharidae, where all of the genus-level taxa were given with their type species — and in case a taxon had not have one, the author did not hesitate to designate it, — *Malthodes* stood out with no type species whatsoever [Delkeskamp, 1977].

The study of the material recently collected in Samegrelo-Upper Svaneti in northwestern Georgia allows adding another new taxon, which becomes the 26th species of *Malthodes* of this mountain range. Its description is presented below.

Material and methods

For examination the beetles were relaxed in water, then their detached abdomens were kept for several hours in 10 % KOH at room temperature. The KOH treated aedeagi and terminalia were then placed in microvials with glycerin for photographing.

MSP-1 zoom stereoscopic dissecting microscope with x8–x80 magnification range were used. Photographs were taken with Canon EOS 6D camera and Canon MP-E 65 mm lens.

The following acronym is used in the paper: ICM — Insect Center, Moscow, Russia.

Nomenclatural acts introduced in the present work are registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:823D6927-8C2E-48C1-8FF0-6EE824198099.

Taxonomy

Cantharidae Imhoff, 1856 (1815)

Malthininae Kiesenwetter, 1852

Malthodini Böving et Craighead, 1930

Malthodes Kiesenwetter, 1852

Type species: *Cantharis sanguinolenta* Gyllenhal, 1808 (currently *Malthodes minimus* Linné, 1758) (subsequent designation by Desmarest, 1860).

Malthodes Kiesenwetter, 1852: 242.

Malthodes samegreloensis Kazantsev, sp.n.

Figs 1, 4–7, 15 (blue square)

urn:lsid:zoobank.org:act:278F9821-D8AF-43DD-8185-F4D042DD3A13

Material. Georgia: Holotype, ♂, «Gruzia: Samegrelo-UPPER SVANETI, N Nakra, 1300–1600 m, 43.103° N 42.394° E, 11.VII.2025, S. Kazantsev leg.» (ICM).

Description. Male. Dark brown to black; anterior and posterior corners of pronotum yellowish brown; front and middle trochanters and knees light brown; abdomen partly yellowish; elytral apices sulphur yellow (Fig. 1) Vertex with fine longitudinal rugosity between eyes and fine and dense punctation behind them. Eyes small, interocular distance ca 1.6 times greater than eye diameter. Clypeus short, anteriorly weakly convex. Palps small and slender; ultimate palpomeres slightly longer than wide. Antennae attaining to apices of folded wings, filiform; antennomere 2 ca and 2 times shorter than scapus and ca 1.25 times shorter than antennomere 3, antennomere 3 ca 1.2 times shorter than antennomere 4; antennomeres 3–11 with short erect pubescence (Fig. 1).

Elytra ca 2.2 times longer than wide at humeri, parallel-sided, leaving much of the folded wings uncovered; pubescence moderately dense, short and decumbent (Fig. 1).

Legs slender; femurs and tibiae straight, tibiae noticeably longer than femurs; metatarsomere length ratio 7 : 3.5 : 1.1 :

1.5 : 3; tarsomeres 1–3 narrow, tarsomere 4 deeply incised; all claws simple (Fig. 1).

Ultimate tergite sub-oval, almost as wide as long, with inconspicuous median emargination, third from the rear end tergite with a pair of simple triangular teeth; ultimate ventrite conspicuously incised apically; in lateral view, noticeably bent (Figs 4, 5).

Aedeagus ca 1.4 times longer than wide, with conspicuously concave, narrow distally, and apically hooked, in lateral view, laterophyses, and bulging dorsally, in lateral view, centrophyse; ventral plate with widely separated, relatively wide elongate lobes; parameres narrow, elongate, provided with a brush of setae at apex (Figs 6, 7).

Female. Unknown.

Length: 4.2 mm. Width (humeraly): 0.9 mm.

Etymology. The new species is named after the name of the province, Samegrelo-Upper Svaneti in northwestern Georgia, where its type specimen was collected.

