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A NEW TO RUSSIA SPECIES OF THE GENUS *APHODIUS* (COLEOPTERA, SCRABAEIDAE)

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Summary. The dung-beetle species *Aphodius botulus* Balthasar, 1945 was recorded in Russia for the first time based on the specimens collected from Primorskii krai. Photographs of the imago habitus, male genitalia, and a map of collecting localities in Russia are provided.

Key words: Coleoptera, Scarabaeidae, Aphodiinae, dung beetles, *Aphodius*, Russian Far East.

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Резюме. Впервые для фауны России указывается *Aphodius botulus* Balthasar, 1945 по сборам из Приморского края. Приводятся фотографии имаго, гениталий самца и карта мест находок.

INTRODUCTION

Scarab beetles of the tribe Aphodiini is a large, world-wide distributed group that dominates dung-beetle communities in temperate regions. In Russia, aphodiines are mostly represented by a mega-diverse genus *Aphodius* Hellwig, 1798 (*sensu lato*) with other 180 species recorded from the country (Akhmetova & Frolov, 2014). Despite reasonable inventory efforts, the fauna of this genus is still not completely documented.

The manual collection of insects from dung does not always allow for a sufficiently complete identification of the species composition, since small-sized insects or those having low abundancy often cannot be collected by this method. Collection methods based on flotation from substrates allow for a more complete coverage of the species composition and for even small-sized insects to be encountered. The use of the flotation method of removing beetles out of dung (Shabalin, 2020, 2021, 2022) made it possible to collect a new species for the fauna of Russia from Primorskii krai.

NEW RECORD

***Aphodius* (*Phalacronothus*) *botulus* Balthasar, 1945**
Figs 1–4

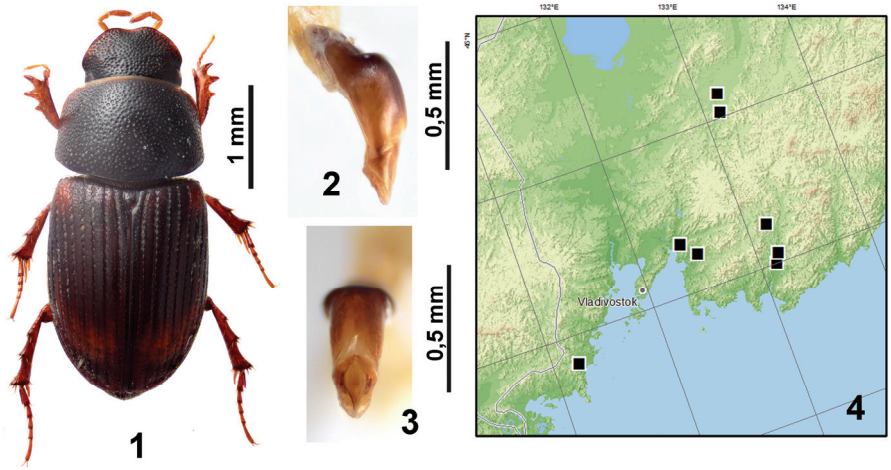
Aphodius (*Paragolius*) *botulus* Balthasar, 1945: 43. Type locality "Mandschukuo, circum oppidium Charbin" [=China: Heilongjiang]; Balthasar, 1964: 281.
Aphodius (*Phalacronothus*) *botulus*: Kim, 1989: 3; Takahashi, 1999: 34; Dellacasa & Dellacasa, 2006: 134; Murata *et al*., 2011: 84; Kim, 2012: 126.
Phalacronothus botulus: Dellacasa & Dellacasa, 2016: 145.
Aphodius (*Orodalus*) *naraensis* Nakane, 1956: 120. Type locality "Nara, Yamato, Honshu" [=Japan: Honshu]; Balthasar, 1964: 201; Stebnicka, 1980: 239. Synonymized by Stebnicka, 1982: 78.
Aphodius (*Amidorus*) *manschuriensis* Petrovitz, 1958: 138. Type locality "Manschurei: Charbin" [=China: Heilongjiang]. Synonymized by Balthasar, 1964: 281.
Liothorax plagiatus auct.: Shabalin, 2020: 188; Shabalin, 2021: 625; Shabalin, 2022: 477; Shabalin, 2023: 20; Shabalin, 2024: 256.

