

A Review of the Ground Beetle Subgenus *Bradytus* Stephens (Coleoptera, Carabidae: Zabrinini, Genus *Amara* Bonelli) of the Russian Fauna

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Abstract—The morphological characteristics, taxonomic composition, and differential diagnosis of the subgenus *Bradytus* and 18 its species in the fauna of Russia are given; the distribution of the taxa is described, and a key is compiled. A new species, *Amara khasanensis* sp. n. from southern Primorskiy Territory, is described; it differs in the densely and deeply punctate basal and lateral pronotal margins and the body underside, in the presence of a brush of fine hairs in the distal quarter of the inner margin of the male mesotibia, and in a saccular endophallus with an extensive area with sclerotized spines on the right wall. Based on examination of the type material, *Bradytus armenus* Motschulsky, 1844 is transferred from the synonyms of *Amara* (*Bradytus*) *apricaria* (Paykull, 1790) as a junior synonym of *Amara* (*Amathitis*) *abdominalis* (Motschulsky, 1844). The **lectotypes** of *Acrodon uralensis* Motschulsky, 1844, *Bradytus pallidulus* Motschulsky, 1844, and *Amara reitteri* Tschitschérine, 1894 are designated. *Amara macra* is recorded for the first time for Sakhalin Island.

Keywords: Carabidae, ground beetles, *Amara*, *Bradytus*, taxonomy, new species, fauna, identification key, Russia

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INTRODUCTION

The subgenus *Bradytus* Stephens, 1827 is a rather clearly outlined group in the ground beetle genus *Amara* Bonelli, 1810. It was established by D.F. Stephens nearly 200 years ago (Stephens, 1827) and for a long time united very different *Amara* species formally corresponding to its brief diagnosis. A considerable part of the species previously attributed to *Bradytus*, such as *A. arcticola* Poppius, 1906, *A. balangshana* Hieke, 1994, *A. chinensis* Tschitschérine, 1894, *A. colvillensis* Lindroth, 1968, *A. interrupta* Landin, 1955, *A. mandarina* Baliani, 1932, *A. micans* Tschitschérine, 1894, *A. minuta* (Motschulsky, 1844), *A. sikkimensis* Andrewes, 1930, and *A. validula* Tschitschérine, 1898, were later transferred to the subgenera *Amathitis* C. Zimmermann, 1832, *Bradytulus* Tschitschérine, 1894, *Harpaloamara* Baliani, 1934, *Pseudocelia* Lutshnik, 1935, *Reductocelia* Lafer, 1989, *Tibetamara* Makarov et Sundukov,

2021, or *Xenocelia* Hieke, 2001 (Hieke, 1973, 1975, 1981, 1990, 1993, 1994, 1995a; Lafer, 1989, etc.). The current composition of the subgenus is the result of revisions of a number of species groups similar to *Bradytus* (Hieke, 1999a, 2001, 2003a, 2005, 2012). No revision of the subgenus *Bradytus* as a whole has been published, except for regional keys and two reviews, for Turkey (Schweiger, 1966) and for the Russian Far East (Lafer, 1980).

MATERIALS AND METHODS

The present study is based on examination of the material collected by the authors in various regions of Russia in 1985–2024 and the collections kept at Russian and foreign scientific institutions. In total, about 1700 specimens belonging to 18 species of the subgenus *Bradytus* from the territory of the Russian Federation were examined, including 29 type specimens of *Acrodon*

uralensis Motschulsky, 1844, *Amara consors* Tschitschérine, 1893, *A. dissimilis* Tschitschérine, 1894, *A. distinguenda* A. Morawitz, 1862, *A. elegantula* Tschitschérine, 1899, *A. mikae* Lafer, 1980, *A. pseudosimplidens* Lafer, 1980, *A. reitteri* Tschitschérine, 1894, *A. simplicidens* A. Morawitz, 1863, *A. sinuaticollis* A. Morawitz, 1862, *Bradytus armenus* Motschulsky, 1844, and *B. pallidulus* Motschulsky, 1844.

The material was studied by standard methods. The external characters and genitalia were examined under MBS-1 and Leica M165C stereomicroscopes. The photographs were taken using a Canon EOS 5D Mark III digital camera with a Canon MP-E 65 mm lens; the obtained image stacks were processed using the Zerene Stacker software.

In order to make the preparation of the endophallus, the penis was cleaned of the soft tissues and connective membranes and attached to a shortened needle of a medical syringe, using fluoroplastic tape 0.075 mm thick. Then, air was supplied through the needle from a multi-purpose mini-compressor under pressure varying from 1.2 bar at the initial stage of endophallus eversion to 0.8 bar during drying. The preparation was dried over a laboratory tube heater at a temperature of 120°C for 8 minutes.

The following abbreviations are used to describe the proportions of body parts: HW, head width between the eyes; PA, width of pronotal apex; PW, maximum width of the pronotum; PB, width of pronotal base; PL, length of the pronotum along the midline; EW, maximum width of the elytra; EL, length of the elytra from the humeral angle to the apex; M, arithmetic mean.

The following abbreviations are used in the text for museums and collections: CBK, collection of I.A. Belousov and I.I. Kabak (St. Petersburg, Russia); DUL, Daugavpils University Beetle Collection (Daugavpils, Latvia); FEB, Federal Scientific Center for Biodiversity of Terrestrial Biota of East Asia, the Far Eastern Branch of the Russian Academy of Sciences (Vladivostok, Russia); ISEA, Institute of Systematics and Ecology of Animals, the Siberian Branch of the Russian Academy of Sciences (Novosibirsk, Russia); KTM, collection of N.I. Grodekov Khabarovsk Regional Museum (Khabarovsk, Russia); MSPU, Moscow State Pedagogical University (Moscow, Russia); NHM, Natural History Museum (formerly British Museum of Natural

History, London, United Kingdom); SIEE, collection of D.N. Fedorenko, A.N. Severtsov Institute of Ecology and Evolution, Russian Academy of Sciences (Moscow, Russia); SNRK, collection of O.V. Kuberskaya at the Komsomolsk State Nature Reserve (Komsomolsk-on-Amur, Russia); ZISP, Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia); ZMU, Zoological Museum of M.V. Lomonosov Moscow State University (Moscow, Russia).

The labels of the type specimens are given verbatim, with the text shown in quotes.

TAXONOMIC PART

Genus *AMARA* Bonelli, 1810

Subgenus *Bradytus* Stephens, 1827

Bradytus Stephens, 1827 : 67, 136; type species: *Carabus ferrugineus* Linnaeus sensu Stephens, 1828 (= *Amara fulva* O.F. Müller, 1776), by subsequent designation: Westwood, 1838 : 4.

Linconus Fischer von Waldheim, 1829 : 16; type species: *Carabus apricarius* Paykull, 1790, designation and synonymy after Bousquet, 2002 : 176.

Omius Fischer von Waldheim, 1829 : 16; type species: *Carabus consularis* Duftschmid, 1812, designation and synonymy after Bousquet, 2002 : 176.

Pseudobradytus Csiki, 1908 : 353; type species: *Amara crenata* Dejean, 1828, by monotypy; the authorship of the synonymy has not been established.

Diagnosis. Body rather robust, medium-sized, 7–12 mm long.

Head: always 2 supraorbital pores; antennae one-colored, yellowish brown to dark red (black with reddish 1st segment in *A. glacialis* (Mannerheim, 1853)).

Pronotum: relatively large, slightly cordate to weakly trapezoidal; with 2 basal foveae on each side, outer fovea bounded by fold; sides frequently emarginate near posterior angles; 2 lateral setae: at middle and in posterior corner; posterior angles more or less distinct.

Elytra: strongly or moderately convex; humeral angle distinct; humeri with tooth; sides weakly rounded or almost straight; parascutellary pore absent; striae punc-

tate, 7th stria with 1 preapical setiferous puncture. Wings developed.

Ventral side: medial tooth of mentum distinct, pointed, rounded or bifid apically; prosternum of male with punctate area in middle, occasionally deeply depressed; prosternal intercoxal process margined, impunctate (less frequently punctate at apex), without setae at apex; sides of metasternum and metepisterna densely and deeply punctate; abdominal sternites III–V with 1 pair of setae; anal sternite usually with 2 setae in males (with 4 setae in *A. fritzhieki* Sundukov, 2013) and with 4 setae in females (with 2 setae in *A. pallidula* (Motschulsky, 1844)).

Legs: protibia with simple apical spur and with 1–3, rarely 4, setae dorsally; mesofemur with 2 (rarely with 3–5) setae along posterior margin; in males, ventral surface of mesotibia with or without row of small tubercles; metatibia with dense brush of short hairs, with row of sparse hairs, or smooth.

Genitalia: penis with groove for insertion of paramere on right side at apex; lamella short and wide; right paramere long and narrow, with or without apical hook; gonostylus wide, diamond-shaped or narrow.

Composition. The subgenus is widely distributed in all natural zones of the Holarctic Region and comprises 35 species. In the Nearctic Region, *Bradytus* is represented by 12 species, among which 9 are endemic to North America (*A. avida* Say, 1823, *A. browni* Lindroth, 1968, *A. exarata* Dejean, 1828, *A. insignis* Dejean, 1831, *A. insularis* Horn, 1875, *A. latior* Kirby, 1837, *A. lindrothi* Hieke, 1990, *A. neomexicana* Casey, 1924, and *A. schwarzi* Hayward, 1908), one species, to the northern Holarctic (*A. glacialis* Mannerheim, 1853), and two are introduced from Europe (*A. apricaria* (Paykull, 1790) and *A. fulva* (O.F. Müller, 1776)). The fauna of the Palaearctic Region is much more diverse and includes 26 species: four Western Palaearctic (*A. apricaria* (Paykull, 1790), *A. consularis* Duftschmid, 1812, *A. crenata* Dejean, 1828, and *A. fulva* (O.F. Müller, 1776)), two Central Palaearctic (*A. irkutensis* Baliani, 1934 and *A. reitteri* Tschitschérine, 1894), 11 East Asian (*A. ampliata* Bates, 1873, *A. distinguenda* A. Morawitz, 1862, *A. fritzhieki* Sundukov, 2013, *A. khasanensis* sp. n., *A. macra* Bates, 1883, *A. mikae* Lafer, 1980, *A. ondai* Morita, 1995, *A. pallidula* Motschulsky, 1844, *A. pseudosimplicidens* Lafer, 1980, *A. simplicidens*

A. Morawitz, 1863, and *A. sinuaticollis* A. Morawitz, 1862), six Tibeto-Himalayan (*A. batesi* Csiki, 1929, *A. chalciope* Bates, 1891, *A. dissimilis* Tschitschérine, 1894, *A. elegantula* Tschitschérine, 1899, *A. micantula* Hieke, 1994, and *A. pingshiangi* Jedlička, 1957), and two species (*A. aurichalcea* Germar, 1823 and *A. majuscula* Chaudoir, 1850) are widely distributed in the temperate zone of the Palaearctic Region (Bousquet, 2012; Hieke et al., 2012; Hieke, 2013, 2017; Kavanaugh et al., 2014).

Differential diagnosis. *Bradytus* is most similar to a complex of the subgenera closely related to *Bradytus* Tschitschérine, 1894 and *Curtonotus* Stephens, 1827 and separated from them by an indistinct hiatus.

The species of *Bradytus* can be distinguished by the following characters: a smaller size, an unmarginated prosternal process, and an inconspicuous outer basal fovea of the pronotum. *Pseudocelia* Lutshnik, 1935 includes small apterous species with the pronotum as wide as the elytra across the humeri, forming laterally a uniform line with the margins of the elytra, and usually bearing a poorly developed or reduced outer basal fovea never bounded by an outer fold, in contrast to that in *Bradytus*. The smaller beetles of *Reductocelia* Lafer, 1989 and *Xenocelia* Hieke, 2001 also have 2 or 3 subapical setiferous pores at the apex of the 7th elytral stria; the second subgenus, in addition, is characterized by the presence of 4 setae on the anal sternite in both sexes.

The subgenera closely related to *Curtonotus* (*Eoleirides* Tschitschérine, 1898, *Leiramara* Hieke, 1988, *Leirides* Putzeys, 1866, *Leironotus* Ganglbauer, 1891, *Microleirus* Kryzhanovskij, 1974, and *Paraleirides* Sainte-Claire Deville, 1906) differ from *Bradytus* in very large tubercles or teeth on the male mesotibia. In addition, the males of *Curtonotus*, *Microleirus*, and *Leiramara* lack a punctate fovea on prosternum, an edging on its intercoxal process, and a groove on the right side of the penis; the species of *Leirides* and *Eoleirides* have a margined prosternal process, but their body proportions are similar to those in *Pterostichus*, and their penis has no groove on the right side; the single species of *Paraleirides*, endemic to Corsica Island, has small body (not longer than 6.5 mm) and only 2 setae on the anal sternite in both sexes.

The subgenus *Tibetamara*, recently separated from *Bradytus*, differs in the absence of a groove on the right

side of the penis, in a short and thick right paramere, in a densely punctate prosternal process unmargined apically, in the absence of a depressed or punctate area in the middle of the prosternum in the males, in a greater number (4–6) of setae on the dorsal side of the protibia, and in the long setae in the distal quarter of the sole surface of the first three segments of the meso- and metatarsi arranged in regular rows.

The species of the subgenus *Leironotus* resembling *Bradytus* in appearance and chaetotaxy are characterized by an unmargined prosternal process, by the absence of a punctate fovea in the middle of the prosternum in the males, by an impunctate body underside, by the presence of 1 or 2 setiferous pores at the apex of the 7th elytral stria, by a strongly shortened (occasionally punctiform) parascutellar stria, and a continuous or only slightly interrupted row of setiferous pores on the 9th interval (*series umbilicata*). The mountain apterous species of *Armatoleirides* Tanaka, 1957 from Japan, similar to *Bradytus* in the essential characters, differ in long and slender legs and antennae (nearly reaching the mid-length of the elytra), in the absence of a groove on the right side of the penis, and in an increased number of setae in the row of setiferous pores on the 9th elytral interval.

The remaining subgenera clearly differ from *Bradytus* in the presence of additional setae at the apex of the prosternal process (*Atlantocnemis* Antoine, 1953, *Bradytodema* Hieke, 1983, *Camptocelia* Jeannel, 1942, *Cumeres* Andrewes, 1924, *Harpalodema* Reitter, 1888, *Heterodema* Tschitschérine, 1894, *Leiocnemis* C. Zimmermann, 1832, *Leiromorpha* Ganglbauer, 1891, *Leuris* Lutshnik, 1927, *Neopercosia* Hieke, 1978, *Paracelia* Bedel, 1899, *Parapercosia* Tschitschérine, 1899, *Percosia* C. Zimmermann, 1832, *Phaenotrichus* Tschitschérine, 1898, *Phanerodonta* Tschitschérine, 1894, *Polysitamara* Kryzhanovskij, 1968, *Pseudoleirides* Kryzhanovskij, 1968, *Pseudoleiromorpha* Hieke, 1981, *Xanthamara* Bedel, 1899, and *Zabroscelis* Putzeys, 1866), on the femora (*Acorius* C. Zimmermann, 1831, *Allobradytus* Iablokoff-Khnzorian, 1975, *Amathitis* C. Zimmermann, 1832, *Ammoleirus* Tschitschérine, 1899, *Ammoxena* Tschitschérine, 1894, *Bradytodema* Hieke, 1983, *Cribramara* Kryzhanovskij, 1964, *Cumeres*, *Harpalodema*, *Heterodema*, *Hyalamara* Tschitschérine, 1903, *Leiocnemis*, *Leuris*, *Neopercosia*, *Paracelia*, *Parapercosia*, *Percosia*, *Phaenotrichus*,

Phanerodonta, *Polysitamara*, *Pseudoleirides*, *Pseudoleiromorpha*, *Xanthamara*, and *Zabroscelis*), or on the abdominal sternites (*Ammoxena*, *Bradytodema*, *Cribramara*, *Harpalodema*, *Hyalamara*, *Pseudoleirides*, and *Xanthamara*).

Notes. In the 19th century, *Amara crenata* was usually placed in the subgenus *Leiocnemis* (Zimmermann, 1832; Putzeys, 1866, 1870; Schneider and Leder, 1878; Heyden et al., 1891; Reitter, 1908; Portevin, 1929). The monotypic subgenus *Pseudobradytus* was established for this species in 1908 (Csiki, 1908), and during the whole 20th century different authors either attributed *A. crenata* to the subgenus *Pseudobradytus* (Winkler, 1924; Horion, 1941; Jeannel, 1942; Kult, 1947; Schweiger, 1966; Nicolas and Nicolas, 1970; Toth, 1973; Burakowski et al., 1974; Habu, 1978; Mandl and Schönmann, 1978; Alekseev, 2008) or included this species in *Bradytus* (Pliginskij, 1912; Müller, 1930; Lindroth, 1945, 1968; Kryzhanovskij, 1965; Hieke, 1976, 1995a, 1999b; Pulpán and Hůrka, 1984; Kalyuzhnaya et al., 2000; Isaev et al., 2004; Telnov et al., 2004; Avgin and Emre, 2009; Kesdek and Yıldırım, 2010; Tufts, 2012; Aleksandrovich, 2014; Ruchin et al., 2016; Serrano et al., 2021). All these publications are keys, catalogues or regional lists and contain no comments on the status of *Pseudobradytus*. We could not determine who was the first to synonymize *Pseudobradytus* and *Bradytus*. This synonymy was clearly reported by K. Lindroth (1968), F. Hieke (1976), and in later works (Pulpán and Hůrka, 1984; Hieke, 1995a), but no proposed for it was offered in any of these publications. The indication that the synonymy had been proposed by R. Jeannel: “Synonymisiert durch Jeannel 1942 : 939” appeared in 2007 in the catalogue of the genus *Amara* regularly updated by F. Hieke (for the latest version, see Hieke, 2013). However, in the cited Jeannel’s publication, *Pseudobradytus* is mentioned as a subgenus along with *Bradytus*, and the characters distinguishing them are listed. It is unclear what caused such an error, but this erroneous statement was repeated in Bousquet, (2012).

Ecology. The species of the subgenus *Bradytus* usually inhabit open biotopes: dry and mesophytic meadows, forest glades, river banks, and shores of lakes and other water bodies. Some species prefer sandy soils. The reproduction period of all the studied species falls on late summer and autumn, with the larvae overwintering after

hatching (Hůrka and Duchač, 1980; Kolesnikov and Malueva, 2015).

A REVIEW OF THE SPECIES OF THE RUSSIAN FAUNA

Among the 26 *Bradytus* species of the Palaearctic fauna, 18 were recorded in Russia; they are listed below in alphabetic order.

Amara (Bradytus) apricaria (Paykull, 1790)

Carabus Apricarius Paykull, 1790 : 125–126. Type locality: “Dalecariae,” Dalarna, Sweden.

Carabus analis Fabricius, 1792 : 155. Type locality: “in Germania,” Germany, without precise indication of the locality; synonymy after Erichson, 1837 : 82.

Amara Petri Hummel, 1825 : 58–59. Type locality: “Petropoli,” St. Petersburg, Russia; synonymy after Gyllenhal, 1827 : 430.

Amara convexilabris Schiødte, 1837 : 144–145. Type locality: “i Narheden af Ssovsborg i Sjælland,” Denmark; synonymy after Schaum, 1858 : 506.

Amara (Bradytus) apricaria var. *Rhaetica* Heer, 1837 : 40–41. Type locality: “Schweiz” (according to the title of the book), Switzerland; synonymy after Hieke, 2003b : 553.

Leirus parallelus Chaudoir, 1842 : 827. Type locality: “province de Mazendéran, près d’Astrabat” (after the name of the paper), Iran; synonymy after Putzeys, 1865 : 338.

Amara pygmaea Couper, 1865 : 60. Type locality: “Quebec,” Quebec, Canada; synonymy after Lindroth, 1971 : 111.

Amara Putzeysii Horn, 1875 : 128, 129. Type locality: “St. Pierre Miquelon, (Newfoundland),” Saint Pierre and Miquelon Islands off Newfoundland, overseas territory of France; the name is preoccupied by *Amara putzeysi* Fairmaire, 1867; synonymy after Wickham, 1896 : 38.

Amara (Bradytus) putzeysiana Csiki, 1929 : 457. Replacement name for *Amara putzeysii* Horn, 1875; synonymy after Lindroth, 1968 : 683.

Bradytus (Bradytus) uludagensis Schweiger, 1966 : 44. Type locality: “Mts. Uludag nr. Bursa, 2000–2500 m NN,” Mt. Uludag near Bursa, northwestern Turkey; synonymy after Hieke, 1997 : 252.

Bradytus (Bradytus) apricarius baschkiricus Schweiger, 1966 : 45. Type locality: “Uralsk,” the city of Uralsk, Western Kazakhstan; synonymy after Hieke, 1997 : 195.

Bradytus (Bradytus) apricarius paphlagoniensis Schweiger, 1966 : 45. Type locality: “Mts. Ilgazdağ, 1800–2000 m NN,” Paphlagonia, Turkey; synonymy after Hieke, 1997 : 195.

Material. Russia. *Moscow Prov.* Medvezh’i Ozera Vill.: 11.VI.1965 (V.V. Zolotikhin), 1 ♀ (MSPU); same locality, 4.V.1967 (V.V. Zolotikhin), 1 ♀ (MSPU); Ozyorskii Distr., environs of Sosnovka Vill., field no. 6, 23.IX.1980 (V.M. Dushenkov), 1 ♂ (MSPU). *Ryazan Prov.* Shatskii Distr., Petrovka Vill., 27.VII.1966 (V.V. Zolotikhin), 3 ♂, 1 ♀ (MSPU); same locality, 1.VIII.1966 (V.V. Zolotikhin), 1 ♂, 1 ♀ (MSPU). *Kursk Prov.* Gorshechenskii Distr., Barkalovka, flood plain edge, 11.VII.1957 (K.V. Arnoldi), 1 ♀ (MSPU); Medvedenskii Distr., Vysokonskie Dvory Vill., cliff, 11.VIII.1964 (K.V. Arnoldi), 3 ♂, 2 ♀ (MSPU); Streletskaya Steppe, multiyear leaf litter, 13.VI.1957 (K.V. Arnoldi), 1 ♀ (MSPU); same locality, oat field, 13.VII.1957 (K.V. Arnoldi), 2 ♂, 1 ♀ (MSPU); same locality, under manure, 5.VII.1964 (K.V. Arnoldi), 1 ♂, 1 ♀ (MSPU); same locality, pasture, 21.VIII.1967 (K.V. Arnoldi), 1 ♂ (MSPU). *Belgorod Prov.* Shebekinskii Distr., Malaya Mikhailovka, 3.VII.1957 (K.V. Arnoldi), 1 ♀ (MSPU). *Zaporozhye Prov.* Akimovskii Distr., Vatutin State Farm, estuary shore, 1–4.VII.1986 (N.V. Tarusova), 1 ♂, 3 ♀ (MSPU). *Lugansk Prov.* Derkul’skaya Scientific Station, crops, 10.V.1951 (M.S. Ghilarov), 1 ♀ (MSPU); same locality, oak plantings, 27.VII.1952 (K.V. Arnoldi), 1 ♂ (MSPU). *Donetsk Prov.* Slavyanskii Distr., Tat’yanovka, 18.VI.1941 (K.V. Arnoldi), 1 ♂ (MSPU); same locality, limestones near Gruzskii Elanchik River, near Samsonovo Vill., 23.VIII.1990 (D. Novokhatskii), 1 ♂, 2 ♀ (MSPU); same locality, Gruzskii Elanchik River floodland, near Samsonovo Vill., 14.VIII.1990 (D. Novokhatskii), 1 ♂ (MSPU). *Mordovia.* Zubovo-Polyanskii Distr., environs of city of Zubova Polyana, h ~ 114 m, 54°05’09”N, 42°47’25”E, 14–15.VII.2012 (I.V. Melnik), 3 ♂, 2 ♀ (MSPU). *Samara Prov.* S of Shiryaevo Vill., 53°23’05”N, 49°58’13”E, h ~ 80 m,

12–14.VII.2012 (I.V. Melnik), 1 ♂ (MSPU). *Saratov Prov.* Rovenskii Distr., Privol'noe Vill., 13.VI.1942 (S.V. Nikulin), 1 ♂ (MSPU). *Crimea*. 5 km NW of Verkhorech'e Vill., Kaga River valley, 24.III.1991 (I.V. Melnik), 1 ♂ (MSPU). *Rostov Prov.* Aleksandrovskii Distr., Abramovka, open sands, 26.V.1953 (K.V. Arnoldi), 1 ♂, 1 ♀ (MSPU); Bagaevskii Distr., environs of Bagaevskaya Cossack Village, 6–20.VII.2009 (E.A. Khachikov), 1 ♂, 2 ♀ (MSPU). *Volgograd Prov.* Volgograd, environs of Volgograd State Agricultural University, at UV light, 2.VIII.1983 (E.V. Komarov), 2 ♂, 3 ♀ (MSPU). *Krasnodar Terr.* Kushchyovskii Distr., environs of Steпноe Vill., 3.VI.2009 (L.B. Rybalov), 4 ♂ (MSPU); Ust'-Labinskii Distr., environs of Ladozhskaya Cossack Village, 6.VI.2009 (L.B. Rybalov), 1 ♂ (MSPU). *Karachay-Cherkessia*. Environs of city of Teberda, 11–12.VIII.2010 (E.A. Khachikov), 1 ♂, 1 ♀ (MSPU). *Kabardino-Balkaria*. Verkhnyaya Balkariya Vill., 25.VII.1987 (Kralech), 1 ♀ (MSPU). *North Ossetia*. Environs of Zaramag Vill., 11.VII.1997 (P.P. Ivliev), 1 ♂ (MSPU). *Kalmykia*. Tselinnyi Distr., environs of Leninskii State Farm, at light, 29.VIII.1986 (O.L. Makarova), 1 ♂, 2 ♀ (MSPU); Sarpinskii Distr., Arshan'-Zel'men', Ergeni watershed, 6.VII.1952 (K.V. Arnoldi), 1 ♂ (MSPU). *Astrakhan Prov.* Kharabalinskii Distr., Sasykoli Vill., 20.VII.1982 (A.V. Matalin), 1 ♀ (MSPU). *Orenburg Prov.* Orenburg, left bank of Ural River, Protopopovskaya Grove, 16–17.VII.2012 (A.S. Ukrainskii), 3 ♂, 1 ♀ (MSPU); Iriklienskoe Water Reserve, Suunduk River mouth, 10–15.VI.1995 (A.V. Rusakov), 1 ♂ (MSPU); environs of Bolotovsk, meadow salt marsh, pitfall traps, 6.IX.1969 (L.V. Lapshin), 1 ♀ (MSPU). *Kurgan Prov.* Kachusovo, 28.VI.1953 (A.I. Cherepanov), 1 ♀ (FEB). *Tyumen Prov.* Environs of city of Labytnangi, "site 5 sample 32 A," 14.VII.1987 (T.E. Rossolimo), 1 ♂ (MSPU). *Omsk Prov.* Omsk, 9.IX.1976 (E.Ya. Berlov), 2 ♀ (FEB). *Tomsk Prov.* Asino, on grass, 30.VII.1956 (G.S. Zolotarenko), 1 ♀ (FEB). *Novosibirsk Prov.* Kochenevskii Distr., Novomikhailovka Vill., 21.VII.1987 (V.G. Grachev), 1 ♀ (MSPU); Karasukskii Distr., Karasuk Station, 9.X.1976 (V.V. Zolotikhin), 1 ♂ (MSPU); Kolyvanskii Distr., Tropino, shore, 21.VII.1978 (V.N. Kuznetsov), 1 ♂, 2 ♀ (FEB). *Altai Terr.* Klyuchevskii Distr., 10 km SE of Istimis Vill., dry steppe, 1.VI.1998 (A.V. Matalin), 7 ♂, 3 ♀ (MSPU). *Republic of Altai*. Southern Altai, eastern margin of Ukok Plateau, 12 km from fork of road to Dzhazator, h ~ 2400 m, 9.VII.1997 (A.V. Matalin), 1 ♂, 1 ♀ (MSPU); Lake

Teletskoe, Iogach, Kukub locality, coniferous forest, 21.V.1968 (T. Novikova), 1 ♂ (FEB). *Krasnoyarsk Terr.* Krasnoyarsk, Kardichi, 4.VI.1952 (N.G. Kolomiets), 1 ♂ (FEB); Emel'yanovskii Distr., Ploskoe Vill., summer house, 1–10.VIII.1996 (L.A. Sundukova), 2 ♂, 1 ♀ (FEB); same locality, 12–23.VIII.1998 (L.A. Sundukova), 3 ♂, 2 ♀ (FEB). *Tyva*. Erzinskii Distr., 25 km W of Kungurtug Vill., Chirgalandy, 1400 m a.s.l. (R.Yu. Dudko, I.I. Lyubechanskii), 1 ♂ (ISEA). *Irkutsk Prov.* Alarskii Distr., environs of Alar' Vill., 26–28.VI.1997 (A.V. Shavrin), 2 ♂ (DUL); Kirenskii Distr., Nizhnyaya Bochakta River valley, 11.VIII.2008 (A.V. Shavrin), 1 ♂ (DUL); environs of Irkutsk, 29.VIII.1996 (O.E. Berlov), 2 ♂, 2 ♀ (FEB); Zalarinskii Distr.: environs of Tungui Vill., 20–24.VI.1997 (A.V. Shavrin), 4 ♂, 1 ♀ (DUL); Troitskoe Vill., coniferous forest, 28.IV.1974 (E.P. Bessolitsyna), 1 ♂ (FEB); Verkhneilimskii Distr., environs of Shumilovo Vill., 24.VII.2008 (A.V. Shavrin, I.E. Enushchenko), 1 ♂, 1 ♀ (DUL). *Buryatia*. Yarki 15 km SW of Nizhne-Angarsk Vill., sand dunes, 7.VII.2003 (T.L. Ananina), 1 ♂ (FEB); Barguzinskii Nature Reserve, Bol'shaya River, Goryachie Springs, thermal meadow, 30.VIII.2003 (T.L. Ananina), 1 ♂, 1 ♀ (FEB). **Italy**. "Basilicata (PZ), Senise m. 300, 20.VII.1993 (I. Zappi)," 1 ♂ (MSPU). **Bulgaria**. "centr Stara Planina, Trojanska Planina, Hütte Komsomol, 1200–1400 m, 1986 (A. Pütz)," 1 ♀ (FEB); same locality, 9.VII.1985 (A. Pütz), 2 ♂ (FEB). **Moldova**. Kishinev, at light, 8.VII.1968 (V.V. Yanushev), 5 ♂, 3 ♀ (MSPU); Kakhul'skii Distr., environs of Roshu Vill., Prut River floodland, UVL, 22–23.VIII.1982 (V.E. Karpova), 3 ♂ (MSPU); Edinetskii Distr., Druzhba State Farm, 1.VII.1961 (K.V. Arnoldi), 1 ♂, 2 ♀ (MSPU). **Armenia**. Mountains W of Lake Arpi, h ~ 2100 m, 30.VI.2002 (A.A. Rubenyan), 1 ♂ (MSPU); Mt. Aragats, 2800–3000 m, 2.VII.1984 (V.G. Grachev), 1 ♂, 1 ♀ (MSPU); Araks River valley, Echmiadzin, 29.VI.2000 (A.A. Rubenyan), 1 ♂ (MSPU); Vardenisskii Mt. Range, Mt. Makenis, source of Vardenis River, h ~ 3500 m, summer pastures, 15.VIII.2002 (A.A. Rubenyan), 2 ♂ (MSPU). **Azerbaijan**. Apsheron Peninsula, Pirshagi, seacoast, 14.VII.1979 (I.Kh. Sharova), 1 ♀ (MSPU); Talysh, Avrora, 25.VI.1980 (M.L. Danilevsky), 1 ♀ (MSPU). **Kazakhstan**. Gur'ev (*Atyrau*) Prov. Inderborskii, 20.VIII.1972 (V.V. Zolotikhin), 1 ♂ (MSPU). *Kostanai Prov.* Naurzum Nature Reserve, Karamyrza Vill., 2.V.2015 (T.M. Bragina), 1 ♂, 1 ♀ (MSPU). *Pavlodar Prov.* Kyzyl Zhar State Farm, 24.VII.1975 (V.V. Zolotikhin), 3 ♂, 4 ♀ (MSPU). *Semipalatinsk*

Prov. Kokpektinskii Distr., Kamenka Vill., Kamenka River, 3.IX.1996 (A. Yu. Puzachenko), 1 ♂ (MSPU). Almaty Prov. Ketmen' Mt. Range, environs of Tuyuk Vill., h ~ 2000 m, 24.V.1998 (A. Nekrashevich), 1 ♂, 1 ♀ (MSPU); Northern Tien Shan, Bol'shoe Alma-Atinskoe Lake, 30 km from Almaty, 2600 m, pastures, 14.VII.1992 (S.A. Bugrov), 1 ♂, 3 ♀ (MSPU); "08.1946, from collection of S.V. Nikulin," 1 ♂ (MSPU). Kyrgyzstan. Issyk-Kul' Prov. Dzheti-Oguzskii Distr., Terskei Alatau Mt. Range, Chon-Kyzyl-Su River gorge, 18 km S of Pokrovka Vill., 9.VII.1988 (V.V. Yanushev), 1 ♂, 1 ♀ (MSPU); Zaalaiskii Mt. Range, northern slope of Peak of Lenin, Achik-Tash locality, h ~ 3700 m, 39°28'42"N, 72°54'44"E, 17.VII.2016 (E.K. Makarova), 1 ♂, 2 ♀ (MSPU); Moldy-Too Mt. Range, Kurtka River, h ~ 2200 m, 20–21.VII.1998 (A.A. Klimenko), 3 ♂ (MSPU); Alaiskii Mt. Range, Dugoba River gorge, h ~ 3000 m, juniper thickets, under stones, 28.IX.1985 (K.V. Makarov), 8 ♂, 8 ♀ (MSPU). Tajikistan. Hissar Mt. Range, Obi-Safed, 27.VI.1973 (V.V. Yanushev), 1 ♀ (MSPU); northern slope of the Peter the Great Mt. Range, Shul'khov, h ~ 3000 m, 24.VII.1975 (V.V. Yanushev), 1 ♂ (MSPU); northeastern slope of the Peter the Great Mt. Range, Obi-Khary-Kul', h ~ 3000 m, 21.VII.1975 (V.V. Yanushev), 1 ♂ (MSPU). Pakistan. "Pakistan, 80 km SSE Gilgit, 8 km W Astor vill., h ~ 3400–3500 m, ca. 35°20'N, 74°46'E, 28–29.VI.2008 (D.A. Volkov)," 3 ♂ (MSPU).