Diagnosis. *Malthodes samegreloensis* sp.n. resembles *M. circassicus* Švihla, 1980 from northwestern Caucasus, separated by the shape of its ultimate abdominal segments and aedeagal structures: simple triangular tooth of the third from the rear end tergite, less prominent bend of the ultimate ventrite, in lateral view, and less massive apical fork of the ultimate ventrite, both in lateral and ventral views (Figs 4, 5), also by the less elongate aedeagus, with conspicuously concave, narrow distally, and apically hooked, in lateral view, laterophyses, and bulging dorsally, in lateral view, centrophyse (Figs 6, 7) vs double tooth of the third from the rear end tergite, prominent bend of the ultimate ventrite, in lateral view, and massive apical fork of the ultimate ventrite, both in lateral and ventral views, more elongate aedeagus, with convex and apically not hooked, in lateral view, laterophyses, and straight, in lateral view, centrophyse, in *M. circassicus* (Figs 8–11). The new species may be separated from *M. debilis* Kiesenwetter, 1852, belonging to the same species group and distributed north of the Greater Caucasus, by the widened distally and



Figs 1–3. General view of *Malthodes* species, males. 1 — *M. samegreloensis* sp.n., holotype; 2 — *M. circassicus*; 3 — *M. debilis*. Scale bars: 1.0 mm. Figs 2, 3 after Kazantsev [2022].

Рис. 1–3. Общий вид самцов *Malthodes*. 1 — *M. samegreloensis* sp.n., голотип; 2 — *M. circassicus*; 3 — *M. debilis*. Масштаб: 1,0 мм. Рис 2, 3 по [Kazantsev, 2022].

apically conspicuously incised ultimate ventrite, vs the narrow, apically inconspicuously incised ultimate ventrite in *M. debilis* (Fig. 12), as well as by the details of the male copulatory organ (cf, Figs 6, 7 vs 13, 14).

Distribution. The new species is known only from Samegrelo-Upper Svaneti in northwestern Georgia.