MATERIAL. **Russia**: Primorskii krai: valley of Ryazanovka River (42°82' N, 131°23' E), 29.V 2018, 19 specimens in sheep dung, leg. S. Shabalin; same locality, 7.VI 2018, 9 specimens in sheep and cow dung, leg. S. Shabalin; same locality, 15.VI 2018, 5 specimens in sheep and cow dung, leg. S. Shabalin; same locality, 6.VII 2018, 1 specimen in sheep dung, leg. S. Shabalin; Safari-Park (43°32' N, 132°40' E), 8.VI 2020, 3 specimens in deer dung, leg. S. Shabalin; 5 km E Romanovka (43°23' N, 132°52' E) 15.V 2019, 6 specimens in cow dung, leg. S. Shabalin; vicinity Peretino (43°00' N, 133°14' E), 15.V 2019, 1 specimen in cow dung, leg. S. Shabalin; 16 km SSE Partizansk (43°06' N, 133°18' E), 15.V 2019, 19 specimens in sheep dung, leg. S. Shabalin; same locality, 24.V 2019, 11 specimens in sheep dung, leg. S. Shabalin; same locality, 3.VI 2019, 8 specimens in sheep dung, leg. S. Shabalin; same locality, 12.VI 2019, 2 specimens in sheep dung, leg. S. Shabalin; 15 km NNE Partizansk (43°26' N, 133°17' E), 15.V 2019, 202 specimens in horse and cow dung, leg. S. Shabalin; same locality, 24.V 2019, 8 specimens in horse and cow dung, leg. S. Shabalin; same locality, 3.VI 2019, 7 specimens in horse and cow dung, leg. S. Shabalin; Novogordeevka (44°03' N, 133°14' E), 15.V 2020, 1 specimen in horse dung, leg. S. Shabalin; same locality, 23.V 2020, 1 specimen in horse dung, leg. S. Shabalin; vicinity of Kornilovka, 15.V 2020, 2 specimens in cow dung, leg. S. Shabalin; same locality, 23.V 2020, 1 specimen cow dung, leg. S. Shabalin. Four specimens from the valley of Ryazanovka River are deposited in the collection of the Zoological Institute (Saint Petersburg), but the rest material deposited in the collection of the Federal Scientific Center of the East Asia Terrestrial Biodiversity (Vladivostok).

DISTRIBUTION. Russia (first record, Primorskii krai), Japan (Honshu, Kyushu), North Korea, China (Heilongjiang, Jilin).

NOTES. Adults of *Aphodius botulus* can be separated from other species of subgenus *Phalacronothus* recorded from Russia, namely *A. biguttatus* Germar, 1824, *A. citellorum* Semenov et Medvedev, 1928, and *A. quadrimaculatus*, by denser and coarser punctation of head, pronotum and elytra, and by the shape of the parameres. In Primorskii krai, *A. botulus* occurs along with the more abundant *A. pusillus*, and can be confused with it. It differs from the latter, apart from the characters mentioned above, also in having a hooked protibial spur in males and in a smaller average size. In North Korea, the beetles were found in sheep and cow dung (Stebnicka, 1980). In addition to the dung of abovementioned animals, in Russia

the beetles were also found in horse and deer dung. Our data suggest that *A. botulus* is a generalist coprophagous species with imago active mostly in late spring and early summer.



Figs 1–4. *Aphodius botulus*: 1 – habitus of male (dorsal view); 2 – male genitalia, lateral view; 3 – same, dorsal view; 4 – map of collecting localities in Russia.

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