Diagnosis. Body (Fig. 1, 1, 2) elongate ($[PL + EL]/PW = 2.22–2.41$); length 6.5–9.0 mm, width 2.7–3.8 mm. Beetles pitch-brown to nearly black; antennae pale brown to red; legs reddish.

Head small, dorsally smooth, shining; microsculpture isodiametrical, weak to inconspicuous.

Pronotum (see Fig. 1, 1, 2) weakly narrowed anteriorly ($PB/PA = 1.17–1.38$), subrectangular, 1.48–1.66 times as wide as long, widest at mid-length; anterior angles slightly if at all projecting; lateral explanation narrow throughout; sides before posterior angles straight, rarely slightly rounded; posterior angles slightly obtuse, with small pointed denticle; base of pronotum rectilinear; keels in posterior corners (Fig. 51, 4) longitudinal or nearly longitudinal, reaching posterior margin medial to posterior seta; basal foveae deep, separated by smooth or slightly punctate convex fold. Punctuation present only in basal foveae; keels in posterior corners

impunctate; microsculpture isodiametrical, inconspicuous in males, weak or quite distinct in females.

Elytra long ($EL/EW = 1.40–1.46$), with weakly rounded sides; striae moderately deep, with rather large punctures becoming finer toward apex; position of bases of 1st and 2nd striae and parascutellar stria varying, frequently they are merging; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 8 in apical half. Intervals impunctate; microsculpture isodiametrical, weak or distinct.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum pointed or weakly emarginate apically. Propleura (Fig. 1, 3, 4) smooth; prosternum with sparse punctures at sides; in male, distinctly outlined and deepened area with large punctures present in middle of prosternum (Fig. 1, 5); prosternal process with truncate or rounded apex. Metepisterna (Fig. 1, 6, 7) narrow, their length along ventral margin about 1.7–1.8 times their width along anterior margin. Rather sparse, small and large punctures covering entire metepisterna. Body ventrally with medium-sized, rather sparse punctures; 2nd visible abdominal sternite smooth in middle; anal sternite with 2 setae in male and 4 setae in female (with 3 setae in one female).

Outer apical angle of protibia slanting (Fig. 1, 8); protibia with 1 seta dorsally; specimens from Kazakhstan (Tien Shan, Dzungar Ala Tau) rather frequently with 2 setae on one tibia. Protarsus of male moderately or strongly widened. Mesotibia of male (Fig. 1, 9) rather thick, slightly curved, with 3 low, gently sloping tubercles and with 5 or 6 regularly arranged, curved setae on inner margin in distal half. Mesofemur with 2 setae along posterior margin. Metatibia of male (Fig. 1, 10) moderately slender, curved, considerably widened in distal third; in addition to 7 or 8 fine curved setae, its ventral surface (Fig. 1, 11) with dense brush of fine short hairs covering not less than one-third of tibia length. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 2, 1) curved at nearly 90°, with weak ventral convexity in distal part. Distal part with 2 lateral carinae widened and slightly thickened proximally; preputial area slightly narrowed in the area of maximum width of carinae. Shallow furrow running in parallel to these carinae, merging with groove on lamella on the right. Lamella (Fig. 2, 2) short, rounded triangular, its length about half width of preputial area (or

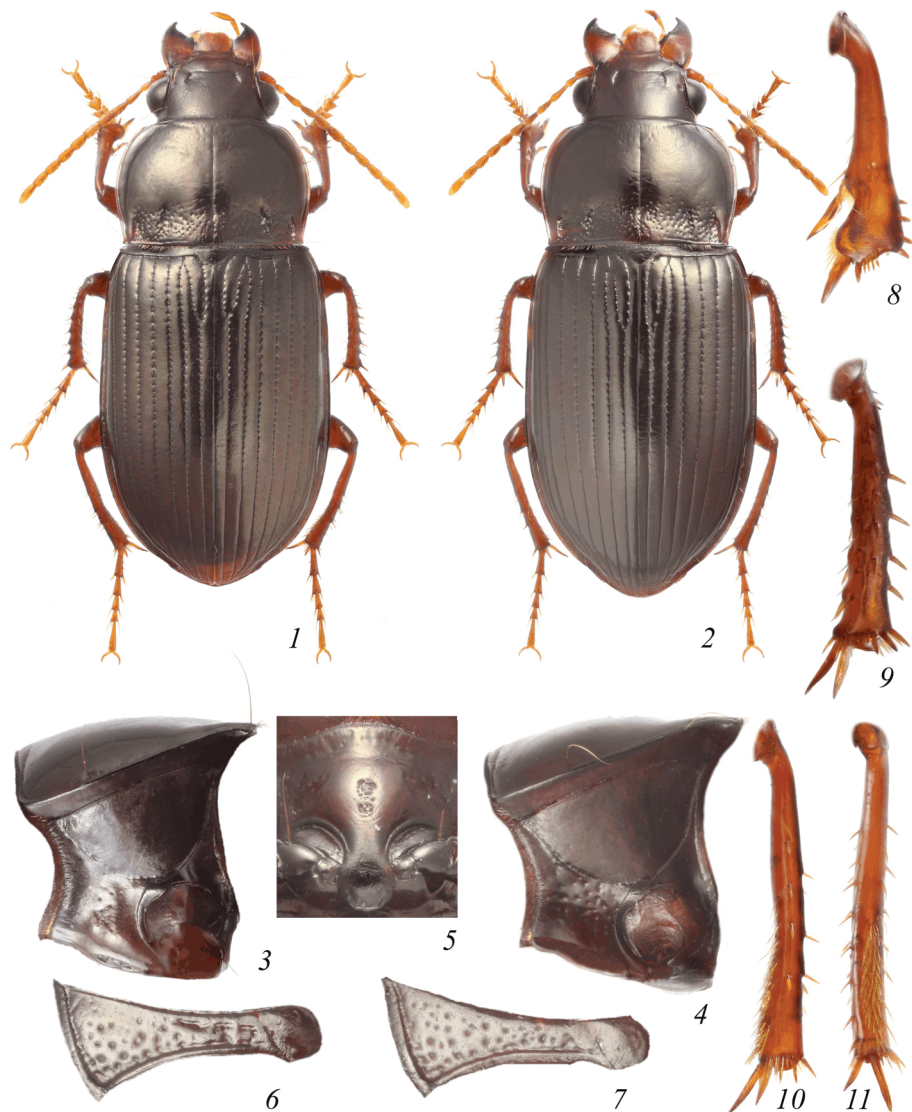


Fig. 1. *Amara (Bradytus) apricaria* (Paykull, 1790), male (1, 3, 5, 6, 8–11) and female (2, 4, 7). (1, 2) dorsal habitus; (3, 4) lateral habitus; (5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, posterior view; (11) metatibia, ventral surface.

aedeagus diameter in basal part). Right paramere (Fig. 2, 3) sharply bent at the level of distal margin of ligaments, slightly curved near apex; apex rounded; small (approximately 1/4 of the paramere diameter) triangular hook present near apex (Fig. 2, 3a). Endophallus (Fig. 2, 5, 6) in general directed perpendicularly to lamella, wide, weakly S-curved in dorsoventral plane. Paired ventrobasal lobes small, conical; dorsal surface with 3 lobes: 1 large dorsobasal, with apex deflexed proximally; 1 small dorsomedial, and 1 dorsoapical, directed apically. Two latter lobes shifted to the left. Sclerotization rather uniform, stronger around gonopore,

without areas of large spines and sclerites. Gonostyli diamond-shaped (Fig. 2, 7, 8).

Distribution. A Western and Central Palaearctic polyzonal species: from Iceland, Ireland, and Portugal in the west to the Lena River in Yakutia, eastern Transbaikalia, and Northeastern China (Heilongjiang) in the east, and from the north of Scandinavian Peninsula, the southern tundra of the European part of Russia and West Siberia, Krasnoyarsk, and Southern Yakutia in the north to Southern Europe, Asia Minor and Middle Asia, Afghanistan, northern Pakistan, and Tibet in the south; it



Fig. 2. *Amara (Bradytus) apricaria* (Paykull, 1790), male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, lateral view; (6) everted endophallus, posterior view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

was introduced to North America (Fassati, 1952a), being widely distributed there from the eastern coast to Alaska (Bousquet, 2012). The FEB collection includes a single female with the labels “Saghalien Centr. Exp. Stn. Siri-topi, 10.VI.1935, M. Yashihura” and “*Am. (Brad.) apricaria*, det. Hieke 91,” but the other material and publications (Sundukov and Makarov, 2020) do not confirm the distribution of the species in the Russian Far East.

Notes. *Bradytus armenus* Motschulsky, 1844 was given as a junior synonym of *Amara apricaria* in both editions of the Catalogue of Palaearctic Coleoptera (Hieke, 2003b, 2017). *Bradytus armenus* was described by V.I. Motschulsky from Armenia (“de l’Arménie”) (Motschulsky, 1844 : 182); the holotype (Fig. 3) is deposited in the ZMU collection and provided with the following labels: “♂,” “Holotypus *Amara armena* Motsch. Khnz. 1971” [red rectangular, handwritten], [rectangle of red paper without inscriptions], “*Bradytus armenus* mihi Armenia” [white rectangular, handwritten], “Armenia” [white rectangular, handwritten], “= *Amara (Brad.) abdominalis* Mts. det. F. Hieke 1974” [white rectangular, handwritten], “Paraît distinctement très voisin d’*abdominalis*,” i.e. “it clearly looks to be very closely related to *abdominalis*” [white rectangle, handwritten; the text is illegible] (Fig. 3, 3). The examination of this specimen has confirmed that it belongs to *Amathitis*, which contradicts the catalogues.

In this connection, we examined the literature and comparative material of *Amathitis*. As the result, it was found that this specimen was designated as the holotype by S.M. Iablokoff-Khnzorian in 1971 (Iablokoff-Khnzorian, 1975 : 26). After examination of the holotype in 1974, F. Hieke concluded that *Bradytus armenus* is a junior synonym of *A. (Amathitis) abdominalis* (Motschulsky, 1844) and published the new synonymy in the revision of the subgenus *Amathitis* (Hieke, 1996 : 9). However, in later publications, he considered that the holotype had been lost, and analysis of Iablokoff-Khnzorian’s text convinced him of the synonymy of *Bradytus armenus* with *A. apricaria* (Hieke, 1999b : 153; 2013 : 85). This opinion was followed in publications of the other authors and in online resources.

The examination of the holotype has shown the correctness of the initial conclusion of F. Hieke about the synonymy of *Bradytus abdominalis* Motschulsky, 1844 (= *Amara (Amathitis) abdominalis*) with *Bradytus armenus* Motschulsky, 1844.

Amara (Bradytus) aurichalcea Germar, 1823

Amara aurichalcea Germar, 1823 : 10–11. Type locality: “prope Barnaul in Sibiria,” Barnaul, Altai Territory, Russia.

Bradytus brevipennis Chaudoir, 1844 : 446–447. Type locality: “dans forest montagnes de l’Altai,” Altai,



Fig. 3. *Amara (Amathitis) abdominalis* (Motschulsky, 1844), holotype of *Bradytus armenus* Motschulsky, 1844, male. (1) dorsal habitus; (2) abdomen, ventral view, and aedeagus; (3) original label with note on the similarity with *A. abdominalis*; (4) labels.

Russia or Kazakhstan; synonymy after Hieke, 1975 : 290.

Material. Russia. *Arkhangelsk Prov.*, *Nenets Autonomous Area*. Environs of city of Nar'yan-Mar, motley grass meadow, on sand, 16.VII.1988 (P.K. Eremin), 1 ♂ (MSPU); Pustozorskiy: 3.VI.1905 (A.V. Zhuravskii), 1 ♂ (ZISP); Chirachikha River, 23.VII.1905 (A.V. Zhuravskii), 1 ♂, 6 ♀ (ZISP); Nikol'skaya River, 26.VI.1905 (A.V. Zhuravskii), 2 ♀ (ZISP). *Komi Republic*. Ust'-Tsył'ma Vill., 17.VII.1905 (A.V. Zhuravskii), 1 ♀ (ZISP); Kozhva River, Ust'-Kozhva Vill., 29.VI.1905 (A.V. Zhuravskii), 1 ♀ (ZISP). *Tyumen Prov.* Southern environs of city of Labytnangi, wasteland, 9.VII.1996 (E.V. Zinoviev), 1 ♂ (ISEA). *Tomsk Prov.* Tom' River, 8 versts from Tomsk, 22.VI.1901 (Shafir'), 1 ♂ (ZISP). *Republic of Altai*. Environs of city of Gorno-Altai, h ~ 500 m, 28.V.1996 (A.V. Matalin, A.E. Brinev), 2 ♂ (MSPU). *Krasnoyarsk Terr.* Taimyr National District, environs of Potapovo Vill., 14–19.VIII.1995 (L.B. Rybalov), 1 ♀ (MSPU); Evenkiya, Chunya River, environs of Mutorai trading post, 3.IX.1986 (A. Makarov), 1 ♀ (MSPU); Turukhanskii Distr., Vorogovo Vill., left bank of Yenisei River, 4–14.VI.1906 (Tolstova), 1 ♀ (ZISP);

“N. Tunguska bliz ust'ya, Yeniseisk. gub.” [in Cyrillic, = Nizhnyaya Tunguska River near mouth, Yeniseiskaya Province], 25.VIII.1873” (A.L. Czekanowski), 1 ♂, 1 ♀ (ZISP); “mouth r. Olimpeya [in Cyrillic, = Olimpeya River mouth], Nizh. Tunguska, 13.VII.1873” (A.L. Czekanowski), 1 ♂ (ZISP); “khr. Urel', N. Tunguska, Enis. gub. [in Cyrillic, = Urel' Mt. Range, Nizhnyaya Tunguska, Yeniseiskaya Province], 22.VII.1873” (A.L. Czekanowski), 1 ♀ (ZISP); “Boyol'de on N. Tunguska River, Enis. [in Cyrillic], 29.VI.1873” (A.L. Czekanowski), 1 ♀ (ZISP); Krasnoyarsk, Konnyi Island on Yenisei River, 26.V.1899 (Kibort), 1 ♀ (ZISP); environs of Krasnoyarsk, second half of July 1911 (Lyubimov), 2 ♀ (ZISP); “Yeniseisk gub., steppe in environs of Korkin Vill. [in Cyrillic], 21.VII.1926” (now within Krasnoyarsk) (A.I. Tolmachev), 1 ♀ (ZISP). *Khakassia*. Tyshtypskii Distr., environs of Bol'shoi On Vill., 8.VIII.1989 (S.A. Bugrov), 1 ♀ (MSPU); Shirinskii Distr.: environs of Malaya Syya Vill., 17.VII.1998 (V.K. Zinchenko), 2 ♂ (ISEA); Lake Chernoe, 25.VIII.1962 (V.I. Volkovintser), 1 ♀ (ISEA). *Tyva*. Tuvinskaya Depression, Chaa-Khol' River, 18.VIII.1962 (I.V. Stebaev), 1 ♂ (ISEA); 25 km NW of city of Chadán, Ubsunurskii Nature Reserve, Khan-

- Deer Cordon, left bank of Khemchik River, 29.VII.2004 (V.G. Mordkovich), 1 ♂ (ISEA); city of Chadan, 21.VI.1972 (B.A. Korotyaev), 2 ♀ (ZISP); Mongun-Taiginskii Distr., Mugur-Aksy Vill., Kargy River, floodland, dry meadow, 30.VII.1972 (A.A. Sharov), 2 ♀ (MSPU); Mugur-Aksy Vill., at river, 11.VIII.1972 (A.A. Sharov), 3 ♂, 4 ♀ (MSPU). *Irkutsk Prov.* Alarskii Distr., Aleksandrovsk Vill., 1.VIII.1912 (Dubrovskaya), 1 ♂, 2 ♀ (ZISP); Irkutskii Distr.: Markovo Vill., Kaya River, 23.VII.1912 (Maksimovich), 1 ♀ (ZISP); Ust'-Balei Vill. on Angara River, 1871 (A.L. Czezanowski), 1 ♀ (ZISP); Irkutsk, Ushakovka Vill., 28.VI.1991 (K.V. Makarov), 2 ♀ (MSPU); Irkutsk, Pervomaiskii Microdistrict, 18–21.V.1991 (D. Kuznetsov), 1 ♂ (ISEA); environs of Irkutsk, 29.VIII.1996 (O.E. Berlov), 4 ♂, 3 ♀ (FEB); Lake Baikal, Bol'shie Koty Vill., 10–18.VI.1972 (V.G. Shilenkov), 1 ♂ (ISEA); [Angarskii City District], Sukhovskoe Vill., 32 versts from Irkutsk, 8.VIII.1912 (Soldatova), 1 ♀ (ZISP); Slyudyanskii Distr.: Langatui River SW of Lake Baikal, 29.VII.1872 (A.L. Czezanowski), 1 ♀ (ZISP); Kultuk Vill. on southwestern shore of Lake Baikal, 1872 (A.L. Czezanowski), 1 ♀ (ZISP); Katangskii Distr.: Erbogachyon Vill. on Nizhnyaya Tunguska River, 16–21.VI.1873 (A.L. Czezanowski), 6 ♂, 3 ♀ (ZISP); Zhdanova Vill. on Nizhnyaya Tunguska River, 8.VII.1873 (A.L. Czezanowski), 1 ♀ (ZISP); Kirenskii Distr., Lena River valley, environs of Krasnoyarsovo Vill., 7.VIII.2008 (A.V. Shavrin), 2 ♂, 1 ♀ (DUL); Nizhneudinskii Distr., city of Nizhneudinsk, 31.VII.1912 (Parchevskaya), 1 ♂ (ZISP); Ol'khonskii Distr., Lake Baikal, Sakhyurta Bay, 16.VII.1968 (L.M. El'tsov), 1 ♂ (FEB); Chunskii Distr., "s. Bunbui, Kansk. u. Enis. g. [in Cyrillic, = Bunbui Vill., Kansk Distr., former Yeniseiskaya Prov.], 28.VI.1915" (Valdaev), 1 ♀ (ZISP); Bratskii Distr., city of Bratsk, 7.VII.1998 (P. Klimov), 1 ♂ (FEB); Cheremkhovskii Distr., Onot, 14.VIII.1869 (A.L. Czezanowski), 1 ♀ (ZISP); "St. Ol'zon na gr. Irk. i Verkh. o. [in Cyrillic, = Ol'zony Vill. at the boundary between former Irkutskii and Verkholenskii districts], 1871" (A.L. Czezanowski), 5 ♀ (ZISP); Lena River, V.1873 (A.L. Czezanowski), 2 ♂ (ZISP). *Buryatia.* Tunkinskii Distr.: Arshan Vill., Tunka River valley, 9.VII.1912 (Zvereva), 2 ♂, 3 ♀ (ZISP); Irkut River valley, between Zun-Murino and Zhemchug villages, h ~ 715 m, 31.VII.2012 (A.S. Prosvirov), 1 ♂ (MSPU). *Zabaikal'skii Terr.* Chitinskii Distr.: environs of Chita City, early August 1911 (collector unknown), 1 ♂ (ZISP); Chita: 25.VIII.1920 (Redikortseva), 11 ♂, 2 ♀ (ZISP); 6.VI.1912 (Vorontsov-Vel'yaminov), 1 ♂, 1 ♀ (ZISP); VI.1912 (Kirkhner), 1 ♂ (ZISP); Chita, Ingoda River, 17.V.1912 (Valueva), 2 ♂, 1 ♀ (ZISP); Chita, Ingoda River valley, 28.VII.1913 (Gavrilyuk), 2 ♂ (ZISP); Chita, Kaidalovka River, 3.VII.1912 (Nemerova), 1 ♀ (ZISP); Kyrinskii Distr., Sokhondinskii Nature Reserve, environs of Agusta Cordon, 1100–1200 m, 15.VI.1991 (V. Pekin, D.V. Logunov), 1 ♂, 1 ♀ (ISEA); Karymskii Distr.: Darasun Vill., "26431" (the number from the Green Book in the Department of Coleoptera of ZIN) (A.L. Czezanowski), 1 ♂ (ZISP); Urul'ga Station, 26–28.VI.1909 (A. Keller), 5 ♂, 5 ♀ (ZISP); Nerchinskii Distr., Baranka Island, confluence of Nercha and Shilka rivers, 5.VIII.1912 (Dol'f), 1 ♂ (ZISP); Borzinskii Distr., environs of city of Borzya, 31.V.2000 (I.V. Melnik), 1 ♀ (MSPU). *Yakutia.* Megino-Kangalasskii Ulus [ethnic entity within definite area in Yakutia], Melzheksinskii Nasleg [basic administrative unit in Yakutia], 2.VII.1912 (I. Afanas'ev), 1 ♀ (ZISP); Sangar Vill., 9.VII.1974 (G. Pavlova-Veryovkina), 1 ♂ (ISEA); 31.VII.1974 (G. Pavlova-Veryovkina), 1 ♀ (ISEA); Bestyakh Vill., 20.VI.1907 (Naumov, Dubrov), 1 ♂ (ZISP); Nizhnyaya Tunguska River upstream of Mt. Lavrusha, 26.VI.1873 (A.L. Czezanowski), 3 ♂, 4 ♀ (ZISP); Nizhnyaya Tunguska River, 19.VI.1873 (A.L. Czezanowski), 4 ♂, 5 ♀ (ZISP); Nizhnyaya Tunguska River, Belyasin Rapids, 10.VII.1873 (A.L. Czezanowski), 1 ♂ (ZISP); Nizhnyaya Tunguska River, Kulinga Mt. Range, 26.VI.1873 (A.L. Czezanowski), 1 ♀ (ZISP); Yakutsk: 11.VII.1927 (Moskvina), 1 ♂, 5 ♀ (ZISP); 19.VII.1928 (Verkhovodov), 2 ♂, 2 ♀ (ZISP); "Turuyalakh za r. Lena [in Cyrillic, = East of Lena River], 20 versts from Yakutsk, 19.VII.1912 (Afanas'ev), 4 ♂, 1 ♀ (ZISP); Namskoe Vill., left bank of Lena, 90 versts from Yakutsk, 16.VII.1926 (L. Bianchi), 1 ♀ (ZISP); 70 versts upstream of Kirensk Vill., Lena left bank, 6.VI.1925 (L. Bianchi), 1 ♀ (ZISP); Oi-Bes' near Pavlovskoe Vill., 29.VI.1925 (L. Bianchi), 2 ♂, 2 ♀ (ZISP). *Magadan Prov.* Ol'skii Distr.: environs of Tauisk Vill., pitfall traps, VII.2017 (M.S. Bizin, B.D. Efeikin), 1 ♂, 1 ♀ (MSPU); Yamsk Vill., near village, 17.VII.1979 (E.G. Matis), 1 ♀ (FEB); Gadlya Vill., 7.VII.1979 (L.A. Glushkova), 1 ♂ (FEB); Khasynskii Distr., Stekol'nyi Vill., km 72 of Kolymskaya Highway, 10–28.VII.1978 (L. Mishina), 1 ♂ (FEB). *Kamchatka Terr.* Lower course of Kamchatka River, environs of Krapivnaya Vill., river bank, 9.IX.2002 (Yu.N. Sundukov), 1 ♂, 2 ♀ (FEB). *Amurskaya Prov.* City of Shi-

manovsk, VIII.1974 (B. Trekhlebov), 1 ♀ (MSPU); Selezdzhinskii Distr., Ekimchan Vill., 20.VI.1975 (G.Sh. Lafer), 1 ♂ (FEB); Zeiskii Distr., Gilyui River, 2.VIII.1977 (collector unknown), 1 ♀ (ISEA); Blagoveshchenskii Distr., island on Zeya River near Nat'ino Vill.: 4.VI.1975 (G.Sh. Lafer), 2 ♂, 2 ♀ (FEB); 10.VI.1975 (G.Sh. Lafer), 1 ♀ (FEB). *Khabarovsk Terr.* Verkhnebureinskii Distr., environs of Chegdomyn Vill., 19–20.VII.2006 (A. Barševskis, U. Valainis), 1 ♀ (MSPU); same locality, 29–30.VII.2006 (A. Barševskis, U. Valainis), 1 ♂, 1 ♀ (MSPU); Komsomol'skii Distr., Komsomol'skii Nature Reserve, wasteland near Kamen'naya Pad' Cordon, 14–31.VII.2014 (O.V. Kuberskaya), 1 ♂ (FEB); Khabarovsk, 16.VI.1912 (Speshilova-Petelina), 1 ♂ (ZISP); environs of Khabarovsk, Sosnovka Vill., 26–30.V.1998 (Yu.N. Sundukov), 1 ♂ (FEB); Khekhtsir Mt. Range, near stream, 13.VIII.1979 (G.Sh. Lafer), 1 ♂, 1 ♀ (FEB). *Jewish Autonomous Area.* Obluchenskii Distr., Radde Vill., Amur River bank, 1.VIII.2004 (I.V. Melnik), 1 ♂ (MSPU); Bastak Nature Reserve, quarter 140, section 16, pitfall traps, 7.VII.2005 (V.N. Kuznetsov), 1 ♂ (FEB). *Primorskii Terr.* Terneiskii Distr.: environs of Ternei Vill., in leaf litter, 4.X.1982 (A.V. Matalin), 1 ♀ (MSPU); 27–28.VI.1999 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); Sikhote-Alin Nature Reserve, Yasnaya [= Maisa] Cordon, glade near cordon, 26.VI–5.VII.1998 (Yu.N. Sundukov), 1 ♂ (FEB); Blagodatnoe locality, 30.VI.1999 (Yu.N. Sundukov), 8 ♂, 4 ♀ (FEB); 13.V.2016 (M.E. Sergeev), 1 ♀ (FEB); 20.IX.2016 (M.E. Sergeev), Blagodatnoe Cordon, oakery, 8–12.VII.1999 (Yu.N. Sundukov), 8 ♂, 17 ♀ (FEB); 1 ♂, 1 ♀ (FEB); Khanov Stream, 17.VII.2018 (M.E. Sergeev), 1 ♂ (FEB); Kunaleika River floodland, 4.V.2023 (M.E. Sergeev), 2 ♀ (FEB); Tetyukhe River, Taiga Vill., pebbles on stream bank, 13.VII.1971 (G.Sh. Lafer), 1 ♂, 2 ♀ (ZISP); Tetyukhe River mouth, 4.VIII.1909 (Dyukin), 2 ♂, 1 ♀ (ZISP); Iman River, 16 versts from Kartush Vill., 30.VI.1913 (Buyanova), 1 ♀ (ZISP); Chuguevskii Distr., Pavlovka River near Antonovka Vill., 23.VII.2004 (Yu.N. Sundukov), 1 ♂ (FEB); Ol'ginskii Distr.: lower course of Arzamazovka River, 2.IX.2019 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); upper course of Milogradovka River, Chertov Most locality, 16–18.VIII.2004 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂, 1 ♀ (FEB); Mineral'naya River mouth, 4.V.2007 (Yu.N. Sundukov), 1 ♂, 2 ♀ (FEB); Avvakumovka River mouth near Ol'ga Vill., 18–20.VII.2004 (Yu.N. Sundukov, L.A. Sundukova),