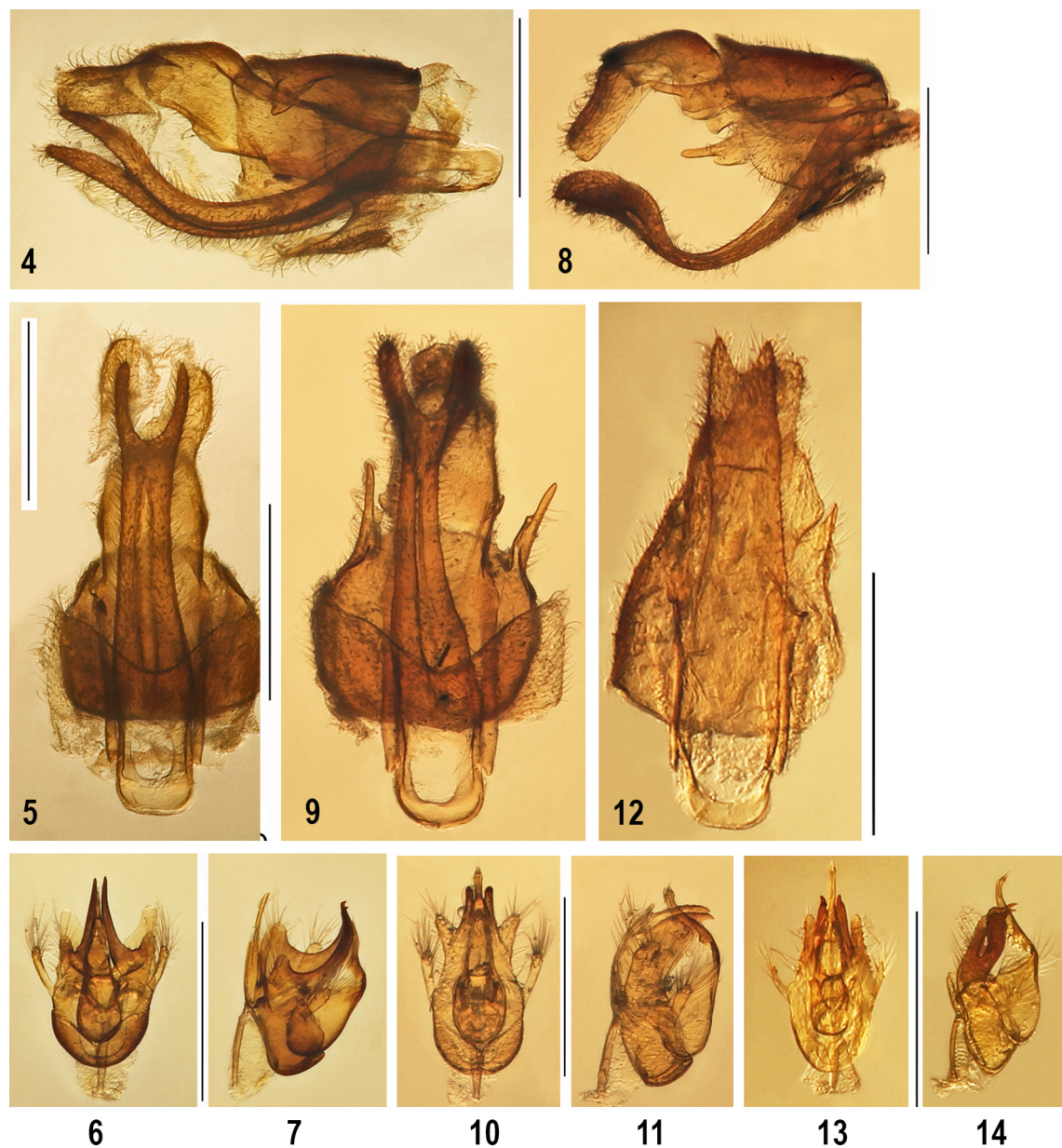
Malthodes circassicus Švihla, 1980

Figs 2, 8–11.

Malthodes circassicus Švihla, 1980: 249.

Material. South Russia: 1♂, 4♀♀ — «NW Caucasus, Utrish, sea level, 30.VI.[19]89, S. Kazantsev leg.»; «*Malthodes circassicus* Švihla, det. W. Wittmer» (Wittmer's manuscript label) (ICM).

Remark. Although the type series of *Malthodes circassicus* comes from «Krasnaja Poljana» (north of Sochi in Krasnodar Krai) and the adjacent Achishkho Mountain (1900 m a.s.l.) [Švihla, 1980], and an additional specimen was collected at 2000 m a.s.l. again near Krasnaya Polyana [Wittmer, 1992], the occurrence of this species at sea level near Utrish (also Krasnodarskii Krai) suggests this species is not confined to montane ecosystems. The coloration of pronotum in *M. circassicus* appears to be variable, from 'reddish yellow, only with anterior corners and poorly defined longitudinal spot in the middle brown', in the holotype [Švihla, 1980], to entirely dark brown (Fig. 2).



Figs 4–14. Ultimate abdominal segments and aedeagus of *Malthodes* species males: 4–7 — *M. samegreloensis* sp.n., holotype; 8–11 — *M. circassicus*; 12–14 — *M. debilis*. 4, 5, 8, 9, 11 — ultimate abdominal segments; 6, 7, 10, 11, 13, 14 — aedeagus; 5, 9, 12 — ventral view; 6, 10, 13 — dorsal view; 4, 7, 8, 11, 14 — lateral view. Scale bars: 0.5 mm.

Рис. 4–14. Верхинные сегменты брюшка и эдеагус самцов *Malthodes*: 4–7 — *M. samegreloensis* sp.n., голотип; 8–11 — *M. circassicus*; 12–14 — *M. debilis*; 4, 5, 8, 9, 11 — верхинные сегменты брюшка; 6, 7, 10, 11, 13, 14 — эдеагус; 5, 9, 12 — вид снизу; 6, 10, 13 — вид сверху; 4, 7, 8, 11, 14 — вид сбоку. Масштаб: 0,5 мм.

Malthodes debilis Kiesenwetter, 1852

Figs 3, 12–14.

Malthodes debilis Kiesenwetter, 1852: 296.

Material. South Russia: 2♂♂, 1♀ — «[E Chechen Republic] Paraboch forestry, Kizl. okr., Tersk., 11–12.VII.[1]927, Kirichenko leg.»; «*Malthodes debilis* Kies., det. W. Wittmer» (Wittmer's manuscript label) (ICM).

Remark. In the photographed specimen of *M. debilis* (Fig. 3) the pronotum is uniformly testaceous, while in one of the other examined specimens (which is another male) it is almost uniformly dark brown, and in the female specimen it is testaceous with darkened disk.