1 ♂ (FEB); Khankaiskii Distr.: Bol'shie Usachi River, 4–6 km NW of Pervomaiskoe Vill., 14.V.2024 (Yu.N. Sundukov), 1 ♀ (FEB); Lake Khanka near Troitskoe Vill., 24.V.1973 (G.Sh. Lafer), 2 ♀ (FEB); Lazovskii Distr.: Lazo-raitsentr Vill., Lazovka River valley, 8–10.V.1998 (Yu.N. Sundukov), 1 ♀ (FEB); 1–12.VI.1998 (Yu.N. Sundukov), 18 ♂, 26 ♀ (FEB); 11–22.V.1999 (Yu.N. Sundukov), 1 ♂ (FEB); VII–III.1999 (L.A. Sundukova), 1 ♂, 2 ♀ (FEB); 5–15.V.2000 (Yu.N. Sundukov), 4 ♂, 4 ♀ (FEB); V.2000 (Yu.N. Sundukov), 1 ♂ (FEB); 1st third of VIII–IX.2000 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); 20–31.VIII.2001 (Yu.N. Sundukov), 1 ♀ (FEB); 15–30.IX.2001 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); 15–20.IV.2002 (Yu.N. Sundukov), 2 ♀ (FEB); 8.X.2002 (Yu.N. Sundukov), 1 ♂ (FEB); 14–15.VI.2005 (V.P. Shokhrin), 1 ♂ (FEB); 7–13.VIII.2006 (Yu.N. Sundukov, V.P. Shokhrin), 1 ♀ (FEB); at light: 16.VIII.2006 (Yu.N. Sundukov), 2 ♂ (FEB); 20–23.VIII.2006 (V.P. Shokhrin), 1 ♀ (FEB); 21–24.V.2008 (V.P. Shokhrin), 1 ♀ (FEB); 25.IV.2019 (Yu.N. Sundukov), 1 ♀ (FEB); 18–19.IV.2020 (Yu.N. Sundukov), 2 ♀ (FEB); VIII–IX.1999 (L.A. Sundukova), 1 ♀ (FEB); lower course of Gerasimov Stream, 14.IX.1998 (Yu.N. Sundukov), 10 ♂, 8 ♀ (FEB); 11.VI.2006 (Yu.N. Sundukov), 1 ♂ (FEB); Glazkovka Vill., seaside meadows, 17.VII.2003 (Yu.N. Sundukov), 1 ♀ (FEB); confluence of Benevka and Egerevka rivers, abandoned arable land, 22.IX.2000 (Yu.N. Sundukov), 1 ♂ (FEB); road from Egerevka River mouth to Benevka River mouth, 28.IV.2000 (Yu.N. Sundukov), 2 ♂, 3 ♀ (FEB); Benevka River mouth, pasture meadow, 28.IV.2000 (Yu.N. Sundukov), 1 ♂ (FEB); Sokolovskaya Bay, 13–17.VII.2002 (Yu.N. Sundukov), 2 ♂, 1 ♀ (FEB); Kievka River mouth, pasture meadow, 14.V.2000 (Yu.N. Sundukov), 2 ♂ (FEB); Lazovskii Nature Reserve, Nogeenskaya River mouth, 20–21.V.2000 (Yu.N. Sundukov), 1 ♂ (FEB); Amerika Cordon, Perekatnaya River bank, pebbles, 26–28.IV.1998 (Yu.N. Sundukov), 1 ♂ (FEB); Amerika Cordon, valley broadleaf-cedar forest, 14–16.V.1999 (Yu.N. Sundukov), 1 ♂ (FEB); 27–29.IX.2000 (Yu.N. Sundukov), 2 ♂ (FEB); Korpád' locality: 30.VIII.2005 (V.P. Shokhrin), 2 ♂, 2 ♀ (FEB); 1–2.IX.2005 (Yu.N. Sundukov), 1 ♂ (FEB); 7.V.1999 (Yu.N. Sundukov), 1 ♀ (FEB); Prosyolochnyi Cordon: 4–6.X.1999 (Yu.N. Sundukov, V.P. Shokhrin), 1 ♀ (FEB); 8–10.V.2000 (Yu.N. Sundukov), 3 ♂, 1 ♀ (FEB); 43°00'34"N, 134°07'43"E, 10.VII.2005 (K.V. Makarov), 1 ♂ (MSPU); Prosyolochnaya River, river bank,

- 30–31.VIII.2005 (S.K. Kholin), 1 ♂ (FEB); 30–31.VIII.2007 (S.K. Kholin), 1 ♂, 4 ♀ (FEB); Prosyolochnaya River mouth, sandy beach: 18.X.2000 (Yu.N. Sundukov), 2 ♂ (FEB); 11–12.IX.2003 (Yu.N. Sundukov), 1 ♀ (FEB); 28.V–2.VI.2005 (V.P. Shokhrin), 1 ♀ (FEB); 14–15.VI.2005 (Yu.N. Sundukov), 1 ♂ (FEB); 1–7.VII.2006 (Yu.N. Sundukov), 4 ♂, 2 ♀ (FEB); Petrov Cordon, 16–20.IX.1998 (Yu.N. Sundukov), 11 ♂, 17 ♀ (FEB); same locality, edge of swampy meadow: 17.IX.2000 (Yu.N. Sundukov), 7 ♂, 5 ♀ (FEB); 2–4.X.2000 (Yu.N. Sundukov), 1 ♀ (FEB); 4–6.IX.2001 (Yu.N. Sundukov), 3 ♂, 3 ♀ (FEB); Petrova Bay, 1–15.IX.2005 (V.P. Shokhrin), 1 ♂, 1 ♀ (FEB); Ussuriiskii Distr.: Suputinskii [= Ussuriiskii] Nature Reserve, 5.IX.1969 (O.L. Kryzhanovskij), 3 ♂, 1 ♀ (ZISP); Suputinka [= Komarovka] River, VI.1931 (T. Samoilov), 1 ♀ (ZISP); Peishula Cordon in lower course of Suvorovka River, broadleaf forest, in traps, 16–22.VIII.1998 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); Kaimanovka Vill.: Barsukovka River floodland, 12–13.VIII.1998 (Yu.N. Sundukov), 2 ♂, 1 ♀ (FEB); Komarovka River floodland, 16.VIII.1998 (Yu.N. Sundukov), 1 ♀ (FEB); Komarovo-Zapovednoe, manual collection along valley, 26–28.V.1999 (Yu.N. Sundukov), 1 ♀ (FEB); Borisovskoe Plateau, Listvennichnyi Cordon, 20.VII.2020 (Yu.N. Sundukov), 1 ♀ (FEB); Nadezhdinskii Distr.: lower course of Pravaya Klyopohnaya River near Razdol'noe Vill., 5.IX.2019 (Yu.N. Sundukov, L.A. Sundukova), 40 ♂, 16 ♀ (FEB); lower course of Malaya Klyopohnaya River near Razdol'noe Vill., 5.IX.2019 (Yu.N. Sundukov, L.A. Sundukova), 2 ♂, 2 ♀ (FEB); Partizanskii Distr.: Novitskoe Vill., Suchan River floodland, 10–30.VI (Romashenkov), 1 ♀ (ZISP); 25 km NE of Sergeevka Vill., 30.VIII.1986 (B.M. Kataev), 3 ♂, 1 ♀ (ZISP); Tigrovoi Vill., 12.VI.1927 (Sokolov), 1 ♂, 1 ♀ (ZISP); Vladivostok: 18.V.1912 (V.M. Berger), 1 ♀ (ZISP); near water, 28.IX.1982 (A.V. Matalin), 1 ♂ (MSPU); Sedanka Station, 1911 (Malkova, Panina), 1 ♀ (ZISP); Russkii Island opposite Vladivostok, VII.1920 (N.I. Kardakov), 1 ♀ (ZISP); Khasanskii Distr.: Chyornye Gory Mts., right tributary of Poima River, 30.VII–5.VIII.1999 (A.V. Anishchenko), 1 ♂ (DUL); Amba River, ~ 2 km W of Provalovo Vill., river bank, 24.V.2023 (Yu.N. Sundukov), 2 ♂ (FEB); Gryaznaya River near Gusevskii Cordon, 4.VIII.2020 (Yu.N. Sundukov), 3 ♂ (FEB); 31.V.2021 (Yu.N. Sundukov), 1 ♂, 2 ♀ (FEB); 3–7.VI.2022 (B.M. Kataev), 1 ♂, 1 ♀ (ZISP); Gryaznaya River, 0.5 km upstream of Gusevskii Cordon, 2.VI.2021 (Yu.N. Sundukov), 1 ♂ (FEB); 3.VI.2022 (Yu.N. Sundukov), 5 ♂, 2 ♀ (FEB); Gryaznaya River, 1.5 km upstream of Gusevskii Cordon, 6.VI.2022 (Yu.N. Sundukov), 1 ♀ (FEB); Gusevskii quarry on Gryaznaya River, 7.VI.2022 (Yu.N. Sundukov), 1 ♀ (FEB); lower course of Barabashevka River, near mouth, 28.V.2015 (K.V. Makarov, A.V. Matalin), 1 ♂ (MSPU); 12.5 km WNW of Barabash Vill., Barabashevka River near Ovchinnikov Cordon, 10.VIII.2020 (Yu.N. Sundukov), 9 ♂, 5 ♀ (FEB); 12.VIII.2020 (Yu.N. Sundukov), 3 ♂, 2 ♀ (FEB); 27.V.2021 (Yu.N. Sundukov), 2 ♂, 2 ♀ (FEB); road from Ovchinnikov Cordon to Ovchinnikovo Vill., 30.V.2021 (Yu.N. Sundukov), 1 ♀ (FEB); 22.V.2023 (Yu.N. Sundukov), 4 ♂, 3 ♀ (FEB); 17 km WNW of Barabash Vill., environs of deserted Pogran-Petrovka Vill., 12.VIII.2020 (Yu.N. Sundukov), 4 ♂, 2 ♀ (FEB); Narva River near Sinii Utyos Cordon, 30.V.2022 (Yu.N. Sundukov), 1 ♀ (FEB); Narva Vill., 7–13.VIII.1921 (Kardakov), 1 ♂, 4 ♀ (ZISP); Mongugai River bank near Barabash Vill., 6.V.1972 (G.Sh. Lafer), 1 ♀ (ZISP); environs of Barabash Vill., Barabashevka River, 43°11.33'N, 131°30.18'E, 10.VI.2022 (B.M. Kataev), 1 ♀ (ZISP); 1.5 km N of Perevoznaya Bay, 23.VI.1990 (I.V. Melnik), 1 ♂, 3 ♀ (MSPU); 1.5 km N of Perevoznaya Bay, 23.VI.1990 (K.V. Makarov), 1 ♂ (MSPU); Pleshivaya Hill, meadow, 43°05'30"N, 131°36'45"E, 26.V.2015 (A.V. Matalin), 2 ♂, 2 ♀ (MSPU); Kedrovaya Pad' Nature Reserve: 20.VIII.1990 (V.V. Gorbatovskii), 1 ♂, 3 ♀ (MSPU); 18–19.VIII.2018 (Yu.N. Sundukov), 1 ♂ (FEB); at light, 22.VIII.1963 (I.M. Kerzhner), 1 ♀ (ZISP); 22.VIII.1964 (B.M. Mamaev), 1 ♂ (MSPU); 15–17.VII.2004 (V.N. Medvedev), 4 ♂, 5 ♀ (FEB); 17.VIII.2018 (Yu.N. Sundukov), 1 ♂ (FEB); 1–3.VI.2019 (Yu.N. Sundukov), 1 ♂ (FEB); near Mt. Izvestkovaya, h ~ 110 m, 4.VI.2019 (K.V. Makarov), 2 ♀ (MSPU); Kedrovaya River from headquarters downstream to border of reserve, 2.VI.2019 (Yu.N. Sundukov), 1 ♂, 2 ♀ (FEB); Kedrovaya River mouth, swamps, 24.VIII.2018 (K.V. Makarov), 2 ♂, 1 ♀ (MSPU); lower course of Kedrovaya River, 22–24.VIII.2018 (Yu.N. Sundukov), 7 ♂, 9 ♀ (FEB); 1–4.VI.2019 (Yu.N. Sundukov), 3 ♂, 4 ♀ (FEB); 43°05'14"N, 131°35'50"E, 22.VIII.2018 (K.V. Makarov), 1 ♂ (MSPU); 15 km SW of Slavyanka Vill., Ryazanovka Vill., biostation, Osokovy Stream, forest, 12.VIII.1990 (D. N. Fedorenko), 1 ♂ (SIEE); hills with *Quercus dentata*, 3–10.IX.2000 (D.E. Shchigel'), 1 ♂, 1 ♀ (MSPU); environs of Ryazanovka Vill., night collecting, 21.V.2023 (Yu.N. Sundukov), 1 ♀ (FEB);

Andreevskaya Pad' near Andreevka Vill.: 26.V.2022 (Yu.N. Sundukov), 1 ♂ (FEB); 28.V.2022 (Yu.N. Sundukov), 3 ♂, 1 ♀ (FEB); Andreevka Vill., 29.V.2022 (Yu.N. Sundukov), 1 ♂, 2 ♀ (FEB); from Vit'az' Vill. to pass to Telyakovskogo Bay, 17.V.2023 (Yu.N. Sundukov), 1 ♂ (FEB); 18.V.2023 (Yu.N. Sundukov), 19 ♂, 13 ♀ (FEB); Tsukanovka River floodland near Kraskino Vill., 17.V.2023 (Yu.N. Sundukov), 1 ♀ (FEB). **Sakhalin Prov.** Sakhalin Island. Srednyaya River bank near Troitskoe Vill., 17.VI.2018 (Yu.N. Sundukov, L.A. Sundukova), 1 ♀ (FEB); Kuznetsova Cape, 24.VIII.1986 (S. Korolyov), 5 ♂, 2 ♀ (MSPU); environs of Tymovskii Vill., 12.X.1915 (M.N. Trigoni), 1 ♀ (ZISP); Poronai River, 3–4.VIII.1907 (P.Yu. Shmidt), 3 ♂, 1 ♀ (ZISP); Kukyn-gou River, 7.VII.1914 (collector unknown), 5 ♂, 4 ♀ (ZISP). **Kazakhstan.** *Eastern Kazakhstan Prov.* Western Altai, 25 km NE of city of Ust'-Kamenogorsk, Ul'ba River, environs of Topikha Vill., 5–11.VIII.1997 (R.Yu. Dudko, V.K. Zinchenko), 2 ♂, 1 ♀ (ISEA). **Mon-golia.** *Zavhan aimak.* Ulyasutai, 27.VI.1896 (D.A. Klements), 1 ♂, 1 ♀ (ZISP). *Arkhangai aimak.* 15 km NE of Egin-Daba Pass, 28.VIII.1967 (V.F. Zaitsev), 2 ♂ (ZISP). *Töv aimak.* Ulan-Bator, Tola River, 6.VI.1981 (V.V. Yanushev), 1 ♀ (MSPU); environs of Ulan-Bator, 24–29.VI.1970 (A.F. Emeljanov), 1 ♂ (ZISP); Zaisan locality S of Ulan-Bator, 17.VI.1981 (V.V. Yanushev), 1 ♀ (MSPU); Songino Vill., Tola River floodland, 29–30.VII.1969 (E.L. Gurjeva), 2 ♂, 1 ♀ (ZISP); Western Khentei, Dzen-Modo mine, 21.VI.1924 (P.K. Kozlov), 1 ♂ (ZISP). *Bayankhongor aimak.* 20 km SE of pass Egin-Daba, Khangai, 27.VIII.1967 (V.F. Zaitsev), 1 ♀ (ZISP). *Govi-Altai aimak.* "Tsagan" [? Tsagan-Chulut]—Adzirga Mts., 9–12.IX.1926 (A.N. Kiritschenko), 1 ♂ (ZISP). **China.** *Liaoning Prov.* Kuandian [Manchu] County, "VII (June)," Banlaing, Ba-che-chuan (date and collector unknown), 2 ♀ (DUL). **Korea.** "Korea (Herz)," 1 ♂ (ZISP). **USA.** "Insel Sitkha (V. Grunewaldt) Dr. Blehse" [illegibly], 2 ♂, 2 ♀ (ZISP).

Diagnosis. Body (Fig. 4, 1, 2; 5) rather robust ([PL + EL]/PW = 2.01–2.23); length 7.5–9.6 mm, width 3.5–4.5 mm. Body dark brown to nearly black; elytra with or without greenish, copper, rarely bluish tint; antennae pale brown to red; legs reddish.

Head (Fig. 4, 1, 2) wide, dorsally smooth, shining; microsculpture very weak, isodiametrical, occasionally no microsculpture present.

Pronotum (Fig. 4, 1, 2) weakly narrowed anteriorly (PB/PA = 1.15–1.26), subcordate or subrectangular, 1.63–1.74 times as wide as long, widest at mid-length; anterior angles strongly or moderately projecting; lateral explanation rather wide, widened in anterior angles; sides strongly or moderately sinuate before posterior angles; posterior angles obtuse, with large tooth attenuate sideways and frequently deflexed; base slightly curved, projecting posteriorly in middle; keels in posterior corners (Fig. 50, 5) diverging posteriorly, shortened, directed toward posterior seta or sharply turning outwards; basal foveae wide, separated by wide convexity. Punctuation covering entire base (including basal keels), wide stripe along anterior margin, and narrower stripe at sides; microsculpture inconspicuous isodiametrical, or surface smooth.

Elytra (Fig. 4, 1, 2; 5) moderately or strongly elongate (EL/EW = 1.20–1.42), with weakly or moderately rounded sides; striae moderately deep, with small to minute punctures; bases of 1st and 2nd striae separated; parascutellar stria situated on 1st or 2nd interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 pores in apical half. Intervals impunctate; microsculpture very weak, isodiametrical or transversely reticulate, occasionally no microsculpture present.

Ventral side. Submentum with 1, less frequently with 2 setae on each side; medial tooth of mentum bifid. Propleura (Fig. 4, 3, 4) with sparse or dense, small or large punctures; middle of prosternum densely and coarsely, occasionally finely and sparsely punctate at sides; in male, middle of prosternum with group of punctures (Fig. 4, 5, 6); prosternal process truncate or rounded apically; anal sternite with 2 setae in male (in one male with 4, in other one with 3 setae) and 4 setae in female. Metepisterna (Fig. 4, 7, 8) weakly elongate, with length along ventral margin about 1.2–1.3 times their width along anterior margin. Rather sparse small and large punctures covering entire metepisterna. Entire ventral side densely punctate; 2nd visible abdominal sternite with rugose area in middle.

Protibia weakly widened at apex (Fig. 4, 9), dorsally usually with 1 seta (rarely with 2 on one or both tibiae; occasionally with 2 or 3 setae on one or both tibiae); protarsus of male weakly widened. Mesotibia of male (Fig. 4, 10) rather thick, almost straight, with 4 gradually enlarging conical tubercles and 7 or 8 regularly ar-

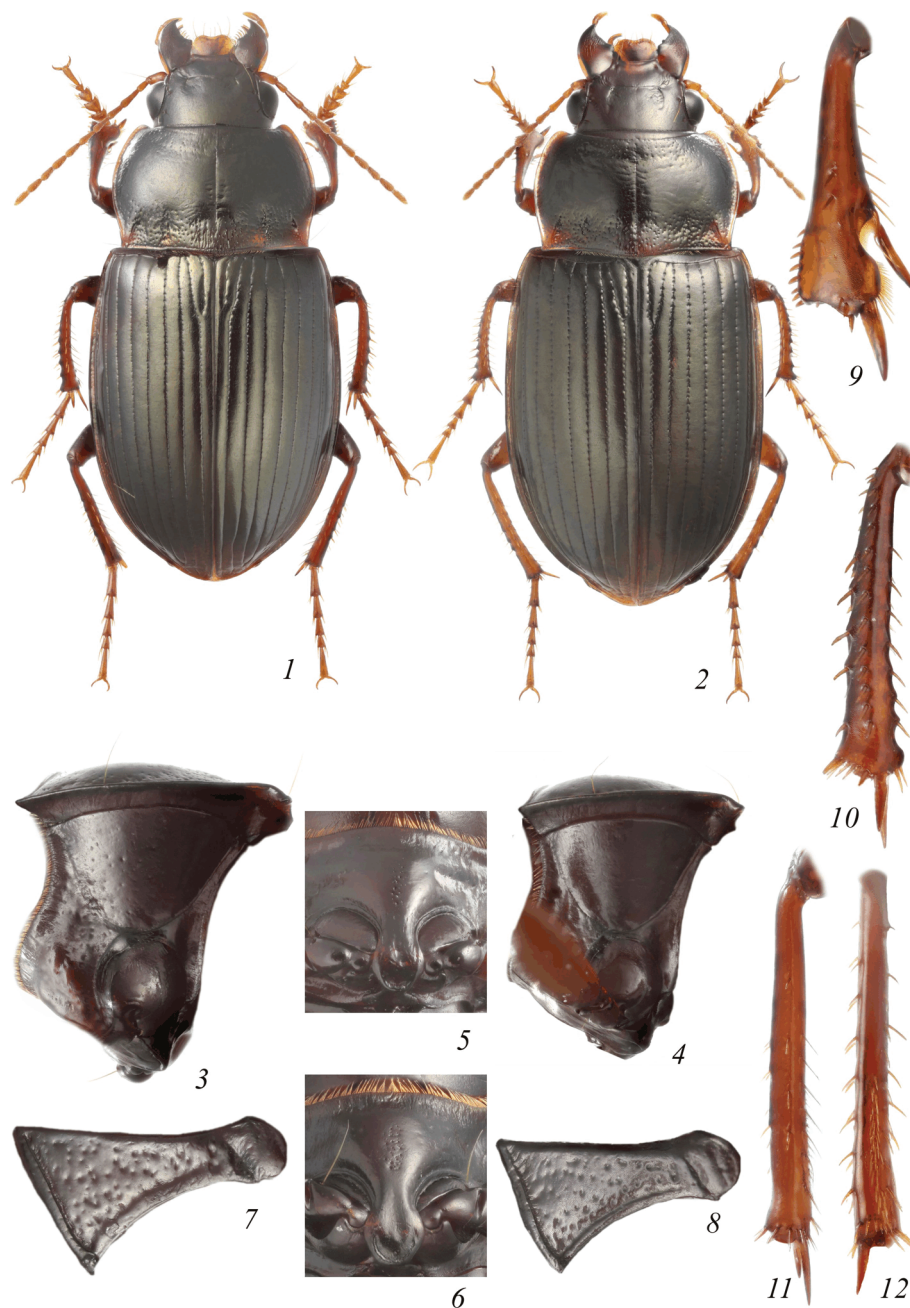


Fig. 4. *Amara (Bradytus) aurichalcea* Germar, 1823, male (1, 3, 5–7, 9–12) and female (2, 4, 8). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5, 6) prosternum, ventral view; (7, 8) metepisternum, lateral view; (9) protibia, front view; (10) mesotibia, posterior view; (11) metatibia, posterior view; (12) metatibia, ventral surface.

ranged curved setae in distal third of ventral margin. Mesofemur with 2 setae ventrally. Metatibia of male straight, slightly thickened, considerably widened outwards near apex (Fig. 4, 11); its ventral margin (Fig. 4, 12) with 7 or 8 fine curved setae and with very

sparse brush of fine short hairs covering not less than 1/3 length of tibia. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 6, 1) rather thick, regularly curved, gradually narrowing toward apex. Lamella



Fig. 5. *Amara (Bradytus) aurichalcea* Germar, 1823, male (1, 3, 6, 9, 10, 12) and female (2, 4, 5, 7, 8, 11) habitus, dorsal view. (1) Yakutia, Bestyakh; (2) Irkutsk, Ushakovka; (3) Mountain Altai, environs of Gorno-Altaiisk; (4) Magadan Province, Tauisk; (5, 6) Southern Primorskii Territory, Khasanskii District, Pleshivaya Hill; (7–9) same locality, mouth of the Kedrovaya River; (10) Southern Primorskii Territory, Lazovskii Nature Reserve, Prosyolochnyi locality; (11, 12) Southern Sakhalin, Cape Kuznetsov.

(Fig. 6, 2–5) with length about half diameter of penis at base. Apex of lamella rather narrow, rounded, weakly asymmetrical (left margin more convex). Groove on right side of lamella deep and long. Right paramere (Fig. 6, 6) regularly curved from the area of attachment of ligaments, smoothly narrowed toward rounded apex in distal part, without apical hook (Fig. 6, 6a). Endophallus (Fig. 6, 8, 9) wide, weakly deflexed dorsally, transversely S-curved so that gonopore shifted on left side; gently sloping lateroapical lobe situated at the

right of apex. Small oval ventrobasal sclerite situated to the left of medial plane. Gonostyli long, narrow (Fig. 6, 10, 11).

Variability. The species rather widely varies; specimens from the northern and western parts of the range are somewhat flattened dorsally, with the microsculpture of elytra more deeply depressed, and relative size of the head smaller (Fig. 5, 1–4). In the southern and eastern parts of the range, especially in Primorskii Terri-

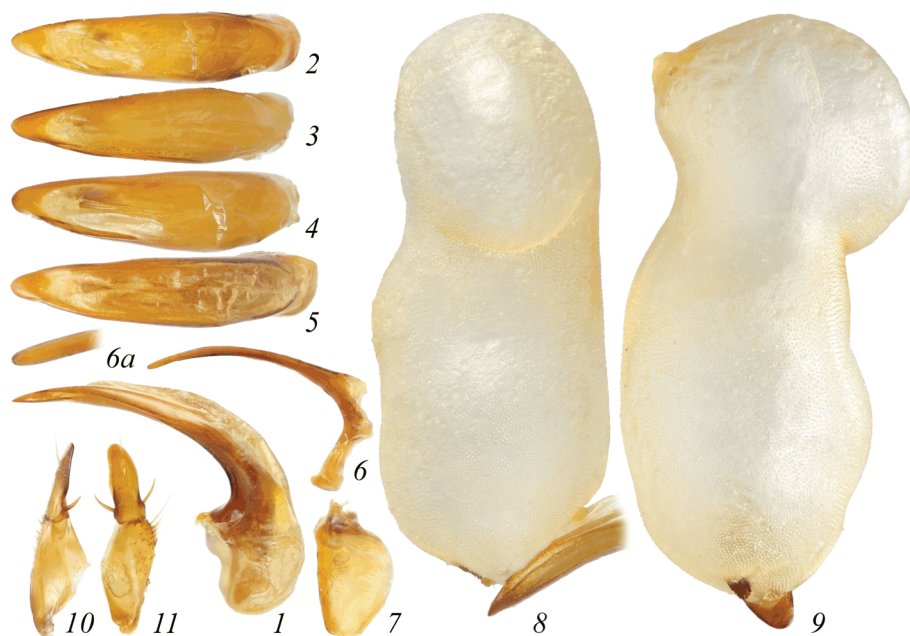


Fig. 6. *Amara (Bradytus) aurichalcea* Germar, 1823, male (1–9) and female (10, 11) genitalia. (1) penis, lateral view; (2–5) penis, dorsal view; (6) right paramere, lateral view; (6a) apex of right paramere, $\times 3$ magnification; (7) left paramere; (8) everted endophallus, lateral view; (9) everted endophallus, posterior view; (10) gonostylus, lateral view; (11) gonostylus, ventral view.

tory, the specimens are more convex, strongly shining (Fig. 5, 5–12), frequently with thickened head. In addition, the chaetotaxy of the submentum widely varies over the entire range (13% of the specimens have an additional seta on one side, and 6%, on both sides), as well as the chaetotaxy of the anterior surface of the tibiae (19% of the specimens have an additional seta on one side, and 4%, on both sides). The lamella may be subsymmetrical or slightly emarginate on the right, and its apex is rather sharp or rounded (Fig. 6, 2–5). All these variations are not related and provide no basis for distinguishing subspecies.

Distribution. A Palaearctic polyzonal species: from the Komi Republic (the Pechora River), Novosibirsk Province, Western Altai, and Western China in the west to the Koryak Uplands, the Kamchatka Peninsula, Sakhalin Island, Eastern China and North Korea in the east; from Bolshezemelskaya Tundra, Southern Yamal, the Podkamennaya Tunguska River, Vilyui River, and Koryak Highlands in the north to the Xinjiang Uygur Autonomous Region, Yunnan and Shanxi provinces in China, and North Korea in the south; the records for Japan (Hieke, 2017) are erroneous (Sundukov and Makarov, 2019). The ZISP collection includes

4 specimens with the badly readable label “Insel Sitkha (V. Grunewaldt) Dr. Bl ... e.” This may mean Dr. Blaschke who was mentioned by Mannerheim (1843) and got on Sitka Island with a ship of the Russian-American company. There are no other records of *A. aurichalcea* in North America, and an error in the label is possible with respect to this species, as it was in case with *Micratopus exiguus* (R.F. Sahlberg, 1844) (Erwin, 1974).

***Amara (Bradytus) consularis* (Duftschmid, 1812)**

Carabus consularis Duftschmid, 1812 : 112. Type locality: “Um Linz,” Linz, Austria.

Amara crassa Stephens, 1828 : 131. Type locality: “near London,” London, England; synonymy after Schaum, 1848 : 39.

Bradytus niger Chaudoir, 1837 : 35. Type locality: “en Silésie,” Silesia, Poland; synonymy after Schaum, 1858 : 508.

Amara (Bradytus) patrata Schiødte, 1840 : 171–172. Type locality: “en Grøtvtold i Naerheden af Vesterfa-

elled ved Kjöbenhavn,” Denmark; synonymy after Schaum, 1858 : 508.

Acrodon Uralensis Motschulsky, 1844 : 191–192, Tab. VIII, fig. 19. Type locality: “des montagnes de l’Oural,” the Ural mountains, Russia; synonymy after A. Morawitz, 1862b : 258; Andrewes, 1938 : 185.

Bradytus (Bradytus) regismontium Schweiger, 1966 : 46. Type locality: “Mts. Ilgazdag, 2000–2300 m NN,” Ilgazdag Mts., northwestern Turkey; synonymy after Hieke, 1997 : 244.

Type material. *Acrodon uralensis*: ♂, lectotype (designated here): “Mt. Ural” [pink rectangle, handwritten], “*Acrodon Uralensis* m. Kamyschin” [pinkish rectangle, handwritten], “*Amara consularis* Dufts. H. E. Andrewes det.” [white rectangle, handwritten], [rectangle of red paper without inscriptions] (ZMU); ♂, paralectotype (designated here): “Kamyschin” [pink rectangle, handwritten], “*Acrodon uralensis* Ural” [pinkish rectangle, handwritten], [rectangle of red paper without inscriptions] (ZMU).

Other material. **Russia.** *Komi Republic.* Ust'-Tsyly'ma Vill., 2.VII.1907 (A.V. Zhuravskii), 1 ♂ (ZISP). *Leningrad Prov.* St. Petersburg, Udel'naya Station, 28.V.1976 (B.M. Kataev), 1 ♀ (ZISP). Gatchinskii Municipal District: city of Gatchina, garden, 29.VII.1981 (B.M. Kataev), 1 ♀ (ZISP); Kingiseppskii Distr.: Romanovka Vill., 30.V.1905 (V.V. Barovskii), 1 ♀ (ZISP); 23.VII.1905 (V.V. Barovskii), 1 ♂ (ZISP); 14.VIII.1905 (V.V. Barovskii), 1 ♀ (ZISP); 15.VIII.1905 (V.V. Barovskii), 1 ♀ (ZISP); Kirovskii Distr.: city of Shlisselburg, Gory Vill., 24.VI.1907 (A. Vlasov), 1 ♂ (ZISP). *Kirovsk Prov.* Oricheskii Distr.: Perevoz Vill. (VIZR), 1940 (collector unknown), 1 ♂, 1 ♀ (ZISP); city of Vyatka [= Kirovsk], Talitskii State Farm, 10.V.1931 (Khokhlova), 2 ♀ (ZISP). *Moscow Prov.* Istrinskii Distr., eastern shore of Istrinskoe Water Reserve, environs of Novo-Rakovo Vill., 11.VIII.2001 (K.V. Makarov), 1 ♂ (MSPU); Ozyorskii Distr.: environs of Sosnovka Vill., field no. 5, 2.VIII.1980 (V.M. Dushenkov), 1 ♀ (MSPU); same locality, field no. 8, 7.VIII.1980 (V.M. Dushenkov), 1 ♀ (MSPU). *Kursk Prov.* Central Chernozem Nature Reserve, Streletskaya Steppe: oat field, 13.VII.1957 (K.V. Arnoldi), 1 ♂, 1 ♀ (MSPU); 19–20.VII.1957 (K.V. Arnoldi), 1 ♀ (MSPU); 28.VII.1964 (V.V. Yanushev), 1 ♀ (MSPU). *Mordovia.* Zubovo-Polyanskii Distr., environs of city of Zubova

Polyana, 14–15.VII.2012 (I.V. Melnik), 2 ♂, 1 ♀ (MSPU). *Voronezh Prov.* Borisoglebskii Distr.: Tellerman Vill., deforestation area, V.1988 (S.Yu. Gryuntal), 1 ♀ (MSPU); 7.VI.1988 (S.Yu. Gryuntal), 1 ♂ (MSPU); Losevskii Distr., 15.IX–15.X.1951 (collector unknown), 1 ♂ (MSPU). *Zaporozhye Prov.* Akimovskii Distr., Vattutin State Farm, estuary shore, at light, 29.VI.1986 (N.V. Tarusova), 1 ♀ (MSPU). *Lugansk Prov.* Derkul Vill., 4.VIII.1950 (K.V. Arnoldi), 1 ♂ (MSPU). *Donetsk Prov.* Limestones near Gruzskii Elanchik River, near Samsonovo Vill., 23.VIII.1990 (D. Novokhatskii), 1 ♀ (MSPU). *Samara Prov.* S of Shiryaevo Vill., 53°23'05"N, 49°58'13"E, h ~ 80 m, 12–14.VII.2012 (I.V. Melnik), 1 ♂, 1 ♀ (MSPU). *Saratov Prov.* Vol'skii Distr., environs of Tersa Vill., forest edge: 16.VI.1979 (B.M. Kataev), 1 ♀ (ZISP); 17.VII.1979 (B.M. Kataev), 2 ♂ (ZISP); 26.VII.1979 (B.M. Kataev), 1 ♀ (ZISP); Marksovskii Distr.: edge of wheat field, 19.VII.1979 (B.M. Kataev), 1 ♀ (ZISP); environs of Lipovka Vill., wheat field, 28.V.1980 (B.M. Kataev), 1 ♂, 1 ♀ (ZISP); city of Engel's, environs of Kvasnikovka Vill., forest belt, 13.V.1980 (B.M. Kataev), 1 ♂ (ZISP). *Crimea.* City of Bakhchisarai, 12.VII.1993 (S.V. Vasilenko), 1 ♂ (ISEA). *Rostov Prov.* Environs of Charymskii Farm, 15.VI.2010 (E.A. Khachikov), 1 ♂ (MSPU). *Krasnodar Terr.* City of Anapa, 19.VIII.1914 (V.N. Lutshnik), 1 ♀ (ZISP). *Karachay-Cherkessia.* Environs of Teberda Vill., 11–12.VIII.2010 (E.A. Khachikov), 1 ♂ (MSPU). *North Ossetia.* 2.5 km N of Brut Vill., sagebrush steppe, 16.X.2012 (E.V. Komarov), 1 ♀ (MSPU). *Daghestan.* Lats Vill., 20.VI.1959 (Gulii), 1 ♂ (MSPU). *Chelyabinsk Prov.* Chelyabinsk, 1–7.VIII.2003 (collector unknown), 1 ♀ (MSPU). *Sverdlovsk Prov.* Sysertsii Distr., Zhemchuzhina Pioneer Camp, 19.IX.1979 (A.V. Kozыrev), 1 ♂ (ISEA). *Orenburg Prov.* Orenburg, left bank of Ural River, Protopopovskaya Grove, 16–17.VII.2012 (A.S. Ukrainskii), 1 ♂, 1 ♀ (MSPU). *Tyumen Prov.* Tyumenskii Distr., 6 km S of Salairka Vill., 17.VII.1993 (A.Yu. Dudko, R.Yu. Dudko), 2 ♂, 1 ♀ (ISEA). *Novosibirsk Prov.* Kochenevskii Distr., Novomikhailovka Vill., 21.VII.1987 (V.G. Grachev), 1 ♀ (MSPU); Chanovskii Distr., environs of Lake Karachi: 14.VIII.1973 (V.G. Mordkovich), 1 ♂, 1 ♀ (ISEA); 15.VIII.1973 (V.G. Mordkovich), 1 ♂ (ISEA). *Altai Terr.* North-Western Altai, Bashchelakskii Mt. Range, 20 km SW of Topol'nyi Vill., Shchepeta River, 900 m a.s.l., 23.VII–6.VIII.1998 (D.E. Lomakin), 2 ♂, 1 ♀ (FEB, ISEA). *Krasnoyarsk Terr.* 40 km N of Krasnoyarsk, Ploskoe Vill., summer house, 1–10.VIII.1996 (L.A. Sun-

dukova), 1 ♂, 2 ♀ (FEB). **Ukraine.** *Cherkasy Prov.* Kanevskii Nature Reserve, 26.IV.1985 (A.V. Matalin), 1 ♂, 1 ♀ (MSPU). **Moldova.** Kagul'skii Distr.: environs of Roshu Vill., alfalfa field, 24.VII.1981 (V.E. Karpova), 1 ♂ (MSPU); same locality, Prut River floodland, at UV light, 22.VIII.1982 (V.E. Karpova), 2 ♂ (MSPU); Kishinev, at light, 8.VII.1968 (V.V. Yanushev), 1 ♂ (MSPU); Slobodzeiskii Distr., Ternovka Vill., 27.VII.1988 (V.A. Matsyuk), 2 ♀ (MSPU); Rybnitskii Distr., Kamenka Vill., rye field, 16.VI.1965 (K.V. Arnoldi), 1 ♂ (MSPU). **Armenia.** Mountains W of Lake Arpi, h ~ 2000 m, 8.VI.2002 (A.A. Rubenyan), 1 ♂ (MSPU); Vardenisskii Mt. Range, Mt. Makenis, source of Vardenis River, h ~ 3500 m, summer pastures, 15.VIII.2002 (A.A. Rubenyan), 1 ♀ (MSPU). **Kazakhstan.** *Western-Kazakhstan Prov.* Yanvartsevo Vill., right bank of Ural River, 9.VIII.1949 (L.V. Arnoldi), 1 ♂, 1 ♀ (ZISP).

Diagnosis. Body (Fig. 7, 1, 2) robust ([PL + EL]/PW = 1.89–2.15); length 8.0–9.5 mm, width 3.5–4.5 mm. Body dark brown to black; elytra occasionally with weak bronze or greenish sheen; antennae pale brown to claret-red; legs brownish red to nearly black.

Head small, rather wide in occipital part, dorsally smooth, weakly shining; microsculpture inconspicuous, isodiametrical, or surface smooth.

Pronotum (Fig. 7, 1, 2) narrowing anteriorly (PB/PA = 1.45–1.55), weakly trapeziform, 1.55–1.65 times as wide as long, widest at mid-length or slightly behind it; anterior angles moderately or weakly projecting; lateral explanation narrow throughout; sides before posterior angles convex, less frequently straight; posterior angles obtuse, with obtused tooth; base rectilinear; keels in posterior corners (Fig. 51, 12) strongly or moderately diverging posteriorly, shortened, reaching posterior seta; basal foveae wide, weakly deepened, outer and inner ones separated by wide convexity. Punctuation developed only in basal foveae, sparse punctures occasionally present at anterior margin of pronotum, keels in posterior corners impunctate; microsculpture inconspicuous isodiametrical, or surface smooth.

Elytra (Fig. 7, 1, 2) weakly elongate (EL/EW = 1.22–1.34), with scarcely or noticeably rounded sides; striae moderately deep, with small to minute punctures; 1st and 2nd striae not connected at base, parascutellar stria situated on 2nd interval; *series umbilicata* consisting of

6 setiferous pores in basal quarter and 7 pores in apical half. Intervals impunctate; microsculpture inconspicuous isodiametrical; in males, surface frequently smooth.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum bifid (Fig. 51, 10). Propleura (Fig. 7, 3, 4) smooth; middle of prosternum with several fine punctures at sides, occasionally densely punctate; in male, middle of prosternum with several fine punctures (Fig. 7, 5, 6); prosternal process with truncate or rounded apex. Metepisterna (Fig. 7, 7, 8) elongate, with length along ventral margin about 1.5 times their width along anterior margin. Punctuation of metepisterna sparse—several rather small punctures situated in their anterior half. Body ventrally sparsely, rather finely punctate; 2nd visible abdominal sternite smooth in medial third; anal sternite with 2 setae in male and 4 setae in female.

Outer apical angle of protibia slanting (Fig. 7, 9); protibia dorsally always with 1 seta; protarsus of male moderately widened (Fig. 52, 1). Mesotibia of male (Fig. 7, 10) rather thick, considerably curved, with 2 or 3 low, gently sloping tubercles and with 5 or 6 regularly arranged curved setae in distal half of ventral margin. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 7, 12) slightly thickened, curved, considerably widened in distal third; its ventral margin, in addition to 7 or 8 fine curved setae, with dense brush of fine short hairs covering nearly half length of tibia (Fig. 7, 11). Metacoxa with 2 setae.

Genitalia. Penis curved at nearly 90° in middle part (Fig. 8, 1); its distal part with lateral carinae considerably widened proximally, and preputial area narrowing there to 0.7 its width (Fig. 8, 2). Weak grooves passing along these carinae. Lamella roundly triangular (Fig. 8, 2), with narrow pointed apex, with length about 1/3 of aedeagus diameter before basal swelling. Right paramere (Fig. 8, 3) regularly curved in the area of attachment of ligaments, nearly straight in distal part; apex obtuse-angular, with enlarged pointed apical hook with length subequal to paramere diameter (Fig. 8, 3a). Endophallus (Fig. 8, 5, 6) in general directed perpendicularly to lamella, narrow, nearly straight. Unpaired lobes present at base: a small ventrobasal and a larger dorso-basal ones; distal half with 2 pairs of lateral lobes before gonopore: on the left, one small lateromedial and one large rounded lateroapical; on the right, on the contrary, large lateromedial and small lateroapical lobes. Sac nar-

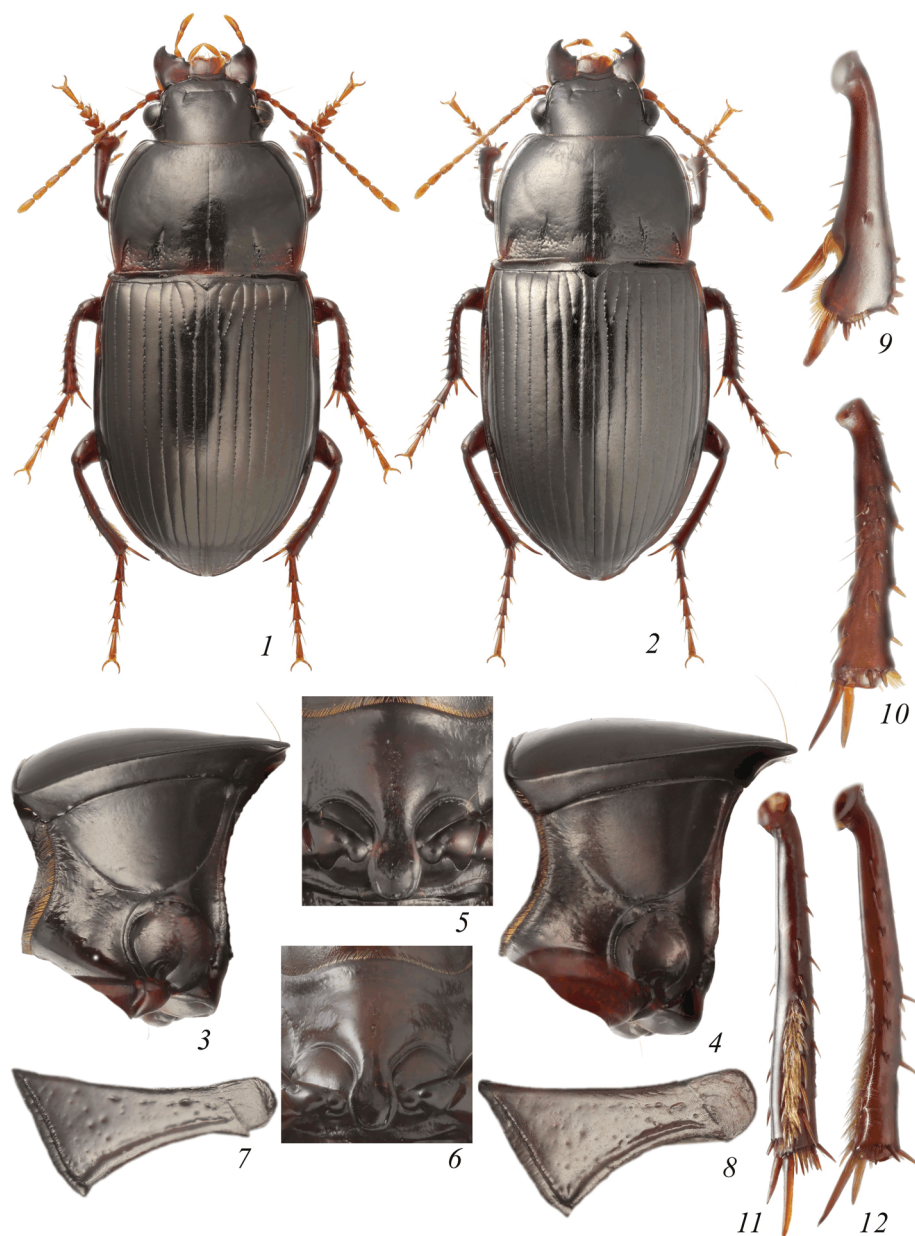


Fig. 7. *Amara (Bradytus) consularis* (Duftschmid, 1812), male (1, 3, 5–7, 9–12) and female (2, 4, 8). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5, 6) prosternum, ventral view; (7, 8) metepisternum, lateral view; (9) protibia, front view; (10) mesotibia, posterior view; (11) metatibia, ventral surface; (12) metatibia, posterior view.

rowed proximal to gonopore and more heavily sclerotized there; rest of the surface weakly regularly sclerotized. Gonostyli short, wide (Fig. 8, 7, 8).

Distribution. A Western Palaearctic subboreal species: from Ireland and Portugal in the west to Buryatia and Western China in the east; from the Scandinavian

Peninsula, Bolshezemelskaya Tundra, the Middle Urals, Krasnoyarsk, and Vitim Uplands in the north to Southern Europe, Turkey, Tajikistan, and Kashmir in the south.

Notes. In the description of *Acrodon uralensis*, V.I. Motschulsky did not provide the number of the specimens in the type material (Motschulsky, 1844 :



Fig. 8. *Amara (Bradytus) consularis* (Duftschmid, 1812), male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

191). After examination of this collection, G.E. Andrewes initially considered this species among the taxa whose types cannot be found in the ZMU collection (Andrewes, 1928 : 21), but later, after receiving from A.N. Zhelokhovtsev a well-preserved male with the labels “Mt. Ural” and “*Acrodon uralensis* m. Kamyschin,” he referred to it as to the type (Andrewes, 1938 : 185). In the catalogue of the genus *Amara*, F. Hieke reports this specimen as the holotype (Hieke, 2013 : 86).

We have examined 5 specimens of the genus *Amara* from the ZMU collection, labelled by V.I. Motschulsky as “*uralensis*”: (1) the well-preserved male (Fig. 9, 1, 2) examined by G.E. Andrewes and designated by us as the lectotype, with the geographical labels corresponding to the type locality; (2) the male with partly missing legs, also with the geographical labels corresponding to the type locality, designated by us as a paralectotype (Fig. 9, 3, 4); (3) the male with V.I. Motschulsky’s label “*uralensis* m. Mt. Ural” and O.L. Kryzhanovskij’s label “*Curtonotus aulicus* (Panz.) O. Kryzhanovskij 1973,” which can be considered a syntype of *Leirus uralensis* Motschulsky, 1850 (= *Amara gebleri* Dejean, 1831) as it corresponds to the original description of the species, including its type locality; (4) the two females on one pin from Japan (one is a well-preserved, and the other is

presented by a body fragment with the right middle and both hind legs) with V.I. Motschulsky’s label “*Acrodon uralensis* Motsch. Japan,” which are not syntypes and belong to *Amara simplicidens* A. Morawitz, 1863.

Amara (Bradytus) crenata Dejean, 1828

Amara Crenata Dejean, 1828 : 507–508. Type locality: “dans le midi de la France et en Dalmatie,” France and Croatia (= Dalmatia).

Bradytus crenatostriatus Chaudoir, 1846 : 161. Type locality: “environs de Lenkoran,” Lenkoran, Azerbaijan; synonymy after Putzeys, 1866 : 274.

Material. Russia. *Lugansk Prov.* Derkul’skaya Scientific Station, crops, 10.V.1951 (M.S. Ghilarov), 1 ♂ (MSPU). *Donetsk Prov.* Veliko-Anadol’ Station, 20.V–1.VI.1895 (collector unknown), 1 ♂ (ZISP); Yasenevov Vill., Svyatogorskii Monastery, Severskii Donets River, 27.VI.1937 (L.V. Arnoldi), 1 ♂ (ZISP). *Saratov Prov.* Vol’skii Distr., environs of Tersa Vill., wasteland, 13.VI.1979 (B.M. Kataev), 2 ♂, 1 ♀ (ZISP); Marksovskii Distr., environs of Berezovka Vill., steppe, chamomile and wormwood, 22.V.1980 (B.M. Kataev), 2 ♂ (ZISP). *Volgograd Prov.* Volgograd, western outskirts, territory of Agricultural University, 31.VIII.2012 (T.L. Karpova),



Fig. 9. *Amara (Bradytus) consularis* (Duftschmid, 1812), lectotype (1, 2) and paralectotype (3, 4) of *Acrodon uralensis* Motschulsky, 1844, males. (1, 3) dorsal habitus, (2, 4) labels.

1 ♂ (MSPU). *Crimea*. Yevpatoria: 22–29.VI.1904 (V.V. Yakovlev), 1 ♂, 3 ♀ (ZISP); 4.VIII.1906 (V.V. Yakovlev), 1 ♂ (ZISP); Sevastopol, 26.III.1912 (N. L. Pastukhov), 1 ♂ (ZISP); Simferopol: at light, 21–28.VI.1907 (A.N. Kiritshenko), 9 ♂, 3 ♀ (ZISP); environs of Simferopol, VI.1898 (Bazhenov), 1 ♀ (ZISP); Yaltinskii Distr., Uch-Kosh Gorge, Yaila, 22.VIII.1993 (I.V. Melnik), 1 ♂ (MSPU); Leninskii Distr., Solyn' Vill., cotton farming, Chistopol'e Farming, 17.VII.1931 (M. Chechuga), 1 ♀ (ZISP); Kerch: 2–18.II.1901 (A.N. Kiritshenko), 1 ♂, 2 ♀ (ZISP); 7–24.III.1902 (A.N. Kiritshenko), 2 ♂ (ZISP); 4.IV.1901 (A.N. Kiritshenko), 1 ♂ (ZISP); Kerch (M. M. Siyazov), 1 ♂ (ZISP); "Tauria, k. G. Siversa [in Cyrillic, = Tauria, ex coll. G. Sievers]," 1 ♀ (ZISP). *Rostov Prov.* Tarasovskii Distr., Derkul Vill., oak plantings, 27.VII.1952 (K.V. Arnoldi), 3 ♀ (MSPU); Rostov-on-Don (date and collector unknown), 4 ♂, 8 ♀ (ZISP); left bank of Don River opposite city of Aksai, 25.IV.1989 (B.M. Kataev), 1 ♂, 1 ♀ (ZISP). *Krasnodar Terr.* Temryukskii Distr.: Kuchugury Vill., 10–13.VIII.1989 (D.E. Lomakin), 1 ♂, 1 ♀ (ISEA); Taman' Peninsula NW of Vyshesteblievskaya Cossack Village, 29.V.1989 (B.M. Kataev), 4 ♂, 1 ♀ (ZISP); Anapa: 4.VII.1899 (A. Bazhenov), 1 ♀ (ZISP); 12.VI.1906 (collector unknown), 1 ♂ (ZISP); (date and collector unknown), 1 ♂ (ZISP); Sochi: 19.III.1989 (collector unknown), 1 ♂ (ZISP); "Sochi, Mashuko" [?], 30.III.1989 (collector unknown), 1 ♀ (ZISP). *Stavropol Terr.* Izobil'nenskii Distr., Moskovskoe Vill., 4(17).III.1922 (collector unknown), 1 ♂ (ZISP);

17(30).III.1922 (collector unknown), 1 ♂, 1 ♀ (ZISP); Stavropol: 7(20).IV.1923 (V.N. Lutshnik), 1 ♂, 1 ♀ (ZISP); 30.III(12.IV).1924 (G. Grinyov), 1 ♂ (ZISP); (date and collector unknown), 2 ♂, 2 ♀ (ZISP); Sengileevskoe Vill., 2(15).V.1921 (V.N. Lutshnik), 2 ♂ (ZISP). *Kalmykia*. Lake Manych, 40 km E of Divnoe Vill., 8–9.V.1950 (O.L. Kryzhanovskij), 2 ♂, 2 ♀ (ZISP). *Orenburg Prov.* Sol'-Iletskii Distr., environs of Boevaya Gora Vill., 51°16'N, 54°53'E, 9.VIII.1999 (A.V. Rusakov), 1 ♀ (MSPU). **France**. Charenton [7.5 km from Paris] (G.R. Schaum), 1 ♂, 2 ♀ (ZISP); "Gallia" (E. Reitter), 1 ♂ (ZISP); "France merid." (J. Desbrochers), 1 ♂ (ZISP). **Germany**. *Bavaria* ("Bavière (Rosh.)," 1 ♀ (ZISP). **Slovakia**. Dunaj, IV.1924 (J. Roubal), 1 ♀ (ZISP). **Ukraine**. Kiev, 1 ♀ (ZISP); Khar'kov, park, 21.VI.1913 (collector unknown), 1 ♂ (ZISP). Odessa (Dr Lgocki), 1 ♀ (ZISP). *Kherson Prov.* Askania Nova Nature Reserve, corn field, 25.VI.1972 (G.N. Pavlova), 1 ♂ (MSPU). **Georgia**. "Tiflis" (= Tbilisi): 1874, coll. G.I. Sievers, 1 ♀ (ZISP); 24 Juni 1880; coll. G.I. Sievers, 1 ♀ (ZISP); "Grusia, coll. H. Leder," 1 ♂ (ZISP); Kvemo-Kartli Region, Martkopi ("Caucasus, Martkopi, Leder (Reitter)," 1 ♂ (ZISP); Meskheti Mt. Range ("Caucasus, Meskisches Geb., Leder (Reitter)," 1 ♂ (ZISP). **Kazakhstan**. *Kyzylorda Prov.* Aral Sea, Barsakelmes Island, 2–7.V.1980 (A.A. Konev), 1 ♀ (ZISP).

Diagnosis. Body (Fig. 10, 1, 2) elongate ([PL + EL]/PW = 2.25–2.42); length 7.5–9.0 mm, width 2.7–



Fig. 10. *Amara (Bradytus) crenata* Dejean, 1828, male (1, 3, 5, 6, 8–11) and female (2, 4, 7). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, ventral surface; (11) metatibia, posterior view.

3.5 mm. Body dark brown to black; antennae yellowish to brownish; legs red.

Head small, dorsally smooth, strongly shining; microsculpture isodiametrical, weak to inconspicuous.

Pronotum (Fig. 10, 1, 2) weakly narrowing anteriorly (PB/PA = 1.18–1.33), subcordate, 1.45–1.65 times as

wide as long, widest at mid-length or slightly before it; anterior angles almost not projecting; lateral explanation very narrow, entirely disappearing toward anterior angles; sides shortly sinuate before posterior angles; posterior angles weakly obtuse or straight, with small tooth; base rectilinear; keels in posterior corners longitudinal or nearly so, reaching posterior margin medial to

posterior seta (Fig. 50, 12); basal foveae narrow, deep, separated by punctate, moderately wide convexity. Punctuation present only in basal foveae; keels in posterior corners impunctate; microsculpture weak to inconspicuous, isodiametrical; disc strongly shining.

Elytra (Fig. 10, 1, 2) long (EL/EW = 1.46–1.60), parallel-sided; striae deep, with large punctures becoming smaller toward apex; bases of 1st and 2nd striae and parascutellar stria varying in position, frequently merging; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 pores in apical half. Intervals impunctate; microsculpture weak or distinct, isodiametrical; disc strongly shining.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum with pointed apex. Propleura (Fig. 10, 3, 4) with several fine punctures; prosternum laterally moderately or very densely, rather coarsely punctate; in male, middle of prosternum with narrow longitudinal fovea bearing large punctures at bottom (Fig. 10, 5); prosternal process with truncate or rounded apex. Metepisterna (Fig. 10, 6, 7) narrow (with length along ventral margin about 1.7–1.8 times their width along anterior margin), almost entirely covered with

very large punctures. Body ventrally rather densely and coarsely punctate; 2nd visible abdominal sternite finely punctate in medial third, anal sternite with 2 setae in male and 4 setae in female.

Outer apical angle of protibia slanting (Fig. 10, 8); protibia dorsally with 1 seta (very rarely with 2 setae on one tibia); protarsus of male moderately widened. Mesotibia of male (Fig. 10, 9) rather slightly curved, with 2 conical teeth and with 4 or 5 regularly arranged curved setae in distal third of ventral margin. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 10, 10, 11) rather slender, considerably widened in distal third; its ventral surface with 5 or 6 fine curved setae, without brush of short hairs at apex. Metacoxa with 2 setae.