Discussion

Malthodes samegreloensis sp.n. and *M. circassicus*, with their males characterised by toothed third from the rear end tergite (Figs 4, 7), belong to the *M. maurus* (Laporte, 1840) — *M. fibulatus* Kiesenwetter, 1852 group of species (Wittmer, 1970). As in some of the European members of this group, ie, *M. dispar* (Germar, 1823), *M. flavoguttatus* Kiesenwetter, 1852, *M. debilis*, etc., they have long narrow, incised apically male ultimate sternite (Figs 4, 10). The pronotum in some of the species of the *M. maurus* — *M. fibulatus* group, however, may be simple laterally, both in males and females (as in *M. dispar* and *M. flavoguttatus*), while in others (as in *M. debilis*, as well as in *M. circassicus* and *M. samegreloensis* sp.n.) it is laterally margined (Figs 1–3), making the group variable in this important character which was often used in the genus taxonomy [eg, Ganglbauer, 1911; Medvedev, 1965].

At the same time, *M. circassicus* and *M. samegreloensis* sp.n. appear to be the only *Malthodes* species of the Caucasus with the above-mentioned margined pronotum in combination with the toothed third from the rear end tergite and bifurcate ultimate sternite. The only other member of the genus with the same set of characters found in the adjacent to the Caucasus European part of Russia is *M. debilis*. A map of distribution of the three species, *M. debilis*, *M. circassicus* and *M. samegreloensis* sp.n., in the area is presented in Fig. 15.



Fig. 15. Distribution map for *Malthodes debilis*, *M. circassicus* and *M. samegreloensis* sp.n. in the Caucasus and the adjacent territory. Designations: red square — *M. debilis*; orange squares — *M. circassicus*; blue square — *M. samegreloensis* sp.n.

Рис. 15. Распространение *Malthodes debilis*, *M. circassicus* и *M. samegreloensis* sp.n. на Кавказе и прилегающей территории. Обозначения: красный квадрат — *M. debilis*, оранжевые квадраты — *M. circassicus*, синий квадрат — *M. samegreloensis* sp.n.

Acknowledgements

I would like to thank the late Dr Walter Wittmer (Naturhistorisches Museum, Basel) for his invaluable help, including handing over Malthininae reference material from the Caucasus.