Genitalia. Penis curved nearly at right angle (Fig. 11, 1); its distal part with strongly developed lateral carinae strongly widened at middle in the form of short auriform lobes (Fig. 11, 1, 2). Margins of preputial area thickened, and wide groove passing between them and lateral carinae. Preputial area nearly 1/3 as wide in middle as in distal part (Fig. 11, 2). Furrow outside missing; groove on right side of lamella very weak, inconspicuous. Lamella (Fig. 11, 2) elongate, roundly tri-

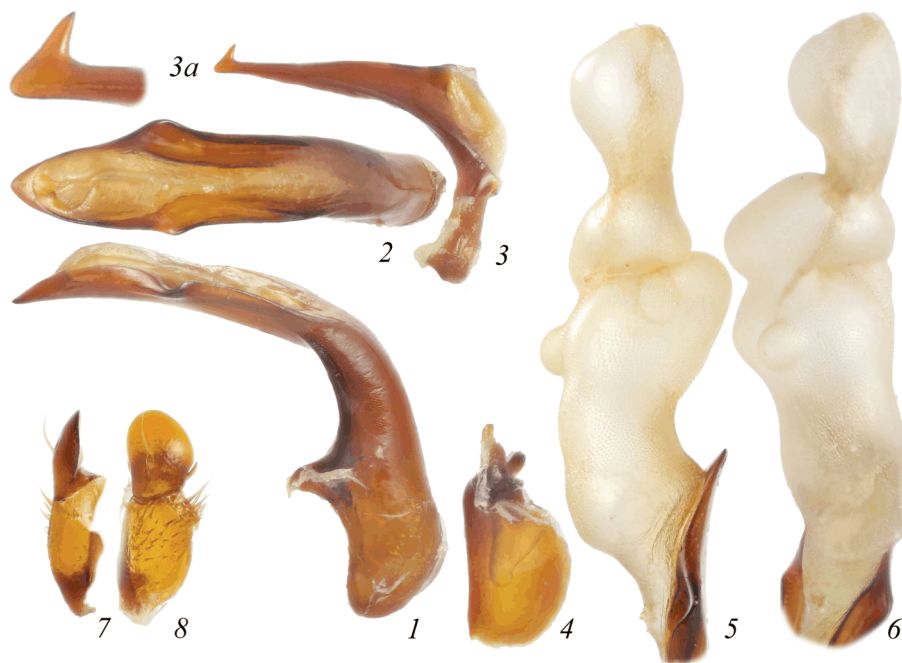


Fig. 11. *Amara (Bradytus) crenata* Dejean, 1828, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view (3) right paramere, lateral view; (3a) apex of right paramere, 3× magnification; (4) left paramere; (5) everted endophallus, lateral view; (6) everted endophallus, posterior view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

angular, rather thick, and bent. Length of lamella about 1/3 aedeagus diameter in basal part. Right paramere (Fig. 11, 3) in the area of attachment of ligaments strongly thickened and regularly curved, strongly narrowed and nearly straight in distal part; apex rounded, apical hook (Fig. 11, 3a) very large, sharp, its length exceeding a paramere diameter. Endophallus (Fig. 11, 5, 6) rather narrow, bent ventrally, with complex shape. Its basal part only with gently sloping dorsal lobe; distal to it, small rounded dorsomedial tubercle shifted to the left. Ventroapical lobe large, with apex directed anteriorly, slightly bent to the left. Narrow constriction situated near apex, its base widened to the left in the form of an asymmetrical lobe. Gonostyli short, wide, nearly discoidal (Fig. 11, 7, 8).

Distribution. A Western Palaearctic species, inhabiting the subarid landscapes from France and Spain in the west to the Urals and the Aral Sea in the east, from the south of the Scandinavian Peninsula, Latvia, Moldavia, Ulyanovsk and Orenburg provinces in the north to Southern Europe, Turkey, and Iran in the south.

Amara (Bradytus) distinguenda A. Morawitz, 1862

Amara (Bradytus) distinguenda A. Morawitz, 1862b : 258 [1862a : 218]. Type locality: "Kurtuss," the Amur River valley, Russia.

Amara (Leiocnemis) consors Tschitscherine, 1893 : 369–370. Type locality: "Gornyi Zerentui," Gornyi Zerentui Vill., Zabaikal'skii Territory, Russia; synonymy after Hieke, 1997 : 202.

Type material. *Amara distinguenda*, ♀, holotype (Fig. 12, 6–9): "*A. (Bradytus) distinguenda* Mor. Holotype Lafer det. 74" [red rectangle, handwritten], "*Amara (Brad.) distinguenda* Mor. det. F. Hieke 1971" [white rectangle, handwritten], "*A. (Bradytus) distinguenda* Mor." [white rectangle, handwritten], "Kurtuss Mai 56." [white rectangle, handwritten] (ZISP).

Amara consors, ♀, holotype (Fig. 12, 1–5): "Holotypus *Am. (Leiocn.) consors* Tschit., des. Hieke 96" [red rectangle, handwritten], "= *Amara (Bradytus) distinguenda* Mor., det. F. Hieke 1996" [white rectangle, handwritten], "? *Leiocnemis consors* Tschitcr." [yellowish rectangle, handwritten], "g. Zerentui" [yellowish rectangle, handwritten] (ZISP).

Other material. Russia. *Irkutsk Prov.* City of Bratsk, 7.VII.1998 (P.B. Klimov), 1 ♀ (FEB); environs of Irkutsk, Pivovarikha Vill., 18.VI.1901 (Soldatov), 1 ♂ (ZISP). *Zabaikal'skii Terr.* Chita: 4.IX.1972 (E.Ya. Berlov), 1 ♂, 2 ♀ (ZISP); 8.IX.1972 (E.Ya. Berlov), 5 ♂, 2 ♀ (FEB); Olovyannikovskii Distr., Khadabulak Station, 1933, coll. S.V. Nikulin, 1 ♂ (MSPU); Krasnokamenskii Distr., 12 km N of Kovyli Vill., foothills of Nerchinskii Mt. Range, 50°30'40"N, 117°36'13"E, 2–5.VI.2000 (I.V. Melnik), 1 ♀ (MSPU); 1–4 km N of Lake Zun-Torei, environs of Mt. Kuku-Khadan, 6.VI.1995 (V.V. Dubatolov, R.Yu. Dudko), 1 ♂ (ISEA); same locality, 8.VI.1995 (R.Yu. Dudko), 1 ♂ (ISEA); "Argun", Chalbuchinsk.[ii] kar.[aul], kon. avg. [in Cyrillic, = Chalbuchinskii Picket, late August]" (Ju. Wagner), 1 ♀ (ZISP). *Amurskaya Prov.* Blagoveshchensk, Ignat'evka Vill., 10.IX.1928 (A.N. Formozov), 1 ♂ (ZISP); Ignat'evka Vill., 25 versts from Blagoveshchensk, 10.IX.1928 (A.N. Formozov), 1 ♂ (ZISP). *Primorskii Terr.* Spasskii Distr., Evseevka Vill., 18.V.1910 (N.I. Shingarev), 1 ♀ (ZISP); Chernigovskii Distr., 29.VIII.1988 (V.S. Arefin, P.P. Ivliev), 1 ♀ (FEB); Lazo-raitsentr Vill., at light, 20–23.VIII.2006 (V.P. Shokhrin), 1 ♀ (FEB).

Diagnosis. Body (Fig. 13, 1, 2) weakly elongate ([PL + EL]/PW = 2.10–2.14); length 7.2–8.8 mm, width 3.1–3.5 mm. Body dark brown to black; antennae red to dark red; legs brownish red.

Head rather wide, especially in females, dorsally smooth, weakly shining; microsculpture inconspicuous isodiametrical, or surface smooth.

Pronotum (Fig. 13, 1, 2) considerably narrowing anteriorly (PB/PA = 1.35–1.43), subcordate, 1.50–1.58 times as wide as long, widest at mid-length or slightly behind it; anterior angles slightly if at all projecting; lateral explanation narrow throughout or even more strongly narrowed toward anterior angles; sides straight or weakly sinuate near posterior angles; posterior angles obtuse, with small tooth; base rectilinear; keels in posterior corners weakly diverging posteriorly, reaching posterior margin medial to the seta (Fig. 50, 11); basal foveae narrow, occasionally rounded, separated by wide convexity. Punctuation developed in basal foveae and frequently in middle of base, occasionally several punctures present at anterior margin; keels in posterior corners impunctate; microsculpture very inconspicuous, isodiametrical.

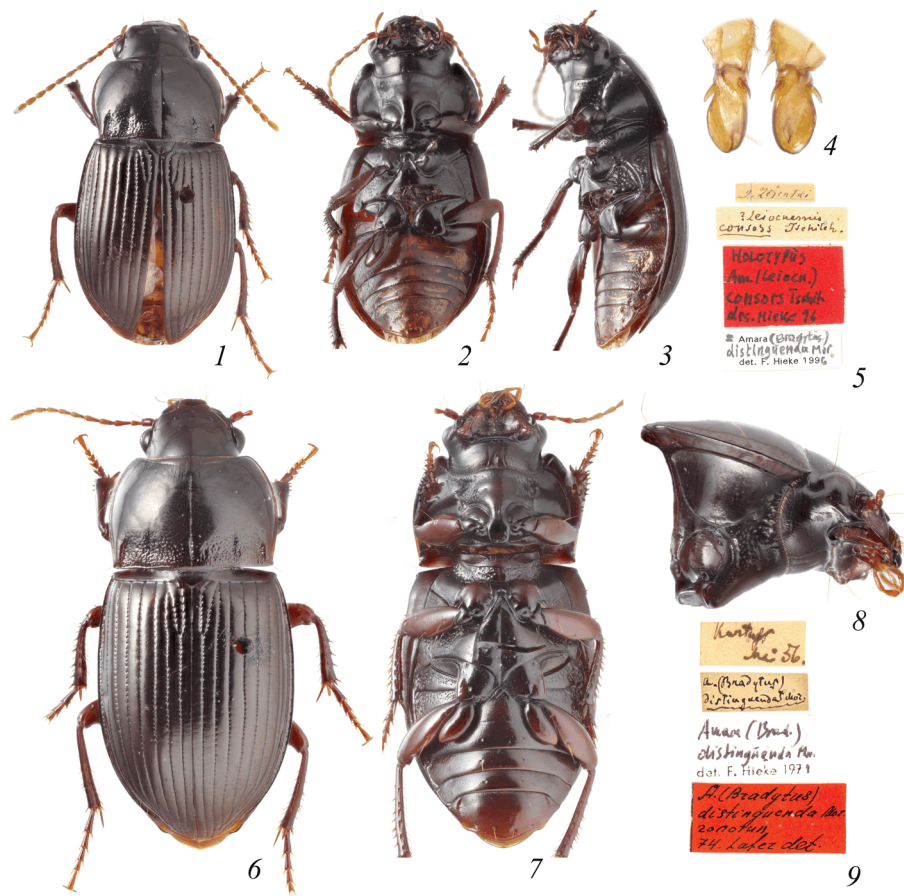


Fig. 12. *Amara (Bradytus) distinguenda* A. Morawitz, 1862 (holotypes of *A. (Leiocnemis) consors* Tschitschérine, 1893 (1–5) and *A. (Bradytus) distinguenda* A. Morawitz, 1862) (6–9), females). (1, 6) dorsal habitus; (2, 7) ventral habitus; (3) lateral habitus; (4) gonostylus, dorsal view; (5, 9) labels; (8) head and prothorax, lateral view.

Elytra (Fig. 13, 1, 2) elongate ($EL/EW = 1.32–1.37$), with slightly rounded sides; striae moderately deep, with large or small punctures; position of bases of 1st and 2nd striae and parascutellar stria varying, they frequently merge; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 pores in apical half. Intervals impunctate; microsculpture isodiametrical, inconspicuous in males, weak or distinct in females.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum bifid, weakly emarginate, or pointed apically. Propleura (Fig. 13, 3, 4) smooth or with several weak punctures anteriorly; prosternum laterally rather densely (occasionally sparsely) finely punctate; in male, middle of prosternum with minute shallow fovea (Fig. 13, 5, 6); prosternal process with truncate or rounded apex. Metepisterna (Fig. 15, 7, 8) elongate (with length along ventral margin about 1.5

times their width along anterior margin), almost entirely sparsely, rather finely punctate. Sides of meso- and metasternum with large separate punctures. Second visible abdominal sternite smooth in middle part, anal sternite with 2 setae in male and 4 setae in female (in one female, with 3 setae).

Outer apical angle of protibia slanting (Fig. 13, 9); protibia dorsally always with 1 seta; protarsus of male weakly widened. Mesotibia of male (Fig. 13, 10) rather thick, slightly curved, with 6 or 7 regularly arranged curved setae and with 3 strongly protruding, approximate, rounded tubercles on ventral margin in distal third. Distal tubercle separated from apex of tibia by deep emargination. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 13, 11, 12) slightly thickened, curved, considerably widened in distal third; its ventral surface (Fig. 13, 11), in addition to 7 or 8 fine curved setae, with

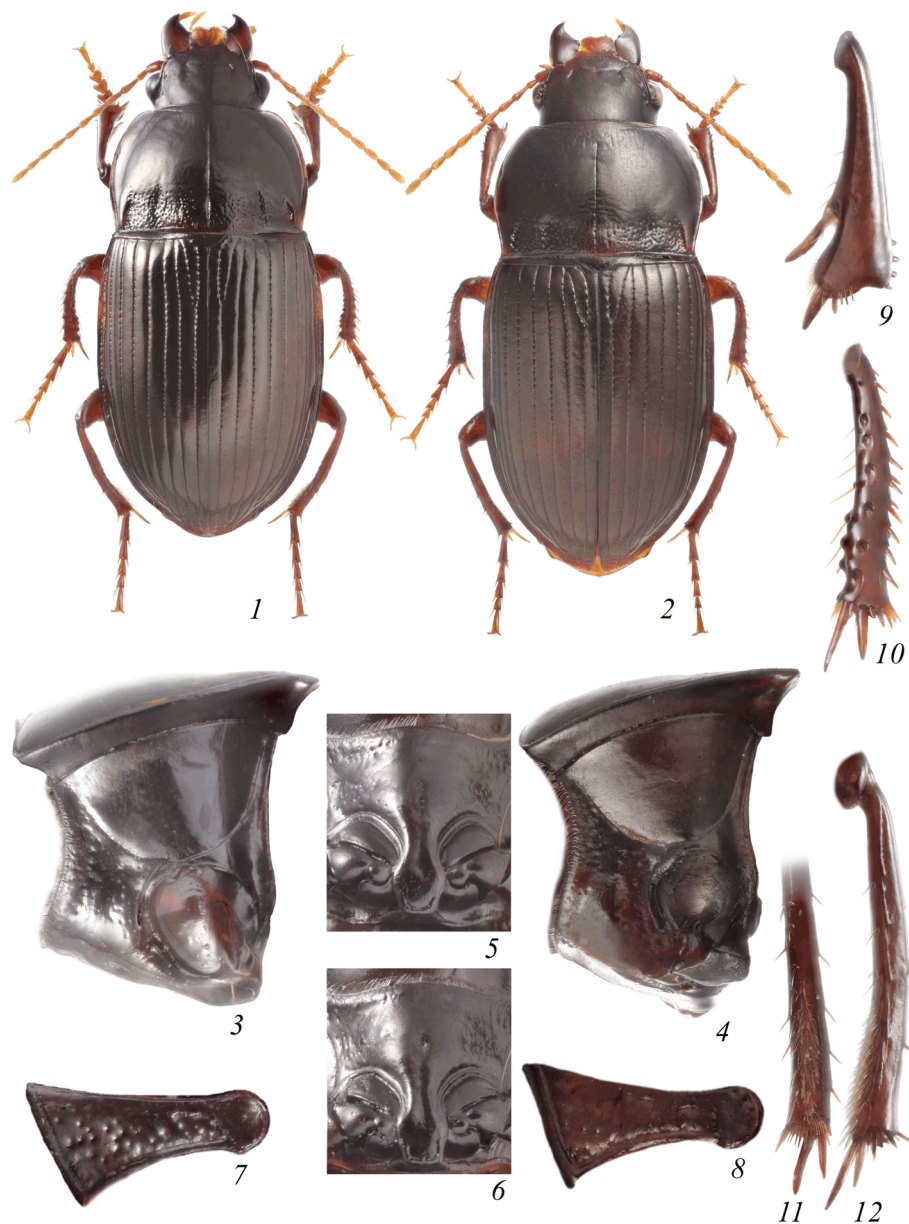


Fig. 13. *Amara (Bradytus) distinguenda* A. Morawitz, 1862, male (1, 3, 5–7, 9–12) and female (2, 4, 8). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5, 6) prosternum, ventral view; (7, 8) metepisternum, lateral view; (9) protibia, front view; (10) mesotibia, posterior view; (11) metatibia, ventral surface; (12) metatibia, posterior view.

dense brush of fine short hairs covering nearly half length of tibia. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 14, 1) bent in middle at nearly 90°, its distal part with lateral carinae considerably widened proximally, and preputial area narrowing there to about 0.7 its maximum width (Fig. 14, 2). Shallow furrows passing along these carinae; groove on right side of lamella not merged with furrow. Lamella (Fig. 14, 2)

with length about 1/3 of aedeagus diameter in basal part, roundly triangular, with narrow apex. Right paramere (Fig. 14, 3) strongly curved in the area of ligaments attachment, nearly straight in distal part; its apex (Fig. 14, 3a) pointed, with large sharp apical hook length of which subequal to paramere diameter. Endophallus (Fig. 14, 5, 6) directed subperpendicularly to lamella, almost straight; its apex bent to the right. Dorsobasal

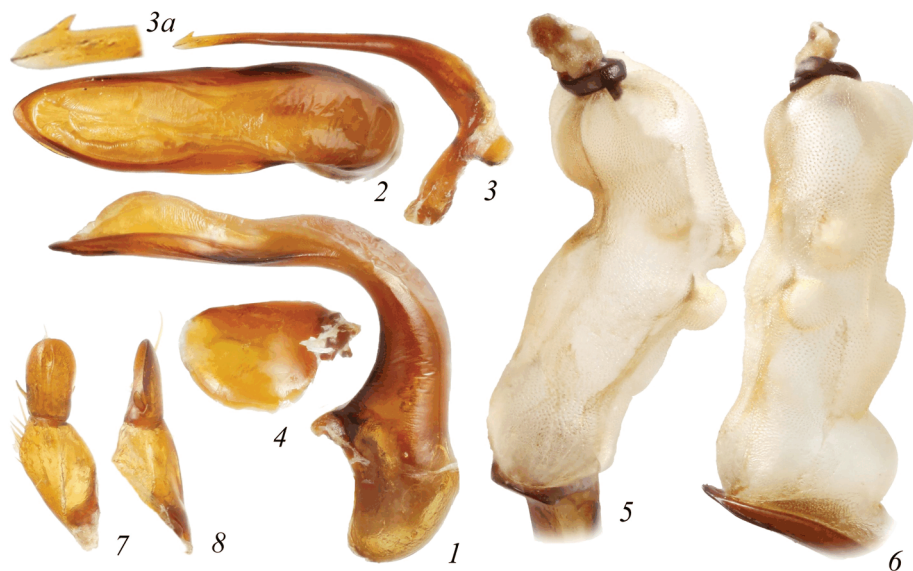


Fig. 14. *Amara (Bradytus) distinguenda* A. Morawitz, 1862, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, ventral view; (8) gonostylus, lateral view.

lobe wide, rounded; paired ventrobasal lobes poorly developed. Dorsomedial lobe wide, gently sloping; its apex shifted to the left. Small, rounded, strongly protruding lateromedial and lateroapical lobes situated on the right side. Sclerotization of endophallus wall rather uniform, spines larger in the area of subapical bend. Gonostyli short, rather wide (Fig. 14, 7, 8).

Distribution. An Eastern Palearctic species distributed in the subarid landscapes from the western Cisbaikalia and the Chinese province of Gansu in the west to the southern Sikhote-Alin Mts. and the Chinese province of Shaanxi in the east, from the south of Irkutsk Province, the south of Zabaikal'skii Territory, and the central Sikhote-Alin Mts. in the north to the Chinese provinces of Tsinghai and Shaanxi in the south.

***Amara (Bradytus) fritzhieki* Sundukov, 2013**

Amara (Bradytus) amplipennis Baliani, 1943 : 46, Tab. 2, fig. 9. Type locality: "Anutschino," Anuchino Vill., Primorskii Territory, Russia; the name is preoccupied by *Amara amplipennis* Casey, 1918 (= *Amara apachensis* Casey, 1884).

Amara (Bradytus) fritzhieki Sundukov, 2013 : 165; replacement name for *Amara amplipennis* Baliani, 1943.

Material. Russia. Tyva. Mongun-Taiginskii Distr., Mugur-Aksy Vill., Kargy River bank, 24.VII.1972 (A.A. Sharov), 1 ♀ (MSPU); same locality, Mugur-Aksy Vill., near water, 8.VIII.1972 (A.A. Sharov), 1 ♀ (MSPU). Irkutsk Prov. Irkutsk, Aina at Baikal Highway, 7.VII.1994 (A.V. Shavrin), 1 ♀ (DUL); Kirenskii Distr., Lena River valley, environs of Krasnoyarsk Vill., 7.VIII.2008 (A.V. Shavrin), 1 ♀ (DUL). Yakutia. Right bank of Lena River, environs of Nizhnii Bestyakh Vill., 2–17.VII.2001 (S.A. Kurbatov), 1 ♀ (MSPU). Amurskaya Prov. 7 km W of Blagoveshchensk, meadow, 13.VI.1975 (G.Sh. Lafer), 1 ♂ (FEB); left bank of Zeya River, 2 km E of Blagoveshchensk, bed of dried-up channel, 10.IX.2005 (D.Yu. Rogatnykh), 1 ♂ (FEB); city of Shimanovsk, VIII.1974 (B. Trekhlebov), 1 ♂ (MSPU); city of Svobodnyi, Dzhelun River bank, VII–VIII.1973 (Korotkov), 1 ♂, 4 ♀ (FEB); Svobodnyi, 22.VII.1979 (O.N. Kabakov), 1 ♂ (ZISP). Khabarovsk Terr. Environs of Khabarovsk, Sosnovka Vill., 26–30.V.1998 (Yu.N. Sundukov), 1 ♀ (FEB); S of Khabarovsk, Kordovskaya, 1.IX.1956 (O.N. Kabakov), 1 ♂ (ZISP); Verkhnebureinskii Distr., environs of Chegdomyn Vill., 11–15.VIII.2007 (A. Barševskis, A. Pankano), 1 ♂, 1 ♀ (MSPU); Nanaiskii Distr., Anyuiskii National Park: Anyui River near Zarastayushchii Stream (Mani Channel) mouth, 18.VII.2024 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂ (FEB); spit on Anyui River up-

stream of Solomi River mouth, 21.VII.2024 (Yu.N. Sundukov, L.A. Sundukova), 1 ♀ (FEB); near northeastern border of the national park, forest glade 3 km upstream along Anyui River from Bogbasu Cordon, 49°22'03.89"N, 137°45'13.30"E, 19.VII.2024 (O.V. Kuberskaya), 1 ♀ (SNRK). *Primorskii Terr.* Terneiskii Distr.: Samarga River, Kuksa River mouth, under pebbles, 24.VII.1969 (G.Sh. Lafer), 1 ♂ (FEB); Ternei Vill., Serebryanka River floodland: 24.VI.1998 (Yu.N. Sundukov), 2 ♂, 4 ♀ (FEB); 23.VII.1998 (Yu.N. Sundukov), 1 ♂ (FEB); Sikhote-Alin Nature Reserve: Lake Blagodatnoe, meadow, 17–22.VI.1998 (Yu.N. Sundukov), 6 ♂, 4 ♀ (FEB); Lake Golubichnoe (= Khuntami), 28.VI.2016 (M.E. Sergeev), 1 ♂ (FEB); environs of Lake Golubichnoe, driftage on sea coast, 18.IX.2018 (M.E. Sergeev), 2 ♂, 4 ♀ (FEB); Kirovskii Distr., Krylovka Vill., 16.VI.1978 (G.Sh. Lafer), 1 ♀ (FEB); Chuguevskii Distr., left bank of Ussuri River near Pobeda Stream mouth, broadleaf valley forest, in pitfall traps, 18.VII.2001 (Yu.N. Sundukov), 1 ♂ (FEB); Ol'ginskii Distr.: Gornovodnoe Vill., 18.VII.2004 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂ (FEB); Mineral'naya River mouth, 4.V.2007 (Yu.N. Sundukov), 1 ♂, 2 ♀ (FEB); Avvakumovka River mouth near Ol'ga Vill., 18–20.VII.2004 (Yu.N. Sundkov, L.A. Sundukova), 4 ♂, 3 ♀ (FEB); Margaritovka River near Shcherbakovka Vill., 3.V.2007 (Yu.N. Sundukov), 1 ♀ (FEB); Lazovskii Distr.: Lazo-raitsentr Vill., Lazovka River floodland, 6–7.V.1998 (Yu.N. Sundukov), 1 ♂ (FEB); 1–12.VI.1998 (Yu.N. Sundukov), 3 ♂, 4 ♀ (FEB); VII–VIII.1999 (L.A. Sundukova), 6 ♂, 3 ♀ (FEB); 20.VII–1.VIII.2002 (Yu.N. Sundukov), 1 ♀ (FEB); Benevskoe Vill., Sandagou Cordon, meadow, 6.IX.1973 (A.Yu. Storozhenko), 1 ♂ (FEB); middle course Kievka River, meadow, 3.VIII.1973 (A.Yu. Storozhenko), 1 ♀ (FEB); Lazovskii Nature Reserve, Lake Zarya, 10.IX.2003 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); Prosyolochnaya River, floodland, 1–5.IX.2001 (A.P. Berzan), 5 ♂, 8 ♀ (MSPU, FEB); Prosyolochnyi Cordon, 8–10.V.2000 (Yu.N. Sundukov), 1 ♂ (FEB); Prosyolochnaya Bay, 5–8.VI.2005 (Yu.N. Sundukov), 3 ♂, 1 ♀ (FEB); 1–7.VII.2006 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); environs of Petrov Cordon, 2–4.X.2000 (Yu.N. Sundukov), 2 ♂, 1 ♀ (FEB); Shkotovskii Distr., Shtykovo Vill., Artyomovka River floodland, 15.VI.2019 (M.V. Astakhov), 1 ♀ (FEB); Ussuriiskii Distr.: Ussuri Nature Reserve, Peishula Cordon (lower course of Suvorovka River), abandoned field, 18–20.VIII.1998 (Yu.N. Sundukov), 2 ♀ (FEB); same locality, broadleaf

valley forest, 18–22.VIII.1998 (Yu.N. Sundukov), 2 ♂, 1 ♀ (FEB); Komarovo-Zapovednoe, Komarovka River bank, 27.V.1999 (Yu.N. Sundukov), 2 ♂ (FEB); Kaimanovka Vill., Barsukovka River floodland, 12–13.VIII.1998 (Yu.N. Sundukov), 1 ♀ (FEB); Kaimanovka Vill., Komarovka River floodland, 16.VIII.1998 (Yu.N. Sundukov), 1 ♂ (FEB); “der. [derevnya, village in Russian] Kaimanovka” (V. Laikovskii), 1 ♀ (ZISP); 18 km SE of city of Ussuriisk, Gornotayozhnoe Vill., 30.VI.1995 (V.V. Dubatolov, R.Yu. Dudko), 1 ♂, 1 ♀ (ISEA); Gornotayozhnoe Vill., 6.IX.1986, (B.M. Kataev), 4 ♂ (ZISP); Vladivostok: Chyornaya Rechka, 25.VIII.2005 (S.K. Kholin), 2 ♂, 1 ♀ (FEB); Sputnik Station, summer house, 25.VIII.2005 (S.K. Kholin), 1 ♂ (FEB); Khasanskii Distr.: Gryaznaya River near Gusevskii Cordon, 4.VIII.2020 (Yu.N. Sundukov), 1 ♀ (FEB); environs of Ovchinnikovo Vill., 22.V.2023 (Yu.N. Sundukov), 1 ♂ (FEB); 1.5 km N of Perevoznaya Bay, 23.VI.1990 (K.V. Makarov), 1 ♀ (MSPU); lower course of Kedrovaya River from Primorskii Vill. to its mouth, 1.VI.2019 (Yu.N. Sundukov), 1 ♂ (FEB); Kedrovaya Pad' Nature Reserve, pitfall traps, 24.VIII.2001 (V.N. Kuznetsov), 1 ♂ (FEB); 6–7.VII.1968 (G.Sh. Lafer), 1 ♂ (FEB); Andreevka Vill., 29.V.2022 (Yu.N. Sundukov), 1 ♀ (FEB); Vityaz' Vill.—Telyakovskogo Bay, 18.V.2023 (Yu.N. Sundukov), 2 ♀ (FEB).

Diagnosis. Body (Fig. 15, 1, 2) rather robust ([PL + EL]/PW = 2.09–2.30); length 8.1–10.5 mm, width 4.1–4.7 mm. Body black, less frequently dark brown; antennae red to dark red; legs brownish red; protarsus frequently paler.

Head rather wide, dorsally smooth, glossy shining; microsculpture indiscernible.

Pronotum (Fig. 15, 1, 2) considerably narrowing anteriorly (PB/PA = 1.30–1.38), weakly trapeziform, 1.55–1.67 times as wide as long, widest at mid-length; anterior angles weakly, occasionally obsoletely projecting; lateral explanation narrow throughout or rather wide, in latter case, slightly narrowed in anterior angles; sides strongly or moderately sinuate near posterior angles; posterior angles with large deflexed tooth; base rectilinear or weakly projecting posteriorly in middle; keels in posterior corners subparallel to longitudinal axis of body, reaching posterior margin of pronotum (Fig. 50, 6); basal foveae wide, separated by wide convexity. Punctuation covering entire base (including basal



Fig. 15. *Amara (Bradytus) fritzhieki* Sundukov, 2013, male (1, 3, 5, 6, 8–11) and female (2, 4, 7). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, ventral surface; (11) metatibia, posterior view.

keel), wide stripe along anterior margin, and narrower stripes at sides; no microsculpture present, surface smooth.

Elytra (Fig. 15, 1, 2) moderately or strongly elongate (EL/EW = 1.20–1.42), with slightly rounded sides;

striae deep, with small, occasionally inconspicuous punctures; bases of 1st and 2nd striae and parascutellar stria varying in position, striae frequently merging at base; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 pores in apical half. Intervals impunctate; microsculpture in females very inconspicuous

isodiametrical or transverse; surface of male elytra smooth.

Ventral side. Submentum usually with 2 setae on each side (in 1 specimen, with 1 seta on each side); medial tooth of mentum bifid. Propleura (Fig. 15, 3, 4) entirely densely (less frequently sparsely) and coarsely punctate; prosternum laterally densely and coarsely punctate; in male, middle of prosternum with long flat or weakly deepened plate with small punctures (Fig. 15, 5); prosternal process with truncate or rounded apex. Metepisterna (Fig. 15, 6, 7) weakly elongate, with length along ventral margin about 1.3 times their width along anterior margin; entire metepisterna with rather sparse punctures varying in size. Body ventrally densely and coarsely punctate; entire 2nd visible abdominal sternite rather densely punctate; anal sternite with 4 setae in male (in two males with 3 setae) and 4 setae in female.

Outer apical angle of protibia slanting (Fig. 15, 8); protibia dorsally usually with 2 setae (rather frequently with 1, 3, or 4 setae on one tibia); ptotarsus of male weakly widened. Mesotibia of male (Fig. 15, 9) rather thick, almost straight; its distal half with 4 gradually enlarging conical tubercles, distance between them considerably increasing toward apex. Ventral surface of tibia with 8 or 9 regularly arranged curved setae. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 15, 10, 11) straight, slightly thickened, widened

outwards near apex. Ventral surface (Fig. 15, 10) with 7 or 8 fine curved setae and with very sparse brush of fine short hairs covering not less than 1/3 length of tibia; metacoxa with 2 setae.

Genitalia. Penis (Fig. 16, 1) rather thick, regularly curved, gradually narrowing toward apex. Lamella (Fig. 16, 2) rather short, its length about 1/3 diameter of penis at base. Apex of lamella wide, rounded, weakly asymmetrical (left margin more convex), with wide rounded apex. Groove on right side of lamella deep and long. Right paramere (Fig. 16, 3) regularly curved from the area of attachment of ligaments, smoothly narrowed toward rounded apex in distal part, without apical hook (Fig. 16, 3a). Endophallus (Fig. 16, 5, 6) similar in shape to that of *A. aurichalcea*: wide, weakly bent dorsally, transversely S-curved in such a manner that gonopore shifted to left side of apex; right side of apex with gently sloping lateroapical lobe, but its basal part clearly wider and bearing 2 small sclerites: ventrobasal and left laterobasal. Gonostyli elongate, relatively narrow (Fig. 16, 7, 8).

Distribution. An Eastern Palaearctic subboreal species: from Tyva and central Mongolia in the west to the lower course of the Amur River and the Korean Peninsula in the east; from Cisbaikalia, Yakutsk, and the Northern Amur Area in the north to the Chinese province of Inner Mongolia and North Korea in the south.



Fig. 16. *Amara (Bradytus) fritzhieki* Sundukov, 2013, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, lateral view; (6) everted endophallus, posterior view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

Amara (Bradytus) fulva (O.F. Müller, 1776)

Carabus fulvus O.F. Müller, 1776 : 77. Type locality: Denmark.

Carabus concolor Olivier, 1795 : [35] 80, Pl. 12, fig. 106. Type locality: "environs de Paris," Paris, France; synonymy after Illiger, 1801 : 53.

Amara (Bradytus) iridipennis Heer, 1837 : 41. Type locality: "im Urserenthale, bei Andermatt," valley of Urzerental near Andermatt, Switzerland; synonymy after Schaum, 1858 : 505.

Material. Russia. *Murmansk Prov.* Terskii Distr., near city of Kuzomen', White Sea coast, sandy beach, under logs, 15.VIII.1984 (A.V. Matalin), 2 ♀ (MSPU); Olimpiya Station of Murmansk Railway, 14.VII.1926 (V.V. Barovskii), 1 ♂ (ZISP). *Komi Republic.* Ust'-Tsył'ma: 11.VII.1905 (A.V. Zhuravskii), 1 ♀ (ZISP); 9.V.1906 (A.V. Zhuravskii), 1 ♂ (ZISP); Pizhma River, 8.VI.1906 (A.V. Zhuravskii), 1 ♀ (ZISP); Ust'-Lyzh Vill., 21.VI.1905 (A.V. Zhuravskii), 1 ♀ (ZISP). *Karelia.* Onega Bay, Sukhonskaya Bay near Sosnovtsy Island, seacoast, on sandy beach, 4.VIII.1984 (A.V. Matalin), 1 ♂ (MSPU). *Leningrad Prov.* Lomonosovskii Distr.: Bol'shaya Izhora Railway Station, coast of Gulf of Finland, 26.V.2002 (S. Svobodnyi), 2 ♂, 2 ♀ (FEB); Gatchinskii Distr., Siverskaya Station, 12.V.1900 (collector unknown), 1 ♀ (ZISP); Kingissepskii Distr., Romanovka Vill., 3.VI.1904 (V.V. Barovskii), 1 ♀ (ZISP); St. Petersburg, Mitrofanievskoe Cemetery, 14.V.1901 (collector unknown), 1 ♂ (ZISP). *Vologda Prov.* Vozhegodskii Municipal District, Tigino Vill., 15.VII.1985 (V.M. Dushenkov), 1 ♂ (FEB). *Novgorod Prov.* Khvoinskii Distr., 10 km W of Gorny Vill., sandy beach on Pes' River bank, 4.VIII.1993 (A.V. Matalin), 5 ♂, 1 ♀ (MSPU). *Kaliningrad Prov.* Kurshskaya Spit, Rybachii Vill.: 2.VII.1958 (O.L. Kryzhanovskij), 1 ♂ (ZISP); same locality, 5.VI.1959 (O.L. Kryzhanovskij), 1 ♂ (ZISP). *Yaroslavl Prov.* "Yaroslavl, Zhuk[ov]. Island [now Verkhniy Island near left bank of Volga River in Yaroslavl], 5.V. coll. N.R. Kokuev," 2 ♂ (ZISP). *Moscow Prov.* Moscow, Severyanin Station, 20.V.1975 (V.V. Zolotikhin), 1 ♀ (MSPU); city of Lyubertsy, 8.VI.1961 (V.V. Zolotikhin), 1 ♀ (MSPU); Bogorodskii City District, 3 km S of Khrapunovo Vill., 13.VI.2004 (I.V. Melnik), 1 ♀ (MSPU); Ozyorskii Distr., environs of Sosnovka Vill., 29.V.1982 (V.M. Dushenkov), 1 ♀ (MSPU); same locality, field no. 6: 4.VIII.1982

(V.M. Dushenkov), 1 ♂ (MSPU); 24.VIII.1982 (V.M. Dushenkov), 1 ♀ (MSPU). *Kaluga Prov.* Environs of city of Tarusa, left bank of Oka River, meadow, 16.VI.1971 (collector unknown), 2 ♂ (MSPU); same locality, potato field, 25.VI.1971 (collector unknown), 1 ♂ (MSPU). *Tula Prov.* Kol'chevo Vill., VII.1940 (S.V. Nikulin), 1 ♂ (MSPU). *Ryazan Prov.* Shatskii Distr., city of Shatsk, Petrovka Vill.: 11.VIII.1962 (V.V. Zolotikhin), 2 ♂ (MSPU); 21.VII.1966 (V.V. Zolotikhin), 2 ♂, 1 ♀ (MSPU); 27.VII.1966 (V.V. Zolotikhin), 1 ♀ (MSPU); Babakino Vill., Vysha River floodland, 17.VII.1998 (D. Bratkin), 1 ♂ (FEB); Miloslavskii Distr., Gremyachka Vill., 7.VII.1911 (A.P. Semenov), 3 ♂, 1 ♀ (ZISP). *Voronezh Prov.* Borisoglebskii Distr., Khopyorskii Nature Reserve, under logs in floodplain, 2.VIII.1974 (A.A. Sharov), 1 ♂, 1 ♀ (MSPU); same locality, 14.VIII.1974 (A.A. Sharov), 2 ♂ (MSPU); Voronezh, 4.VI.1916 (A.N. Reichardt), 1 ♀ (ZISP). *Udmurtia.* Kiznerskii Distr., Staryi Yagul abandoned vill. ("Nizh. k., Nol. ok., d. St. Yagul [in Cyrillic]"), 25.VI.1929 (Bel'tyukova), 1 ♂ (ZISP). *Nizhny Novgorod Prov.* City of Arzamas, 7.VI.1964 (B. Pavlov-Veryovkin), 1 ♂, 2 ♀ (ISEA). *Saratov Prov.* Marksovskii Distr., environs of Berezovka Vill., river bank, sand, in debris, 22.V.1980 (B.M. Kataev), 2 ♂ (ZISP); same locality, sand, willow, feather grass, 29.V.1980 (B.M. Kataev), 1 ♂, 2 ♀ (ZISP); Vol'skii Distr., environs of Tera Vill., 26–30.VII.1979 (B.M. Kataev), 3 ♂ (ZISP). *Volgograd Prov.* Volgograd (= Stalingrad), 14.V.1931 (B. Brandt), 2 ♂, 1 ♀ (MSPU). *Crimea.* Yevpatoria, 30.VII.1902 (V.B. Yakovlev), 1 ♂, 1 ♀ (ZISP). *Krasnodar Terr.* Adlerskii Distr., 5.5 km NE of Krasnaya Polyana Vill., lower course of Achipse River, h ~ 600 m, 43°43'10"N, 40°15'25"E, 19.VIII.2014 (K.V. Makarov, A.V. Matalin), 1 ♂ (MSPU). *Stavropol Terr.* City of Kislovodsk, 28.IX.1929 (S.V. Nikulin), 1 ♂ (MSPU). *North Ossetia.* 2 km N of Tsmi Vill., Terek River floodland (V.V. Yanushev), 1 ♂ (MSPU). *Daghestan.* Khunzakhskii Distr., Baltaich Vill., 20.IV.1955 (S.V. Nikulin), 1 ♂, 2 ♀ (MSPU);? "g. Galakhoilam' near sel. Kueli [in Cyrillic]," 8.VI.1886 (S.K. Ananov), 1 ♀ (ZISP). *Sverdlovsk Prov.* City of Kyshtym, summer house, 20–21.VIII.1897 (Sergeev), 1 ♀ (ZISP); Soimonov Vill., valley near city of Kyshtym, 2–4.IX.1897 (Sergeev), 1 ♀ (ZISP). *Tyumen Prov.* Uvatskii Distr., Uka Vill., 19.VIII.1971 (collector unknown), 1 ♂, 1 ♀ (ISEA); Belayarskii Distr., environs of Karym Vill., Amnya River bank, 14.VIII.1990 (D.E. Lomakin), 1 ♂ (ISEA); Tyumenskii Distr., 6 km S of Salairka Vill., 11.VII.1992

(A.Yu. Dudko), 1 ♂ (ISEA) *Tomsk Prov.* “N. Stan., Ob-En. kan., Narym. kr. [in Cyrillic]” [Novyi Stan Gateway, Ob-Yenisei Channel], 30.V.1908 (Chugunov), 2 ♂, 2 ♀ (ZISP). *Novosibirsk Prov.* Novosibirsk, Akademgorodok, 5.IX.1991 (A.Yu. Dudko, R.Yu. Dudko), 1 ♂ (ISEA); Mikhailovskii Distr., Barabinskaya Steppe, middle course of Om’ River, 7 km NE of Sergovka Vill., Gornaya Griva Vill., 18.VII.1964 (I.V. Stebaev), 2 ♀ (MSPU). *Altai Terr.* Environs of city of Gorno-Altai, h ~ 600 m, 28.V.1996 (A.V. Matalin, A.E. Brinev), 1 ♀ (MSPU); Smolenskii Distr., 5 km S of Smolenskoe Vill., Peschanaya River bank, 31.VII–2.VIII.2000 (A.V. Matalin), 1 ♂ (MSPU); Altai, left bank of Katun River, ~ 2 km S of Ust’-Sema Vill., h ~ 350 m, on dense sand under stones, 28.IX.2016 (A.V. Matalin), 1 ♂ (MSPU). *Republic of Altai.* Turochakskii Distr., Northeastern Altai, 2 km N of Artybash Vill., right bank of Yuryuk River, in dry streambed under stones, 12.VII.2002 (A.V. Matalin), 1 ♂, 1 ♀ (MSPU); Chermal’skii Distr., Uznezha Vill. on Katun River, 14.VIII.1909 (Gorchakovskii), 1 ♂ (ZISP). *Krasnoyarsk Terr.* 40 km N of Krasnoyarsk, Ploskoe Vill., summer house: 1–10.VIII.1996 (L.A. Sundukova), 1 ♂, 1 ♀ (FEB); 12–23.VIII.1998 (L.A. Sundukova), 2 ♂, 2 ♀ (FEB); 5–10.VIII.2003 (L.A. Sundukova), 1 ♀ (FEB). *Khakassia.* Lake Shira, steppe, 10–20.VII.1996 (L.A. Sundukova), 1 ♂ (FEB). *Tyva.* Mongun-Taiginskii Distr., Mugur-Aksy Vill., Kargy River, meadow: 23.VII.1972 (A.A. Sharov), 1 ♂, 1 ♀ (MSPU); 31.VII.1972 (A.A. Sharov), 1 ♂ (MSPU); Todzhinskii Distr., Akademika Obrucheva Mt. Range, Lake Myunkhol’, 26.VIII.1964 (K.V. Arnoldi), 1 ♀ (MSPU). *Irkutsk Prov.* Kirenskii Distr., Lena River valley, environs of Krasnoyarsovo Vill., 7.VIII.2008 (A.V. Shavrin), 1 ♂ (DUL); city of Bratsk, 7.VII.1998 (P.B. Klimov), 1 ♂ (FEB). **Estonia.** Saaremaa Island, Syrve Peninsula, sea-coast, sandy beach, 10.VII.1978 (K.V. Arnoldi), 1 ♂ (MSPU). **Latvia.** Klaipeda, spit, 1968 (Yu.V. Maksimov), 2 ♂ (FEB). **Lithuania.** Varenskii Distr., Alitusskii uezd, Martsinkanis Vill., Pinetum cladinosum, 15.VIII.1984 (O.L. Kryzhanovskij), 1 ♂ (ZISP). **Belarus.** *Grodno Prov.* Belovezhskaya Pushcha, VI–VII.1907 (A.K. Mordvilko), 1 ♀ (ZISP). **Ukraine.** *Kirovograd Prov.* Kropivnitskii (= Elisavetgrad), 27.V.1902 (E.V. Yatsentkovskii), 1 ♀ (ZISP). **Moldova.** Kishinev, at light, 8.VII.1968 (V.V. Yanushev), 1 ♂ (MSPU). **Kazakhstan.** *Eastern Kazakhstan Prov.* Kalbinsky Mt. Range, Umysh Pass, 1300 m, 30.V.1989 (M.L. Danilevsky), 1 ♂ (MSPU); Western Altai, Glubokovskii Distr., 25 km NE of city of

Ust’-Kamenogorsk, Ul’ba River, environs of Topikha Vill., 11.VIII.1997 (R.Yu. Dudko, V.K. Zinchenko), 2 ♂, 1 ♀ (FEB). *South Kazakhstan Prov.* Talas Alatau, 1952 (collector unknown), 1 ♂ (MSPU).

Diagnosis. Body (Fig. 17, 1, 2) rather robust ([PL + EL]/PW = 2.06–2.24); length 8.0–10.5 mm, width 3.7–4.7 mm. Body yellowish brown to reddish brown, rather frequently with darkened base and apex of elytra; eyes black; antennae yellowish to red; legs brownish yellow.

Head thickened, less frequently with usual proportions, dorsally smooth (very finely punctate in one specimen from Altai), shining; microsculpture very inconspicuous isodiametrical, or surface smooth.

Pronotum (Fig. 17, 1, 2) weakly narrowing anteriorly (PB/PA = 1.21–1.39), rectangular, rarely subcordate, 1.55–1.70 times as wide as long, widest at mid-length; anterior angles weakly or moderately projecting; lateral explanation narrow, weakly widened toward anterior angles; sides straight or weakly sinuate near posterior angles; posterior angles almost straight, with pointed apices; base rectilinear or weakly projecting posteriorly in middle; keels in posterior corners strongly diverging posteriorly, shortened, approaching base of posterior seta (Fig. 50, 1); basal foveae wide, flattened, separated by wide flattened convexity. Punctuation usually developed only at base, less frequently fine punctuation present along lateral margins in basal half (in Altai specimens, fine punctures also present along anterior margin), keels in posterior corners finely punctate; microsculpture weak to inconspicuous isodiametrical; in males, surface frequently smooth.

Elytra (Fig. 17, 1, 2) elongate (EL/EW = 1.22–1.40), with weakly rounded or subparallel sides; striae moderately deep, with or without minute punctures; bases of 1st and 2nd striae separated; parascutellar stria present on 1st or 2nd interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 or 8 pores in apical half. Intervals impunctate; microsculpture isodiametrical, occasionally meshes slightly transverse, usually smoothed in males and distinct in females.

Ventral side. Submentum with 1 seta on each side; medial tooth of mentum bifid, rarely only weakly emarginate apically. Propleura (Fig. 17, 3, 4) smooth or with scattered and small punctures; prosternum laterally

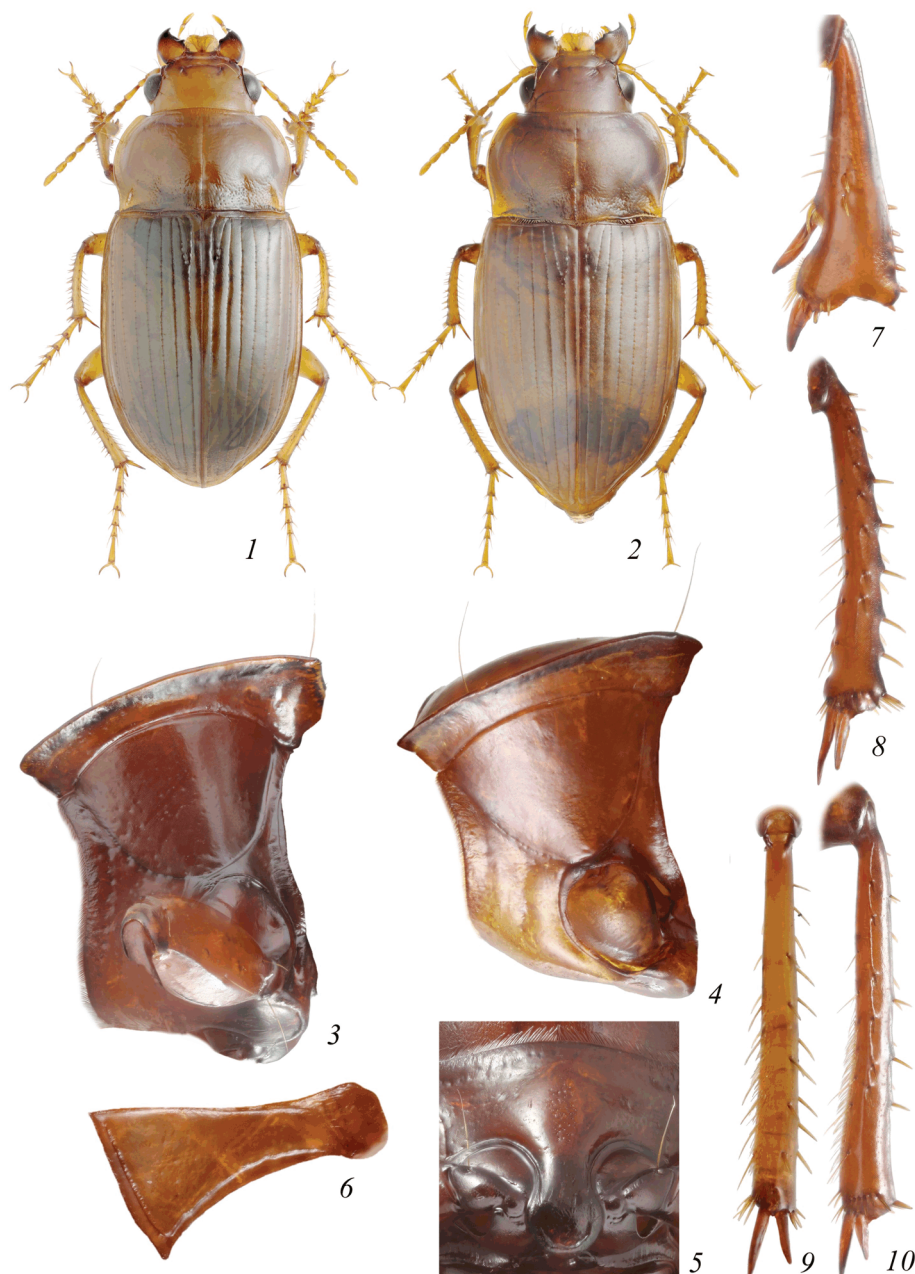


Fig. 17. *Amara (Bradytus) fulva* (O.F. Müller, 1776), male (1, 3, 5–10) and female (2, 4). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5) prosternum, ventral view; (6) metepisternum, lateral view; (7) protibia, front view; (8) mesotibia, posterior view; (9) metatibia, ventral surface; (10) metatibia, posterior view.

rather densely or sparsely covered with shallow punctures; in male, middle of prosternum bearing large, weakly flattened plate with minute punctures (Fig. 17, 5); prosternal process widely rounded at apex. Metepisterna (Fig. 17, 6) weakly elongate, with length along ventral margin about 1.3 times their width along anterior margin; metepisterna smooth, with several minute punctures in anterior half.

Body ventrally sparsely punctate; 2nd visible abdominal sternite smooth in middle, anal sternite with 2 setae in male (in one male with 3, and in another with 4 setae) and 4 setae in female.

Protibia widened outwards at apex (Fig. 17, 7); dorsally usually with 2 or 3 setae (rather frequently with 1

or 4 on one or both tibiae); protarsus of male weakly or moderately widened. Mesotibia of male (Fig. 17, 8) slightly curved, with 2 low, gently sloping tubercles and with 5 or 6 regularly arranged curved setae on ventral margin in distal third. Mesofemur ventrally with 3 or 4 setae. Metatibia of male (Fig. 17, 10) slightly thickened, almost straight, considerably widened outwards only near apex. Its ventral surface (Fig. 17, 9) with 8 or 9 fine curved setae and with sparse brush of fine short hairs covering half length of tibia. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 18, 1) rather thick, regularly curved, without additional carinae and furrows. Lamella (Fig. 18, 2) short (its length about 1/3 diameter of penis at base), wide, rounded, slightly slanting to the right. Groove on right side of lamella deep and long. Right paramere (Fig. 18, 3) curved in the area of attachment of ligaments, almost straight distally, and slightly bent only near apex, without apical hook (Fig. 18, 3a). Endophallus (Fig. 18, 5, 6) wide, without lobes, slightly transversely curved; gonopore slightly shifted to the left. Small laterobasal sclerite present in basal part at the left. Gonostyli long, narrow (Fig. 18, 7, 8).

Distribution. A Western Palearctic polyzonal species: from Ireland, France, and Portugal in the west to Eastern Kazakhstan and Lake Baikal in the east; from the Kola Peninsula, Bolshezemelskaya Tundra, Khanty-

Mansi Autonomous Area, Krasnoyarsk, and Cisbaikalia in the north to South Europe, Turkey, Southern Kazakhstan, Altai, Tyva, and northern Mongolia in the south; introduced to Canada (Bousquet, 2012).

Amara (Bradytus) glacialis (Mannerheim, 1853)

Bradytus glacialis Mannerheim, 1853 : 135. Type locality: "Ad fl. Tchuniten peninsulae Kenai," the Kenai Peninsula, Alaska, USA.

Amara (Bradytus) trybomi J.R. Sahlberg, 1880 : 34–35, Tab. I, fig. 11. Type locality: "prope vicum Tolstoinos; inter vicos Verschininsk et Dudinka," the Taimyr Peninsula, Russia; synonymy after Poppius, 1906 : 49.

Bradytus nainensis Casey, 1918 : 238. Type locality: "Labrador (Nain)," Labrador, Canada; synonymy after Lindroth, 1954 : 135.

Material. Russia. Yamalo-Nenets Autonomous Area. Yamal Peninsula: middle course of Yada-Yagody-Yaga River, 18.VII.1996 (E.V. Zinoviev), 1 ♂ (ISEA); Tanlovaya River bank, 7.VIII.1968 (Patruchieva), 1 ♂ (ISEA); environs of Shchuch'e, 22.VII.1968 (Patruchieva), 2 ♂, 3 ♀ (ISEA); Southern Yamal, middle course of Enzor'yakha River, tundra, 7–8.VIII.1995 (I.I. Lyubchanskii), 1 ♂ (ISEA). *Krasnoyarsk Terr.* Taimyr Peninsula: Ust'-Tareya Vill., dunes, 1.VII.1966



Fig. 18. *Amara (Bradytus) fulva* (O.F. Müller, 1776), male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

(Yu.I. Chernov), 2 ♂ (MSPU); Dudinka Vill., lower course of Yenisei River, 27.VI.1908 (S. Tolstoi), 4 ♂, 2 ♀ (ZISP); middle course of Malaya Logata River, Ary-Mas Vill., 4–10.VII.1991 (E.V. Sokolov), 1 ♂, 3 ♀ (ZISP); southern shore of Lake Taimyrskoe, Blizhnii Cape, pebble shaft, 74°36'N, 101°44'E, 25.VII–18.VIII.1994 (O.L. Makarova), 1 ♂, 1 ♀ (MSPU); Taimyr Bay, Malaya Logata River bank, 19.VII.1988 (V.G. Mordkovich), 1 ♀ (ISEA); Kotui River, 13.VII.1976 (I.D. Sukacheva), 1 ♀ (MSPU). *Buryatia*. Okinskii Distr., right bank of Oka River, environs of Orlik Vill., floodland with old river beds, 26.V.2001 (L.Ts. Khobrakova), 1 ♂ (MSPU); upper course of Sygal' and Khar' rivers, 15.VII.1873 (A.L. Czekanowski), 1 ♀ (ZISP). *Zabaikal'skii Terr.* 70 km NW of Novaya Chara Vill., environs of Lake Bol'shoe Leprindo, 10–15.VII.1996 (A.E. Brinev), 1 ♂, 1 ♀ (FEB); 22–23.VII.1997 (A.V. Petrov), 2 ♂ (MSPU); Stanovoe Uplands, southern part of Kodar Mt. Range, upper course of Chara River, 50 km WSW of Novaya Chara Vill., 1700–1800 m, 26.VII.1995 (A.Yu. Dudko, R.Yu. Dudko, D.E. Lomakin), 1 ♂, 1 ♀ (ISEA); Kodarskii Mt. Range, 50 km NW of Chara Vill., 16–25.VII.1996 (A.E. Brinev), 5 ♂, 4 ♀ (FEB, MSPU). *Yakutia*. Lower course of Lena River: Tit-Ary Island, 18.VII.2009 (A.A. Popov), 1 ♀ (ZISP); Tit-Ary Island, 71°57'43.68"N, 127°01'39.47"E, LB8, motley-grass dryad tundra, 17–22.VII.2011 (A.A. Popov), 2 ♂ (ISEA); Ust'-Lenskii Nature Reserve, Belaya Rock, 5.VII.1989 (collector unknown), 1 ♀ (FEB); Lena River Delta, Kyuryuz'yakh, 11.VIII.2000 (S.A. Kuz'mina), 1 ♂, 1 ♀ (ZISP); tundra near Olenyok River, 21.VIII.1875 (A.L. Czekanowski), 1 ♂ (FEB); Atyraiana River near Zhigansk, 25.VII.1875 (A.L. Czekanowski), 4 ♂, 3 ♀ (ZISP); Ken-Yuryakh Vill., upper course of Yana River, 18.VII.1927 (M.I. Tkachenko), 1 ♂, 1 ♀ (ZISP); Suntar-Khayata Mt. Range, upper course of Kyubyume River, h ~ 1275 m, motley grass meadow with legumes, ridge in valley, 63°14'N, 139°36'E, 8.VII.2002 (O.L. Makarova, O.A. Khruleva), 2 ♂ (MSPU); same locality, h ~ 1400, gorge of northern exposition above snowfields, stream bank, 63°14'N, 139°36'E, 28.VII.2002 (O.L. Makarova, O.A. Khruleva), 1 ♂, 1 ♀ (MSPU); Pyuryule River, pebble beach, 3–16.VII.1990 (V.K. Zinchenko), 1 ♀ (ISEA). *Chukotka Autonomous Area*. Chaunskii Distr.: 100 km S of city of Pevek, Ust'-Chaun Vill., 25.VII.1986 (V.V. Dubatolov), 1 ♂ (ISEA); Mil'kera Vill.: 29–30.VII.1978 (S.V. Kiselev), 3 ♀ (MSPU); 4.VIII.1978 (S.V. Kiselev), 1 ♂ (MSPU); 12.VIII.1978

(S.V. Kiselev), 2 ♂, 4 ♀ (MSPU); Aion Island, Ra-vaomkai, 22.VII.1976 (S.V. Kiselev), 8 ♀ (MSPU); Palyavaam River between mouth of tributary of Kookvyn (Glubokaya) River and bridge, 68°35'N, 174°00'E, 17–25.VI.2011 (D.I. Berman), 1 ♀ (MSPU); 3.6 km SSW of Apapel'gino Vill., 69°45'37"N, 170°36'36"E, seacoast, 14–23.VII.2018 (K.V. Makarov, O.L. Makarova), 1 ♂ (MSPU); Shmidtovskii Distr.: Wrangel Island, lower course of Tundrovaya River, 25.V–19.VII.1989 (O.A. Khruleva), 2 ♂ (MSPU); Chukotskii Distr., Kolyuchinskaya Bay, Belyaka Spit, 67°06'N, 174°30'W, 26.VI.2002 (P.S. Tomkovich), 1 ♀ (MSPU); Anadyrskii Distr., upper course of Bol'shaya Osinovaya River (Anadyr' River basin), 24–30.VII.1991 (D.I. Berman), 1 ♂, 1 ♀ (FEB). *Magadan Prov.* Ol'skii Distr.: upper course of Ola River, snowfield with *Oxyria digyna*, h ~ 1127 m, 60°39'N, 151°16'E, 7–12.VIII.2011 (O.L. Makarova, A.B. Babenko), 1 ♀ (MSPU); same locality, snowfield with *Rhododendron redowskiana*, h ~ 1149 m, 60°39'N, 151°16'E, 7–12.VIII.2011 (O.L. Makarova, A.B. Babenko), 1 ♀ (MSPU). *Kamchatka Terr.* Ust'-Kamchatskii Distr.: environs of Klyuchi Vill., Kamchatka River floodland, 10–11.IX.2002 (Yu.N. Sundukov), 1 ♀ (FEB); lower course of Kamchatka River, environs of Krapivnaya Vill., river bank, 9.IX.2002 (Yu.N. Sundukov), 3 ♂, 3 ♀ (FEB); Elizovskii Distr., Balaganchik Mt. Range, Mutnovskii Pass near Vilyuchinskii Volcano, 1000–1200 m, mountain tundra, 6.IX.2002 (Yu.N. Sundukov), 1 ♂, 3 ♀ (FEB).