References

- Constantin R. 2014. Le genre *Malthodes* Kiesenwetter, 1852, en Corse. Clé illustrée et description de trois espèces nouvelles (Coleoptera, Cantharidae) // Bulletin de la Société entomologique de France. Vol.119. No.4. 445–465.
- Delkeskamp K. 1977. Cantharidae // Coleopterorum Catalogus Supplementa. Pars 165. Fasc.1. Editio secunda. The Hague: W. Junk Publishers. 485 p.
- Desmarest E. 1860. Encyclopédie d'histoire naturelle; ou, traité complet de cette science d'après les travaux des naturalistes les plus éminents de tous les pays et de toutes les époques: Buffon, Daubenton, Lacépède, G. Cuvier, F. Cuvier, Geoffroy Saint-Hilaire, Latreille, De Jussieu, Brongniart, etc. Coléoptères, Buprestides, Scarabéiens, Piméliens, Curculioniens, Scolytiens, Chrysoméliens etc. Avec la collaboration de M.E. Desmarest, du Muséum d'Histoire naturelle, secrétaire de la Société Entomologique de France, etc. Troisième partie. Paris: Marescq et Compagnie. 3+360 p., 49 pls.
- Ganglbauer L. 1911. Tribus: Malthinini // Reitter E. (Ed.): Fauna Germanica. Die Käfer des Deutschen Reiches. Nach der analytischen Methode bearbeitet. Bd.3. Stuttgart: K.G. Lutz. S.262–274.
- Kazantsev S.V. 2021a. New Caucasian species of soldier-beetles (Coleoptera: Cantharidae) // Euroasian Entomological Journal. Vol.20. No.4. P.229–232. <https://doi.org/10.15298/euroasentj.20.4.1>
- Kazantsev S.V. 2021b. New species of *Malthodes* Kiesenwetter, 1852 from the Caucasus, with taxonomic notes on Malthininae (Coleoptera: Cantharidae) of Russia // Caucasian Entomological Bulletin. Vol.17. No.2. P.285–291. <https://doi.org/10.23885/181433262021172-285291>
- Kazantsev S.V. 2022. Elektronnyy opredelitel' zhukov-myagkotelok (Coleoptera, Cantharidae) evropeyskoy chasti Rossii i Severnogo Kavkaza [Digital identification key to soldier-beetles (Coleoptera, Cantharidae) of the European part of Russia and the Northern Caucasus]. Digital identification keys to beetles of the European part of Russia Series. Issue 2. Livny: Muhametov G.B., 110 p. [In Russian].
- Kazantsev S.V. 2024. New species of *Malthodes* Kiesenwetter, 1852 (Coleoptera: Cantharidae) from the Greater Caucasus, with notes on distribution of the genus in the area // Russian Entomological Journal. Vol.33. No.1. P.79–96. <https://www.doi.org/10.15298/rusentj.33.1.08>
- Kazantsev S.V., Brancucci M. 2007. Cantharidae // Löbl I., Smetana A. (Eds): Catalogue of Palaearctic Coleoptera. Vol.4. Elateroidea – Derodontoidea – Bostrichoidea – Lymexyloidea – Cleroidea – Cucujoidea. Stenstrup: Apollo Books. P.234–298.
- Kiesenwetter H. von. 1852. Beiträge zu einer Monographie der Malthininen // Linnaea entomologica. Vol.7. P.239–325. Tbls 1–2.
- Liberti G. 2025. The type species of genus *Malthodes* Kiesenwetter, 1852. An explanatory note (Coleoptera, Cantharidae) // Bollettino della Società Entomologica Italiana. Vol.157. No.2. P.71–74. <https://www.doi.org/10.4081/bollettinosei.2025.71>
- Medvedev L.N. 1965. Cantharidae // Bei-Bienko G.Ya. (Ed.): [Identification key to insects of European part of the USSR in five volumes]. Vol.2. Coleoptera and Strepsiptera. Moscow, Leningrad: Nauka. P.221–227. [In Russian]. https://www.zin.ru/Animalia/Coleoptera/pdf/EuropPart_vol2.pdf
- Reitter E. 1888. Coleopteren aus Circassien, gesammelt von Hans Leder im Jahre 1887. V. Teil // Wiener Entomologische Zeitung. Bd.7. S.207–214.
- Švihla V. 1980. New species of Malthinini (Coleoptera, Cantharidae) from the Palaearctic region // Acta Entomologica Bohemoslovaca. Vol.77. P.242–251.

- Švihla V. 1990. Notes on Cantharidae (Coleoptera) from the western Palaearctic region, with description of new species // Acta Entomologica Bohemoslovaca. Vol.87. P.195–203.
- Švihla V. 2002. A contribution to knowledge of the subfamily Malthininae (Coleoptera: Cantharidae) // Folia Heyrovskiana. Vol.10. Nos 2–3. P.119–154.
- Takahashi K. 2021. The Genus *Malthodes* (Coleoptera: Cantharidae: Malthininae) on the Four Main Japanese Islands // Japanese Journal of Systematic Entomology. Vol.27. No.2. P.236–268.
- Wittmer W. 1958. 23. Beitrag zur Kenntnis der palaearktischen Malacodermata (Col.) // Entomologische Arbeiten aus dem Museum G. Frey Tutzing bei München. Bd.9. S.114–130.
- Wittmer W. 1960. 24. Beitrag zur Kenntnis der palaearktischen Malacodermata (Col.) // Mitteilungen der Schweizerischen Entomologischen Gesellschaft. Bd.33. S.107–110.
- Wittmer W. 1970. Zur Kenntnis der Gattung *Malthodes* (Coleoptera, Cantharidae) (49. Beitrag zur Kenntnis der palaearktischen Cantharidae) // Entomologische Arbeiten aus dem Museum G. Frey Tutzing bei München. B.21. S.13–107.
- Wittmer W. 1979. 65. Beitrag zur Kenntnis der palaearktischen Cantharidae und Malachiidae (Col.) // Entomologische Arbeiten aus dem Museum G. Frey Tutzing bei München. B.28. S.133–156.
- Wittmer W. 1992. Die Malthininae (Coleoptera Cantharidae) des Caucasus // Russian Entomological Journal. Vol.1. No.1. P.17–35.

Поступила в редакцию 29.7.2025