Diagnosis. Body (Fig. 19, 1, 2) rather robust ([PL + EL]/PW = 2.06–2.33); length 6.3–8.5 mm, width 3.0–3.8 mm. Body black, with intense bronze, copper, greenish, or blue sheen; antennae black, 1st segment entirely or at base, and frequently also bases of 2nd and 3rd segments, reddish; legs black or dark claret-red, occasionally with reddish areas.

Head with usual proportions, dorsally weakly shining, punctate in frontal furrows and above eyes, rarely finely punctate over entire surface or impunctate; microsculpture isodiametrical, distinct or smoothened.

Pronotum (Fig. 19, 1, 2) considerably narrowing anteriorly (PB/PA = 1.28–1.38), subcordate or rectangular, 1.55–1.66 times as wide as long, widest at mid-length; anterior angles slightly if at all projecting; lateral groove wide, especially in basal half; sides straight or weakly sinuate near posterior angles; posterior angles rectangular or slightly obtuse, but without tooth; base almost



Fig. 19. *Amara (Bradytus) glacialis* (Mannerheim, 1853), male (1, 3, 5, 6, 8–11) and female (2, 4, 7). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, ventral surface; (11) metatibia, posterior view.

straight; keels in posterior corners weak or inconspicuous, strongly diverging posteriad, resting against posterior seta (Fig. 50, 3); basal foveae small, moderately deep, separated by punctate, weakly convex area. Punctuation coarse, covering entire pronotum or missing at middle; keels in posterior corners punctate; microsculpture isodiametrical (rarely transverse), very weak in males, distinct or weak in females.

Elytra (Fig. 19, 1, 2) weakly elongate ($EL/EW = 1.14–1.36$), with weakly rounded sides; striae shallow or superficial, with large or small punctures; bases of 1st and 2nd striae separated; parascutellar stria situated on 2nd interval; *series umbilicata* consisting of 5 or 6 setiferous pores in basal quarter and 7 or 8 pores in apical half. Intervals impunctate, flat; microsculpture weak, transverse or isodiametrical in males, strong, isodiametrical in females.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum bifid. Propleura (Fig. 19, 3, 4) entirely covered with scattered punctures; prosternum laterally with several small punctures; in male, middle of prosternum bearing flat plate with several punctures (Fig. 19, 5); prosternal process with rounded apex. Metepisterna (Fig. 19, 6, 7) slightly elongate (with length along ventral margin about 1.2 times their width along anterior margin), their largest part covered with rather large sparse punctures. Body ventrally with large punctures; 2nd visible abdominal sternite smooth in middle; anal sternite with 2 setae in male and 4 setae in female (in one female, with 3 setae).

Protibia weakly regularly widened toward apex (Fig. 19, 8), with 2 or 3 setae dorsally (in 1 specimen, with 1 seta on one tibia); protarsus of male moderately or strongly widened. Mesotibia of male (Fig. 19, 9) slightly curved, with 1 or 2 conical pointed tubercles and with 7 or 8 regularly arranged curved setae on ventral margin in distal third. Proximal part of tibia weakly widened, separated from tubercles by gently sloping sinuation of ventral margin. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 19, 11) straight, slightly widened toward apex; its ventral surface (Fig. 19, 10) with 9 or 10 fine curved setae and with dense brush of

fine short hairs covering half length of tibia; metacoxa with 2 setae.

Genitalia. Penis relatively slender, smoothly curved in the form of gently sloping arc (Fig. 20, 1), regularly narrowing toward lamella. Lamella rather long (its length half aedeagus diameter in basal part (Fig. 20, 2)), weakly asymmetrical, with rounded apex; its left margin more convex. Groove on right side of lamella rather long, projecting far beyond border of preputial area. Preputial area regularly narrowing toward apex. Right paramere (Fig. 20, 3) curved in the area of ligaments attachment, almost straight distally, and slightly bent only at apex, without apical hook (Fig. 20, 3a). Endophallus (Fig. 20, 5, 6) wide at base, with large, weakly separated paired ventrobasal and unpaired dorsobasal lobes. Distally, endophallus rather regularly narrowed, with small, gently sloping right lateromedial lobe. Sclerites missing. Gonostyli long, rather narrow, oblong-oval (Fig. 20, 7, 8).

Distribution. An Arcto-Boreal Holarctic species. In the Palaearctic Region, it inhabits the north of the tundra zone from the Polar Urals in the west to Chukotka and Kamchatka in the east; it also inhabits the highlands of the Eastern Sayan and the northern Transbaikalia.



Fig. 20. *Amara (Bradytus) glacialis* (Mannerheim, 1853), male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, ventral view; (8) gonostylus, lateral view.

***Amara (Bradytus) irkutensis* Baliani, 1934**

Amara (Bradytus) irkutensis Baliani, 1934 : 85. Type locality: "Sorgenti dell'Irkutsk," sources of the Irkut River, Buryatia, Russia.

Amara (Bradytus) bajani Jedlička, 1964 : 292. Type locality: "Mongolei, Central Aimak: Bajan Zurch sum.," Central aimak, Mongolia; synonymy after Hieke, 1973 : 11.

Material. Russia. Republic of Altai. 28 km S of Kosh-Agach Vill., Chagan-Burgazy River valley, 29.VI.1996 (A.Yu. Dudko, R.Yu. Dudko), 1 ♂ (ISEA); 50 km ENE of Kosh-Agach Vill., Builyukem River valley, h = 2200 m, 12.VII.1996 (A.Yu. Dudko, R.Yu. Dudko), 2 ♀ (ISEA); Kumurtuk Vill., Chulyshman River, 8–9.VI.1909 (I. V. Emeljanov), 1 ♂, 1 ♀ (ZISP). *Tyva.* Mongun-Taiginskii Distr., Mugur-Aksy Vill., Kargy River, meadow, near water, 8.VIII.1972 (A.A. Sharov), 1 ♂ (MSPU); 45–50 km W of Mugur-Aksy Vill., 2200–2300 m, alpine steppe, 18.V.1990 (D.V. Logunov), 5 ♂, 1 ♀ (ISEA). *Irkutsk Prov.* Environs of Irkutsk, 29.VIII.1996 (O.E. Berlov), 1 ♂, 1 ♀ (FEB); Irkutsk, "*Bradytus densepunctatus*" (date and collector unknown), 1 ♀ (ZISP). *Buryatia.* Dzhidinskii Distr., environs of city of Belozersk, salt lakes, 9.VII.1997 (A.V. Anishchenko), 1 ♂ (MSPU). *Zabai-kal'skii Terr.* Ononskii Distr., floodland on right bank of Onon River near Nizhnii Tsasuchei Vill., 1.VI.1995 (I.I. Lyubechanskii), 1 ♂ (ISEA); Borzinskii Distr., environs of city of Borzya, 50°25'08"N, 116°34'08"E, 31.V.2000 (I.V. Melnik), 1 ♂ (MSPU); Dauriskii Nature Reserve: Imalkinskii Section, Lake Nizhnii Mukei, 7.VII.1996 (V.V. Dubatolov), 1 ♀ (ISEA); 1–4 km N of Lake Zun-Torei, environs of Mt. Kuku-Khadan, 6.VI.1995 (V.V. Dubatolov, R.Yu. Dudko), 1 ♂ (ISEA); NE shore of Lake Zun-Torei, Mt. Kuku-Khadan, 7–12.VI.1995 (I.I. Lyubechanskii), 1 ♂ (ISEA). **Mon-golia.** *Töv aimak.* Ulan-Bator: Tola River, 6.VI.1981 (V.V. Yanushev), 1 ♂ (MSPU); "Urga," 25.VII.1928 (A.I. Ivanov), 1 ♀ (ZISP); 40 km from Ulan-Batora, 31.VIII.1928 (A.I. Ivanov), 1 ♂ (ZISP). *Kobdo aimak.* Kobdo, 15.VII.1926 (N.A. Kulik), 1 ♂ (ZISP). *Uver-Khangai aimak.* 20 km SW of city of Arvaikheer, 15–16.VII.2006 (A.V. Anishchenko), 5 ♂, 4 ♀ (DUL). *Middle Gobi aimak.* Bayan-Daba Pass, 30 km NNE of Bulgan, 26–28.VII.1967 (A.F. Emeljanov, I.M. Kerzhner), 1 ♂ (ZISP); 30 km N of Delger-Tsogt Vill., 22.VII.1967 (I.M. Kerzhner), 1 ♀ (ZISP).

Diagnosis. Body (Fig. 21, 1, 2) elongate ($[PL + EL]/PW = 2.22–2.51$); length 7.0–9.5 mm, width 3.1–3.7 mm. Body pitch-brown; elytra with or without weak copper or greenish sheen; antennae entirely pale or with dark longitudinal stripes on 4–11th segments; legs reddish brown.

Head with usual proportions, dorsally weakly shining, smooth or very finely punctate; microsculpture weak or distinct isodiametrical, rarely surface smooth.

Pronotum (Fig. 21, 1, 2) weakly narrowing anteriorly ($PB/PA = 1.19–1.30$), subcordate, less frequently rectangular; its width 1.45–1.64 times its length; pronotum widest at mid-length; anterior angles slightly if at all projecting; lateral explanation regularly narrow throughout; sides straight or weakly sinuate near posterior angles; posterior angles obtuse, without tooth; base almost straight; keels in posterior corners subparallel to longitudinal axis of body, reaching posterior margin inwards from posterior seta (Fig. 51, 5); basal foveae moderately deep, separated by wide convexity. Punctuation developed only in basal foveae; keels in posterior corners impunctate (rarely with several small punctures); microsculpture weak to inconspicuous isodiametrical, or surface smooth.

Elytra (Fig. 21, 1, 2) long ($EL/EW = 1.35–1.57$), with parallel or slightly rounded sides; striae slightly deepened, with large or small punctures; bases of 1st and 2nd striae and parascutellar stria varying in position, striae frequently merging at base; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 8 pores in apical half. Intervals impunctate, weakly convex; microsculpture isodiametrical, weak or distinct.

Ventral side. Submentum with 2 setae on each side, tooth of mentum pointed or slightly truncate apically. Propleura (Fig. 21, 3, 4) smooth; prosternum laterally with several fine punctures or entirely smooth; in male, middle of prosternum bearing rounded deepened area with punctures or flat area with rather large punctures (Fig. 21, 5, 6); prosternal process with truncate or rounded apex. Metepisterna (Fig. 21, 7, 8) narrow (with length along ventral margin about 1.6–1.7 their width along anterior margin), mostly rather sparsely, rather finely punctate. Body ventrally sparsely punctate; 2nd visible abdominal sternite smooth in middle third; anal sternite with 2 setae in male and 4 setae in female.

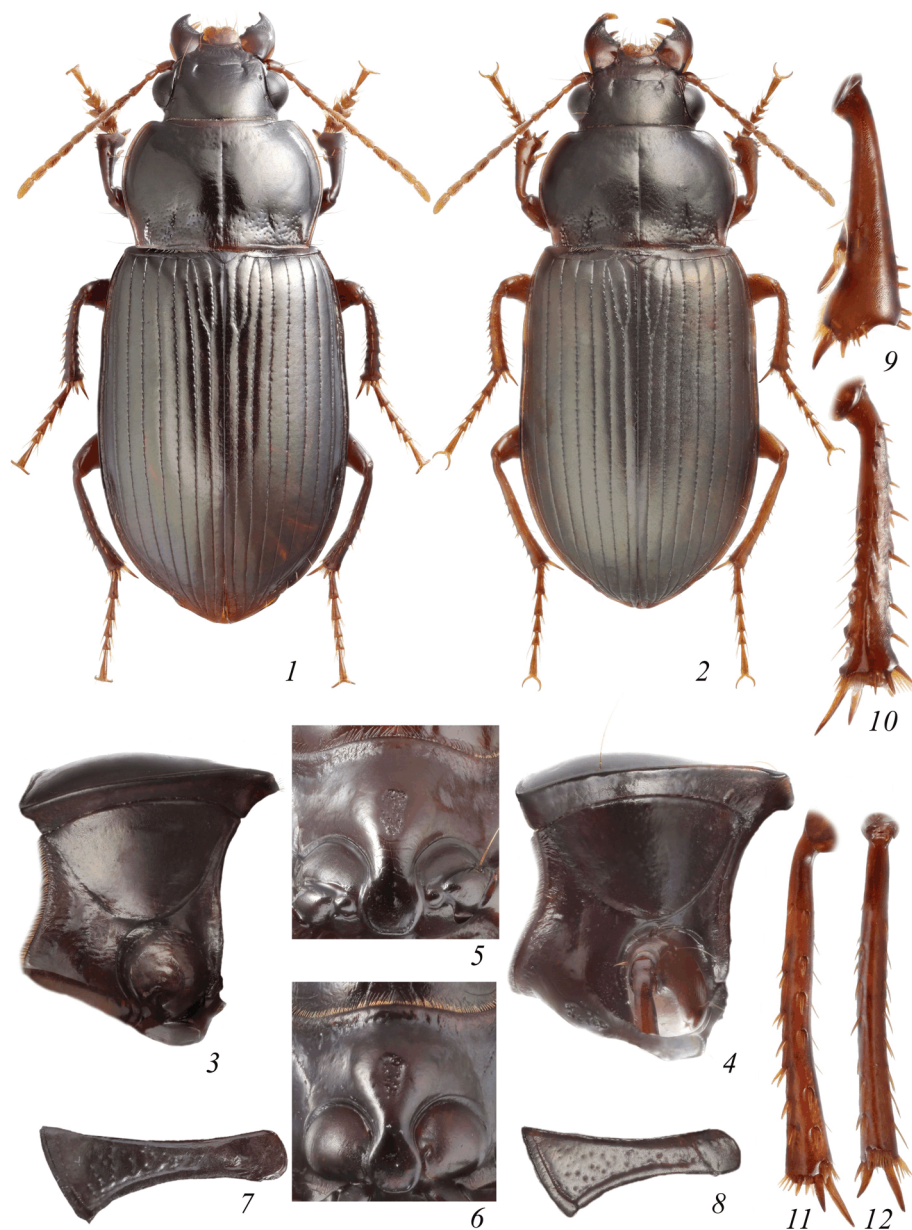


Fig. 21. *Amara (Bradytus) irkutensis* Baliani, 1934, male (1, 3, 5–7, 9–12) and female (2, 4, 8). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5, 6) prosternum, ventral view; (7, 8) metepisternum, lateral view; (9) protibia, front view; (10) mesotibia, posterior view; (11) metatibia, posterior view; (12) metatibia, ventral surface.

Outer apical angle of protibia slanting (Fig. 21, 9); protibia dorsally always with 1 seta; protarsus of male strongly widened. Mesotibia of male (Fig. 21, 10) rather slightly curved, with 4 or 5 conical teeth enlarged toward apex and with 7 or 8 regularly arranged curved setae on ventral surface in distal half. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 21, 11) rather slender, considerably widened in distal third, with 5 or 6

fine curved setae on ventral surface, without brush of short hairs (Fig. 21, 12); metacoxa with 2 setae.

Genitalia. Penis (Fig. 22, 1) curved at nearly 90°, with weak convexity in distal part. Distal part of aedeagus with 2 carinae (Fig. 22, 2) outside from margins of preputial area; these carinae strongly widened and thickened proximally; preputial area in the place of maximum width of these carinae narrowing to nearly half its length.



Fig. 22. *Amara (Bradytus) irkutensis* Baliani, 1934, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

Carinae strongly curved and extending nearly to curvature of penis tube. Shallow furrow running in parallel to carinae and merging with groove on lamella on the right. Furrows considerably widened proximally at both sides. Lamella (Fig. 22, 2) elongate, roundly triangular, with rather narrow apex slightly deflexed to the right. Length of lamella about half aedeagus diameter in basal part. Right paramere (Fig. 22, 3) strongly regularly curved in the area of attachment of ligaments, slightly bent at apex; apex (Fig. 22, 3a) rounded, with small pointed apical hook with length about half of paramere diameter. Endophallus (Fig. 22, 5, 6) similar to that of *A. apricaria* in proportions and shape but differing in wider ventrobasal lobes and larger dorsomedial and dorsoapical lobes. In addition, in *A. irkutensis*, distal area of right endophallus wall is more heavily sclerotized. Gonostyli short, diamond-shaped (Fig. 22, 7, 8).

Distribution. A Central Palaearctic species distributed in the subarid landscapes from Altai in the west to Zabaikal'skii Territory in the east; from northern Altai, Tyva, the south of Irkutsk Province, and the southern Transbaikalia in the north to the Chinese provinces of Gansu and Hebei in the south; the records for the Russian Far East (Hieke, 2017) are erroneous (Sundukov and Makarov, 2020).

Amara (Bradytus) khasanensis

Sundukov et Makarov, sp. n.

Material. Russia. Holotype, ♂: “S Primorskii Territory, Khasanskii Distr., lower course of Barabashevka River, 43°08'09"N 131°37'57"E, under stone, 28.V.2015, leg. K. Makarov, A. Matalin” [white rectangle, printed], “HOLOTYPUS *Amara (Bradytus) khasanensis* sp. n. det. Yu. Sundukov et K. Makarov, 2025” [red rectangle, printed] (ZISP). Paratypes with label “PARATYPUS *Amara (Bradytus) khasanensis* sp. n. det. Yu. Sundukov et K. Makarov, 2025” [red rectangle, printed]: 1 ♂, “S Primorskii Territory, Khasanskii Distr., Kedrovaya Pad' Nature Reserve, headquarter, 18–19.VIII.2018, Yu. Sundukov” [white rectangle, printed] (FEB); 1 ♂, 1 ♀, “S Primorsky Terr., Khasan distr., Kedrovaya Pad' Nat. Res., ca 12 km SE Barabash, 43°05.87'N 131°33.99'E, 27–31.V.2022, B. Kataev leg.” (ZISP); 1 ♂, “S Primorskii Territory, Khasanskii Distr., lower course of Kedrovaya River, NE environs of Primorskii Vill., 43°05'14"N 131°35'50"E, 22.VIII.2018, leg. K. Makarov” [white rectangle, printed] (MSPU); 1 ♂, “S Primorskii Territory, Khasanskii Distr., middle course of Narva River, Sinii Utyos Hill, 43°03'50"N 131°20'56"E, 31.V.2022, leg. K. Makarov” [white rectangle, printed] (MSPU); 1 ♂, “S Primorskii Territory, Khasanskii Distr., 2 km W of Ovchinnikovo Vill., h ~

100, 43°13'59"N 131°21'38"E, 22.V.2023, leg. K. Makarov" [white rectangle, printed] (NHM); ♂, "S Primorskii Territory, 15 km SW of Slavyanka, Ryazanovka, biostation, kl. [klyuych, = spring] Osokovy, forest, 12.8.1990, D. Fedorenko" [white rectangle, printed] (SIEE); 1 ♀, "S Primorskii Territory, Khasanskii Distr., middle course of Kedrovaya River, floodland, 2 km NW of Primorskii Vill., 43°05'38"N 131°34'10"E, 29.V.2022, leg. A. Zaitsev" [white rectangle, printed] (MSPU); 1 ♀, "S Primorskii Territory, Khasanskii Distr., Gamov Peninsula, upstream of Vityaz' Vill., h ~ 30, 42°35'50"N 131°11'25"E, 17–18.V.2023, leg. K. Makarov" [white rectangle, printed] (MSPU); 1 ♀, "Primorye Terr., Khasan Distr., 3 km NW of Khasan Vill., S shore of Lake Khasan, 42°26'16"N 130°37'06"E, 20 m, 12–17.IX.2016, A.V. Abramov, V.V. Platonov leg." (ZISP).

Description. Body (Fig. 23, 1, 2) robust ([PL + EL]/PW = 1.99–2.15); length 9.9–10.6 mm, width 4.35–4.80 mm. Body pitch-brown or nearly black; antennae pale brown to red; legs dark claret-red.

Head small, dorsally smooth, shining, without distinct microsculpture, surface smooth.

Pronotum (Fig. 23, 1, 2) narrowing anteriorly (PB/PA = 1.45–1.57), weakly trapeziform, 1.56–1.65 times as wide as long, widest slightly behind mid-length; anterior angles moderately projecting; lateral explanation narrow in middle, slightly wider in basal part, widest from anterior seta to anterior angles; sides weakly rounded or straight before posterior angles; posterior angles right-angular or sharp, with pointed, attenuate, and slightly deflexed tooth; keels in posterior corners strongly or moderately diverging posteriorly, shortened, terminating at posterior seta (Fig. 50, 8); basal foveae wide, moderately deepened, separated by wide convexity. Punctuation covering entire base (including basal keel), stripe along anterior margin and at sides; no microsculpture present, surface smooth.

Elytra (Fig. 23, 1, 2) weakly elongate (EL/EW = 1.22–1.26), with slightly rounded sides; striae deep, with small punctures; bases of 1st and 2nd striae separated; parascutellar stria usually situated on 2nd interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 pores in apical half (Fig. 24, 1). Intervals impunctate, without microsculpture in males, weakly distinctly transverse reticulate in females; surface smooth in both sexes.

Ventral side (Fig. 24, 2). Submentum with 2 setae on each side; medial tooth of mentum with rounded (Fig. 23, 3), truncate, or weakly emarginate (in female) apex. Propleura (Fig. 23, 4) entirely densely covered with rather coarse or fine punctation; middle of prosternum entirely densely and rather coarsely punctate; in male, middle of prosternum with small deep oval fovea bearing coarse punctures at bottom (Fig. 23, 5–7); prosternal process truncate or weakly rounded apically. Metepisterna (Fig. 23, 8) slightly elongate (with length along ventral margin about 1.2 times their width along anterior margin), densely covered with large punctures merging in inner part. Sides of thorax and abdomen densely covered with large punctures (Fig. 23, 8; Fig. 24, 2); fine punctures present in apical part of prosternal process (Fig. 23, 5–7); 2nd visible abdominal sternite finely punctate or smooth in middle one-third; anal sternite with 2 setae in male and 4 setae in female.

Apex of protibia weakly angularly widened (Fig. 24, 3, 4); protibia dorsally with 2 or 3 setae (Fig. 24, 3); protarsus of male moderately widened (Fig. 24, 3). Mesotibia of male (Fig. 24, 5) slightly curved, with 1–3 wide conical tubercles and with 9 or 10 regularly arranged curved setae on ventral margin in distal third. In addition, fine setae similar to those on metatibia situated around tubercles in distal third of mesotibia. Proximal part of tibia weakly widened and separated from tubercles by shallow sinuation of ventral margin. Mesofemur ventrally with 2 or 3 setae. Metatibia of male (Fig. 24, 6, 7) straight, gradually widening toward apex, more strongly so outwards. Ventral surface with 10–12 fine curved setae and with dense brush of fine short hairs covering half length of tibia (Fig. 24, 6); metacoxa with 2 setae (Fig. 52, 5).

Genitalia. Penis (Fig. 25, 1) rather narrow, regularly curved, narrowed at apex. Length of lamella about 1/3 diameter of penis at base; lamella rather wide, with sub-symmetrical roundly triangular apex (Fig. 25, 2–5). Groove on right side of lamella short and deep. Additional carinae and striae missing. Right paramere (Fig. 25, 6) smoothly narrowed and regularly curved distal to the area of attachment of ligaments, without apical hook (Fig. 25, 6a). Endophallus (Fig. 25, 8, 9) wide, weakly deflexed ventrally, without pronounced lobes. Middle part of its right wall with wide area with sclerotized spines; endophallus wall in this area weakly

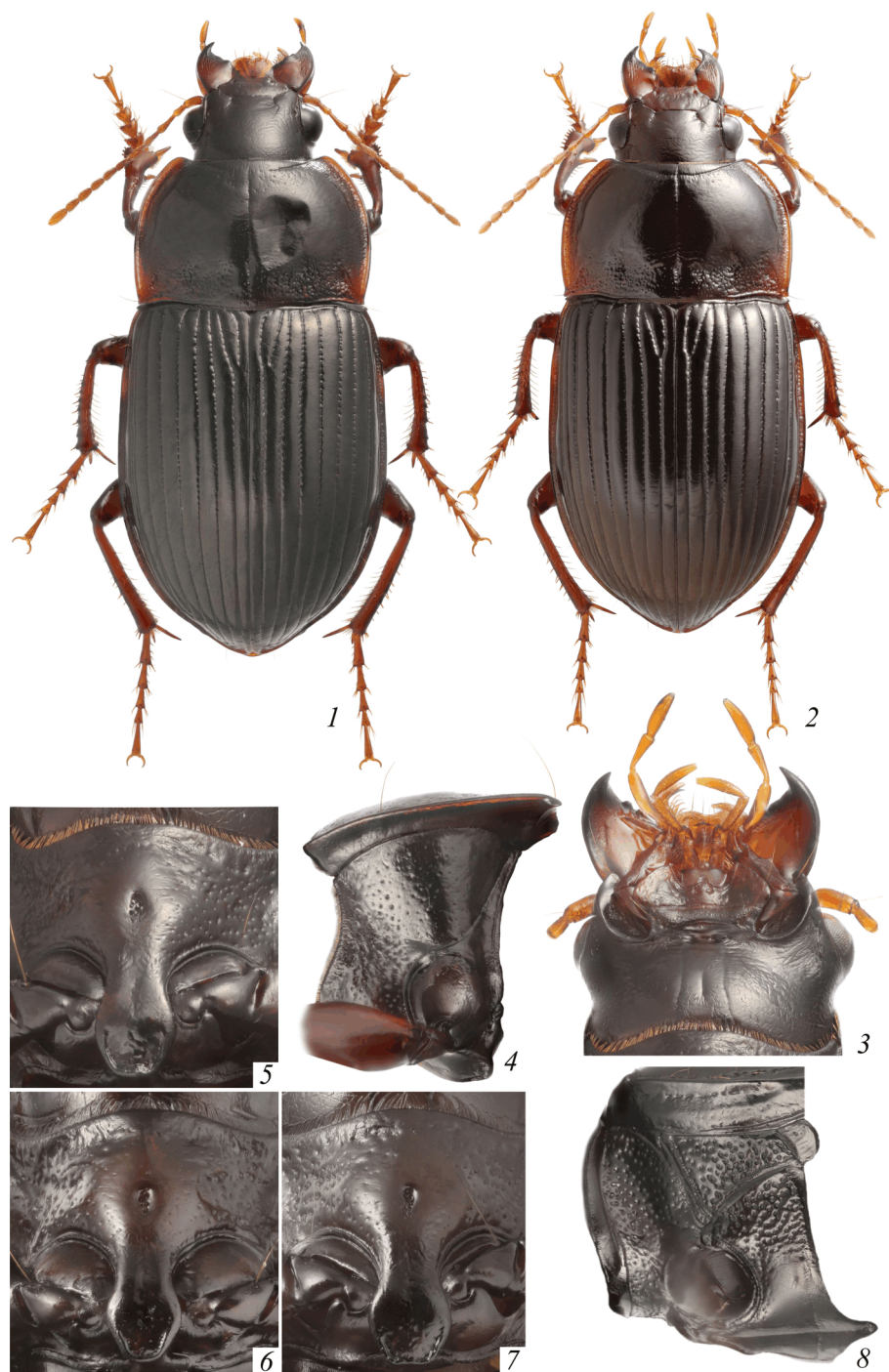


Fig. 23. *Amara (Bradytus) khasanensis* sp. n., male, holotype (1, 3–8) and female, paratype (2). (1, 2) dorsal habitus; (3) head, ventral view; (4) prothorax, lateral view; (5–7) prosternum, ventral view, variations of sculpture (holotype and 2 paratypes); (8) meso- and metathorax, lateral view.

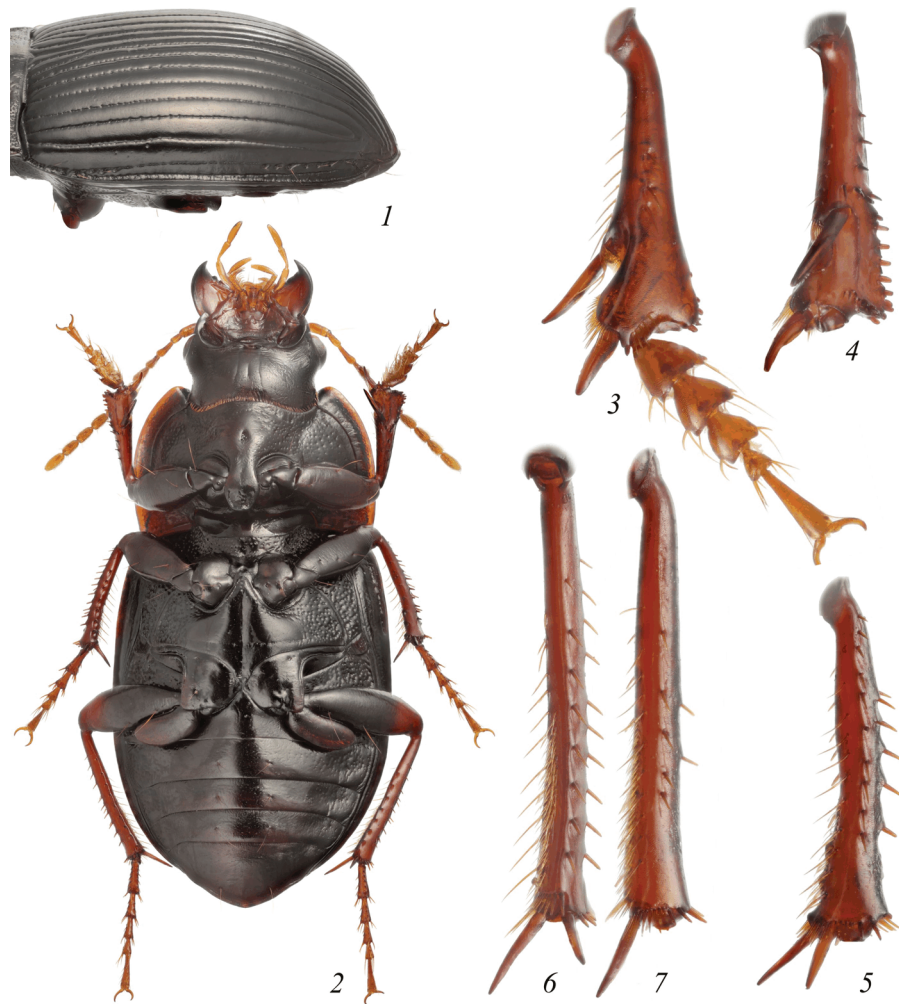


Fig. 24. *Amara (Bradytus) khasanensis* sp. n., holotype, male. (1) elytra, latero-dorsal view; (2) ventral habitus; (3) protibia and protarsus, front view; (4) protibia, posterior view; (5) mesotibia, posterior view; (6) metatibia, ventral surface; (7) metatibia, posterior view.

depressed. Basal sclerites missing. Gonostyli rather short, elongate diamond-shaped (Fig. 25, 10, 11).

Differential diagnosis. The species is similar to those with a well-developed punctation on the margins of the pronotum and on the ventral side of the body: *A. glacialis*, *A. fritzhieki*, *A. macra*, *A. mikae*, *A. pseudosimplicidens*, *A. simplicidens* and *A. sinuaticollis*. It differs from them in the saccular endophallus with a large area of sclerotized spines on the right side (Fig. 25, 9); it differs from all them, except for *A. pseudosimplicidens*, in the structure of the mesotibia of the male (Fig. 24, 5) with a brush of fine hairs in the distal quarter of the ventral margin. For the other differences of *A. khasanensis*

sp. n. from the species of the Russian fauna, see the key below. The Palaearctic species not recorded in Russia are known from Japan (2 species) and the Tibeto-Himalayan Region (6 species). The Japanese *A. ampliata* (Bates, 1873) is similar to *A. fulva* and *A. pallidula* in the coloration, habitus, and structure of the protibia, and cannot be confused with *A. khasanensis* sp. n. The other Japanese species, *A. ondai* Morita, 1995, has dark legs, small flattened eyes, punctate dorsal side of the head, pronotum, and elytral intervals, a cordate pronotum, and reduced hind wings; it inhabits the mountainous areas of central Honshu (Morita, 1995). Relatively small (6–9 mm) Tibeto-Himalayan species are characterized by a cordate (*A. chalciope* (Bates, 1891) and *A. elegan-*

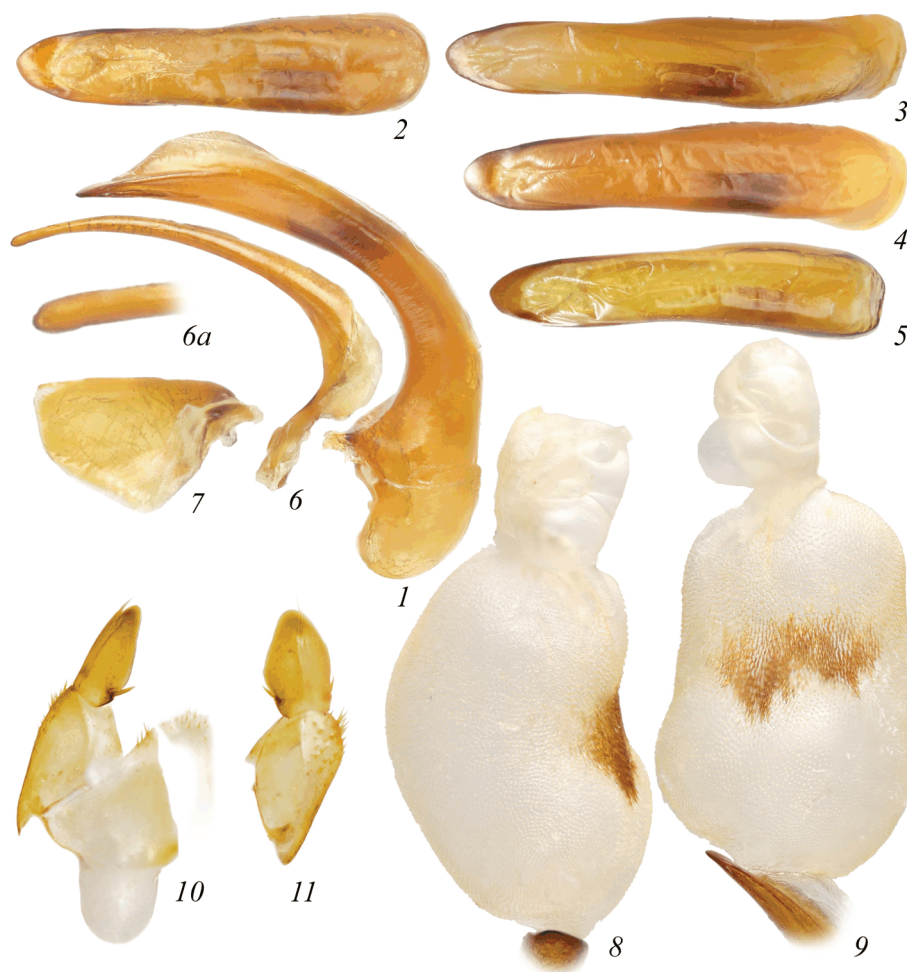


Fig. 25. *Amara (Bradytus) khasanensis* sp. n., male (1–9) and female (10, 11) genitalia. (1) penis, lateral view; (2–5) penis, dorsal view; (6) right paramere, lateral view; (6a) apex of right paramere, $\times 3$ magnification; (7) left paramere; (8) everted endophallus, posterior view; (9) everted endophallus, lateral view; (10) gonostylus, lateral view; (11) gonostylus, ventral view.

tula Tschitschérine, 1899) or punctate only basally (*A. dissimilis* Tschitschérine, 1894 and *A. micantula* Hieke, 1994) pronotum, by the dorsal side with a metallic blue, green, or bronze sheen, by dark legs, and by an isodiametrical microsculpture of the elytra (except for *A. elegantula*). The large (10–11 mm) *A. batesi* Csiki, 1929 differs from *A. khasanensis* sp. n. in an oblong-oval body, in the pronotum punctate only at base, in the medial tooth of the mentum emarginate apically, and in the elytra with transverse microsculpture. In *A. pingshiangi* Jedlička, 1957, the second large (11–13 mm) Tibeto-Himalayan species, the prosternal process is unmarginated apically, the prosternum of the male bears no fovea or punctate area in the middle, and

only one supraorbital seta is present. F. Hieke (1990) considered *A. pingshiangi* an intermediate species between *Curtonotus* and *Bradytus* and attributed it to *Bradytus* based only on the fact that the teeth on the mesotibiae of the male characteristic of *Curtonotus* are missing in this species.

Distribution. An East Asian nemoral species: it is known only from the south of Primorskii Territory; the records of *A. validula* Tschitschérine, 1898 from North Korea and Northeastern China (Girin) (Hieke, 2017) may belong to this species (Makarov and Sundukov, 2021).

Etymology. The species name, a feminine adjective, is derived from the name of Khasanskii District of Primorskii Territory, where all the specimens of the type series were collected.

Amara (Bradytus) macra (Bates, 1883)

Bradytus macros Bates, 1883 : 241–242. Type locality: “All the islands,” Japan.

Material. Russia. *Sakhalin Prov.* Sakhalin Island. Kostromskoe Vill., 2.VIII.2006 (V.D. Gulyaev), 1 ♂ (ISEA). Southern Kuril Islands. Kunashir Island. Environs of Dubovoe Vill., 21.VIII.2017 (Yu.N. Sundukov), 1 ♂ (FEB); coast of Sea of Okhotsk northwards from Krivonozhka Stream, 11.VII.2013 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂, 1 ♀ (FEB); environs of Alyokhino Outpost: 15.VII.1966 (Dorokhov), 1 ♂ (ZISP); 30.VI.1971 (V.G. Dolin), 1 ♂ (FEB); 14.IX.2014 (Yu.N. Sundukov), 1 ♂ (FEB); 7.VII.2015 (Yu.N. Sundukov, L.A. Sundukova), 4 ♂, 6 ♀ (FEB); Asin Stream valley S of Tret'yakovo Vill., 43°59'03"N, 145°37'33"E, h ~ 30 m, 22.VIII.2008 (I.V. Melnik), 2 ♂, 2 ♀ (MSPU); Tret'yakovo Vill., 43°59'09"N, 145°39'15"E, h ~ 26 m: 1.VII.1971 (V.G. Dolin), 1 ♂ (ZISP); 20–25.IX.2009 (I.V. Melnik, A.A. Zaitsev), 3 ♂, 3 ♀ (MSPU); 22.VIII.2013 (Yu.N. Sundukov, L.A. Sundukova), 1 ♀ (FEB); middle course of Tret'yakov Stream, 43°58'30"N, 145°39'19"E: 13.VIII.2011 (K.V. Makarov, A.A. Zaitsev), 1 ♂, 1 ♀ (MSPU); 30.VI.2018 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂, 1 ♀ (FEB); Stolbovskoi Stream, 4.VII.1975 (A.M. Basarukin), 1 ♂ (FEB); hills S of Stolbchatyi Cape, 44°00'20"N, 145°42'53"E, 23.VIII.2008 (I.V. Melnik), 1 ♂, 1 ♀ (MSPU).

Diagnosis. Body (Fig. 26, 1, 2) rather robust ([PL + EL]/PW = 2.09–2.23); length 9.0–11.5 mm, width 4.5–5.0 mm. Body black; flattened sides of pronotum with claret-red tint; middle of mandibles claret-red; antennae pale brown to claret-red; legs black or nearly black; tarsi reddish or claret-red.

Head with usual proportions, dorsally entirely densely punctate; microsculpture inconspicuous isodiametrical or no microsculpture present.

Pronotum (Fig. 26, 1, 2) considerably narrowing anteriorly (PB/PA = 1.30–1.33), subcordate, 1.59–1.70 times as wide as long, widest at mid-length; anterior angles strongly projecting; lateral margin widely flattened

along entire length, sinuate near posterior angles; posterior angles sharp or rectangular, without tooth, deflexed; base slightly bisinuate; keels in posterior corners diverging posteriorly, reaching posterior margin of pronotum (Fig. 50, 4); basal foveae large, longitudinal, separated by wide weakly convexity. Punctuation covering entire surface of pronotum; keels in posterior corners densely punctate; microsculpture inconspicuous isodiametrical or no microsculpture present.

Elytra (Fig. 26, 1, 2) elongate (EL/EW = 1.28–1.38), with weakly rounded or subparallel sides; striae moderately deep, with small punctures; bases of 1st and 2nd striae separated; parascutellar stria usually situated on 1st interval; *series umbilicata* consisting of 5 or 6 setiferous pores in basal quarter and 9 or 10 pores in apical half. All intervals densely covered with minute punctures; microsculpture inconspicuous isodiametrical or slightly transverse.

Ventral side. Submentum with 1 seta on each side; medial tooth of mentum with bifid or shallowly emarginate apex. Propleura (Fig. 26, 3, 4) entirely sparsely or rather densely punctate; prosternum rather densely covered laterally with shallow punctuation; in male, middle of prosternum with small oval depression bearing several small punctures (Fig. 26, 5); prosternal process with truncate, occasionally rounded apex. Metepisterna (Fig. 26, 6, 7) elongate (with length along ventral margin about 1.5 times their width along anterior margin), covered with rather large punctures denser in caudal part. Sides of thorax and abdomen rather sparsely covered with large punctures; 2nd visible abdominal sternite entirely covered with small shallow punctures; anal sternite with 2 setae in male and 4 setae in female, entirely sparsely covered with small punctures.

Outer apical angle of protibia produced into long triangular lobe (Fig. 26, 8); protibia dorsally usually with 2 or 3 setae (rather frequently with 1 or 4 setae on one tibia); protarsus of male weakly widened. Mesotibia of male (Fig. 26, 9) slightly curved, with 1 or 2 slightly protruding, gently sloping tubercles and with 7 or 8 regularly arranged, curved setae on ventral surface in distal third. Proximal part of tibia weakly widened, separated from tubercles by shallow sinuation of ventral margin. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 26, 11) slender, almost straight, slightly widened outwards only near apex; ventral surface (Fig. 26, 10) with 7–9 fine curved setae and with sparse brush of fine



Fig. 26. *Amara (Bradytus) macra* (Bates, 1883), male (1, 3, 5, 6, 8–11) and female (2, 4, 7). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, ventral surface; (11) metatibia, posterior view.

short hairs covering less than one-third of tibia length. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 27, 1) rather thick, regularly curved, smoothly narrowed toward apex, asymmetrical in apical third: left side convex, right one slightly concave. Lamella (Fig. 27, 2) rather short (length about 1/3

diameter of penis at base), wide, rounded at apex, slightly slanting to the right. Groove on right side of lamella short and shallow. Right paramere (Fig. 27, 3) curved in the area of attachment of ligaments, more distally almost straight, slightly bent only near apex, without apical hook (Fig. 27, 3a). Endophallus (Fig. 27, 5, 6) wide, saccular, without pronounced lobes

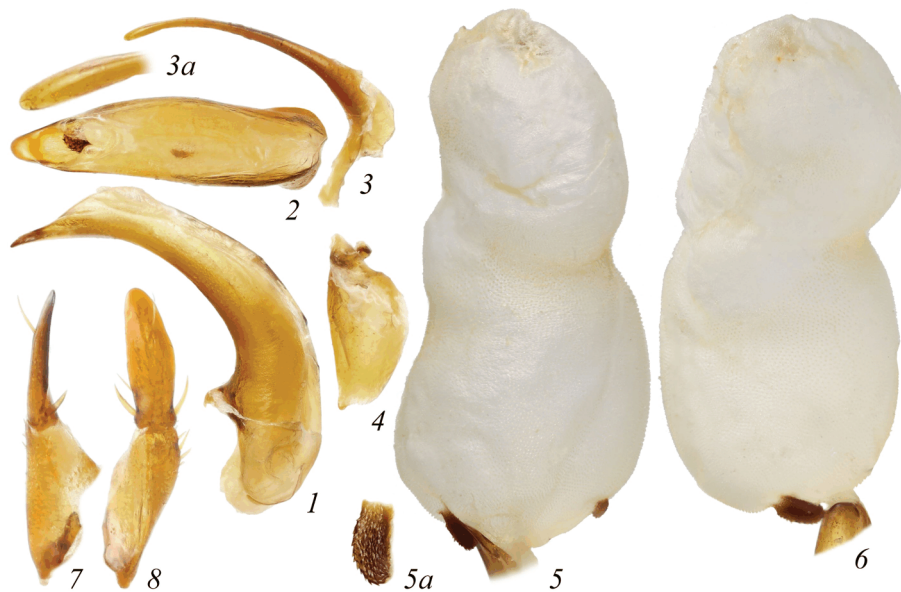


Fig. 27. *Amara (Bradytus) macra* (Bates, 1883), male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, lateral view; (5a) basal sclerite of endophallus, $\times 3$ magnification; (6) everted endophallus, posterior view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

and with shallow constriction in middle part. Sclerotization of wall rather uniform, only basal part with 2 sclerites: small dorsobasal and larger ventrobasal ones. Among the species examined, the ventrobasal sclerite is most strongly developed in *A. macra* (Fig. 27, 5a). Gonostyli long, narrow (Fig. 27, 7, 8).

Distribution. An East Asian nemoral species: Russia (the Southern Kuriles: Kunashir; Southern Sakhalin), Japan (Hokkaido and Honshu islands).

Note. This is the first record for Sakhalin.

***Amara (Bradytus) majuscula* (Chaudoir, 1850)**

Bradytus majusculus Chaudoir, 1850 : 148–149. Type locality: “Sibérie orientale,” East Siberia, Russia.

Material. Russia. *Leningrad Prov.* Vyborgskii Distr.: city of Vyborg, 9–10.VIII.1978 (B.M. Kataev), 1 ♂, 2 ♀ (ZISP). *Tosnenskii Distr.*, Ushaki Vill., 21.VI.1980 (B.M. Kataev), 1 ♀ (ZISP). *Moscow Prov.* Moscow, outskirts, under bark of dry willow, 1.V.1987 (K.V. Makarov), 1 ♀ (MSPU); city of Lyubertsy, 8.VI.1961 (V.V. Zolotikhin), 2 ♀ (MSPU); city of Elektrostal’, 26.VI.1968 (V.V. Zolotikhin), 2 ♂, 2 ♀ (MSPU); *Istinskii Distr.*, environs of Pavlova Sloboda Vill.,

9.VIII.1989 (A.V. Matalin), 1 ♂ (MSPU); *Medvezh’i Lakes*, 15.VII.1964 (V.V. Zolotikhin), 1 ♀ (MSPU); *Ozyorskii Distr.*, environs of Sosnovka Vill., field no. 6, 24.VIII.1982 (V.M. Dushenkov), 1 ♂ (MSPU). *Zaporozhye Prov.* Akimovskii Distr., Vatutin State Farm, estuary shore, at light, 4.VII.1986 (N.V. Tarusova), 1 ♀ (MSPU). *Orlov Prov.* Livenskii Distr., 3 km W of Vvedenskoe Vill., 5–7.VII.1986 (V.V. Sibanov), 2 ♂, 6 ♀ (MSPU). *Samara Prov.* Southern part of Shiryaevo Vill., 53°23’05”N, 49°58’13”E, h ~ 80 m, 12–14.VII.2012 (I.V. Melnik), 1 ♂, 2 ♀ (MSPU). *Saratov Prov.* Vol’skii Distr., environs of Tersa Vill., 18.VI.1980 (B.M. Kataev), 1 ♀ (ZISP). *Astrakhan Prov.* Astrakhan Nature Reserve, 2.VIII.1957 (K.A. Breev), 2 ♀ (ZISP). *Rostov Prov.* “S. Glubokaya,” 9.VI.1950 (K.V. Arnoldi), 1 ♂ (MSPU). *North Ossetia.* Alagirskii Distr., 300 m NE of Kamskhe Vill., steppeified subalpine meadow, h ~ 2005 m, slope of southeastern exposition of Mamisonskoe Gorge, 21.IX.2012 (E.V. Komarov), 1 ♀ (MSPU). *Chelyabinsk Prov.* Chelyabinsk, 1–7.VIII.2003 (collector unknown), 1 ♂ (MSPU). *Orenburg Prov.* Ilekskii Distr., Krasnokholmskii forestry, 2.VIII.1991 (V.V. Sibanov), 1 ♀ (MSPU); Orenburg, left bank of Ural River, Protopovskaya Grove, 16–17.VII.2012 (A.S. Ukrainskii), 3 ♂ (MSPU). *Tyumen Prov.* Sladkovskii Distr., 2 km N

- of Tavalzhan Vill., 28.VIII.1993 (A.Yu. Dudko), 1 ♂ (ISEA). *Omsk Prov.* Bol'sheukovskii Distr., Bol'shie Uki Vill., 29–30.V.2016 (V. Teploukhov), 1 ♀ (ISEA). *Tomsk Prov.* Timiryazevskii Forestry, 8.VIII.1961 (Kolomiets), 1 ♀ (ISEA); Bangar Vill., garden, 1–10.VII.1980 (A.S. Babenko), 1 ♀ (MSPU). *Novosibirsk Prov.* Chistoozernyi Distr., 5 km NE of Pavlovka Vill., 8.V.1994 (R.Yu. Dudko), 1 ♀ (ISEA); Kochenevskii Distr., Novomikhailovka Vill., 3.VIII.1987 (V.G. Grachev), 1 ♀ (MSPU); Ordynskii Distr., Kozikha Vill., arable land, 13.V.1960 (O.I. Ivanovskaya), 1 ♀ (FEB); Novosibirsk, 5th Rabochaya Street 11, 13.VII.1972 (B. Mamot), 1 ♂ (ISEA). *Kemerovo Prov.* Kemerovskii Distr., Maruchak Garden Associations, 23.VIII.1995 (Sushchev), 1 ♂ (ISEA). *Altai Terr.* Barnaul, 30.V.1958 (Z.S. Tumaikina), 1 ♀ (ISEA); city of Biisk (date and collector unknown), 1 ♂ (ZISP). *Republic of Altai.* Ongudai Vill., steppe, 900–1000', 26.V.1908 (A. Jacobson), 2 ♂ (ZISP). *Krasnoyarsk Terr.* 40 km N of Krasnoyarsk, Ploskoe Vill., summer house, 1–10.VIII.1996 (L.A. Sundukova), 1 ♂ (FEB); same locality, 5–10.VIII.2003 (L.A. Sundukova), 1 ♂ (FEB); Yenisei-Chulym Depression, environs of Efremkino Vill., 2.IV.1960 (I.V. Stebaev), 1 ♂ (ISEA). *Khabarovsk Terr.* Shirinskii Distr., Lake Shira, steppe, 10–20.VII.1996 (L.A. Sundukova), 4 ♂, 4 ♀ (FEB); same locality, 23–28.VIII.1998 (L.A. Sundukova), 2 ♂, 2 ♀ (FEB). *Irkutsk Prov.* Tulunskii Distr., environs of city of Tulun, pine forest, 28.VII.1972 (E.P. Bessolitsyna), 1 ♂ (FEB); Usol'skii Distr., Belorechensk Vill., 20.VIII.1994 (O.E. Berlov), 1 ♂, 1 ♀ (FEB); city of Bratsk, 30.VII.1999 (P.B. Klimov), 1 ♂ (FEB); Taishetskii Distr., Shitkino Vill., Biryusa River valley, 56°22.435'N, 98°21.123'E, h = 723 m, 17.VI.2009 (A.I. Shavrin), 1 ♂ (DUL); Verkhneilimskii Distr., environs of Shumilovo Vill., 24.VII.2008 (A.V. Shavrin, I.E. Enushchenko), 1 ♀ (DUL); environs of Irkutsk, 29.VIII.1996 (O.E. Berlov), 2 ♂, 2 ♀ (FEB); Lake Baikal, Ol'khon Island, environs of Khuzhir Vill., 16.VIII.1992 (S. V. Krusko), 1 ♂, 1 ♀ (MSPU); Ust'-Udinskii Rural Distr., environs of Kalenovo Vill., 26.VI.1974 (T. K. Imekhenova), 1 ♀ (ISEA). *Buryatia.* Tunkinskii Distr., environs of Tunka Vill., 3.VIII.2012 (A.S. Prosvirov), 1 ♂, 3 ♀ (MSPU); Dzhidinskii Distr., environs of Belozersk Vill., salt lakes, 9.VII.1997 (A.V. Anishchenko), 1 ♀ (MSPU); Selenginskii Distr., 20 km SE of city of Gusinoozersk, 5 km NE of Novoselenginsk Vill., left bank of Selenga River, 28.VII.2012 (A.S. Prosvirov), 1 ♂, 1 ♀ (MSPU); Ulan-Ude (= Verkhneudinsk), Selenga River, 26.VII.1898 (G.L. Suvorov), 1 ♀ (ZISP); Kyakhtinskii Distr., city of Kyatkha (= Troitskosavsk), 5.IX.1903 (P.S. Mikhno), 1 ♀ (ZISP); Lake Dzherguchevskoe near Kyakhta, 23.VI.1903 (P.S. Mikhno), 1 ♀ (ZISP). *Zabai-kal'skii Terr.* Petrovsk-Zabaikal'skii Distr., near Petrovsk-Zabaikal'skii Vill., 11.VIII.2013 (I.V. Melnik), 1 ♀ (MSPU); Kalarskii Distr., Novaya Chara Vill., 11–20.VIII.2009 (A. Boiko), 1 ♀ (DUL); Priargunskii Distr., environs of Duroi Vill., 50°00'30"N, 118°55'37"E, 16–18.VI.2000 (I.V. Melnik), 1 ♂, 1 ♀ (MSPU); Stanovoe Upland, upper course of Chara River, environs of Lake Bol'shoe Leprindo, 1000 m, 23.VII.1995 (A.Yu. Dudko, R.Yu. Dudko, D.E. Lomakin), 1 ♂ (ISEA). *Amurskaya Prov.* City of Shimanovsk, VIII.1974 (B. Trekhlebov), 3 ♂, 2 ♀ (MSPU); Blagoveshchensk, Mokhovaya Pad' Vill., 27.VII.1995 (V.G. Bezborodov), 1 ♀ (ISEA). *Khabarovsk Terr.* Nanaiskii Distr.: Anyuiskii National Park, shore of Lake Gassi, Salicetum phragmito-cariceto-calamagrostium, 49°03'48.54"N, 136°31'39.44"E, 4–7.VIII.2023 (O.V. Kuberskaya), 3 ♂, 7 ♀ (SNRK); Lake Gassi, gas pipeline, 6.VII.2024 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂, 9 ♀ (FEB); Komsomol'skii Distr., environs of Novyi Mir Vill., 4.V.1976 (V.A. Mutin), 1 ♂ (FEB); city of Komsomol'sk-on-Amur, Silinskii Forest, Lake Lesnoe, 11–21.V.2020 (O.V. Kuberskaya), 1 ♂, 1 ♀ (SNRK); southwestern border of Komsomol'skii Nature Reserve, Del'fin Children's Camp, 7–20.V.2020 (O.V. Kuberskaya), 1 ♀ (SNRK); Komsomol'skii Nature Reserve, Gorin River mouth, Kaidanovskie rolling hills (Strelka), 22–23.VII.2020 (O.V. Kuberskaya), 1 ♂ (SNRK); Ul'chskii Distr., Udy' Nature Reserve, *Calamagrostis* meadow S of Udy'lskaya Residence on Pionernyi Cape, 51°59'47.0"N, 139°42'31.9"E, 9–11.VII.2018 (O.V. Kuberskaya), 1 ♂ (SNRK); Tuguro-Chumikanskii Distr., Bol'shoi Shantar Island, Yakshina River, 13.VII.1966 (A.K. Tsimbalyuk), 1 ♀ (FEB). *Primorskii Terr.* Krasnoarmeiskii Distr., environs of Dersu Vill., Bol'shaya Ussurka River, 10–15.VIII.2023 (M.E. Sergeev), 1 ♂ (FEB); Terneiskii Distr.: Sikhotealin Nature Reserve, Abrek locality, 27.VII.1985 (S.V. Baskakova), 1 ♀ (MSPU); environs of Blagodatnoe Cordon, 17–18.VI.1998 (Yu.N. Sundukov), 2 ♂, 1 ♀ (FEB); Blagodatnoe locality, oakery, 8–12.VII.1999 (Yu.N. Sundukov), 1 ♀ (FEB); Yakovlevskii Distr., Bel'tsovo Vill., Arsen'evka River, 18.V.2024 (Yu.N. Sundukov), 1 ♂ (FEB); Lazovskii Distr.: Lazo-raitsentr Vill., Lazovka River floodland, 1–

12.VI.1998 (Yu.N. Sundukov), 2 ♀ (FEB); same locality, potato field, 1–10.IX.1998 (Yu.N. Sundukov), 1 ♂ (FEB); 7–10.VIII.2005 (Yu.N. Sundukov), 2 ♂, 2 ♀ (FEB); 7–13.VIII.2006 (Yu.N. Sundukov, V.P. Shokhrin), 1 ♂ (FEB); same locality, at light, 17–20.VIII.2005 (V.P. Shokhrin), 1 ♂, 2 ♀ (FEB); 16.VIII.2006 (Yu.N. Sundukov), 2 ♂, 2 ♀ (FEB); 20–23.VIII.2006 (V.P. Shokhrin), 4 ♂, 1 ♀ (FEB); 23–29.VII.2007 (V.P. Shokhrin), 1 ♂, 1 ♀ (FEB); 6.VIII.2007 (K.V. Makarov, A.A. Zaitsev), 1 ♂, 1 ♀ (MSPU); 10.VIII.2010 (Yu.N. Sundukov), 1 ♀ (FEB); Lazovskii Nature Reserve, Amerika locality, 25.VIII–3.IX.2006 (Yu.N. Sundukov, V.P. Shokhrin), 2 ♂, 1 ♀ (FEB); Lake Chekhunenkenko (left bank in Kievka River mouth), 11–13.VIII.2005 (Yu.N. Sundukov, V.P. Shokhrin), 1 ♂, 4 ♀ (FEB); Glazkovka Vill., at light, 13.VIII.2003 (E.V. Shokhrina), 3 ♀ (FEB); environs of city of Bol'shoi Kamen', Andreeva Bay, at light, 27.V.2023 (M.E. Sergeev), 4 ♂, 2 ♀ (FEB); 26.VII.2023 (M.E. Sergeev), 2 ♂, 6 ♀ (FEB); Pogranichnyi Distr., environs of Tigrovyy Vill., at light, 28.VIII.2000 (D.E. Shigel'), 1 ♂ (MSPU); Chernigovskii Distr., hunting base 10 km W of Chernigovka Vill., 12.VIII.2001 (V.N. Kuznetsov), 7 ♂, 4 ♀ (FEB); Ilistaya River (Lefu), at light, 13.VIII.2001 (V.N. Kuznetsov), 14 ♂, 10 ♀ (FEB); Dmitrievka Vill., 12.VIII.1985 (S.A. Belokobyl'skij), 1 ♂, 1 ♀ (ZISP); city of Arsen'ev, 14.VIII.1986 (V.V. Zherikhin, V.G. Grachev), 1 ♂, 1 ♀ (MSPU); Ussuriiskii Distr.: 20 km SE of city of Ussuriisk, Gornotayozhnoe Vill., h = 160 m, at light, 43°41'52"N, 132°09'28"E, 1.VIII.2014 (A.V. Napolov), 1 ♀ (MSPU); environs of Kamenushka Vill.: 1.VIII.1984 (collector unknown), 1 ♀ (MSPU); 8.VIII.1989 (S.I. Khvylya), 1 ♂ (MSPU); 20–30.VII.1992 (S.I. Khvylya), 1 ♀ (MSPU); Ussuri Nature Reserve, Kaimanovka Vill., at light, 12–15.VIII.1998 (Yu.N. Sundukov), 1 ♂ (FEB); environs of Vladivostok, VIII.1980 (I.S. Smirnov), 2 ♀ (ZISP); Khasanskii Distr.: Barabash River near Barabash Vill., 9.VIII.2020 (Yu.N. Sundukov), 1 ♂ (FEB); 12.5 km WNW of Barabash Vill., Ovchinnikov Cordon, 11.VIII.2020 (Yu.N. Sundukov), 1 ♂ (FEB); 18.5 km SW of Barabash Vill., Sinii Cordon Utyos, 15.VIII.2020 (Yu.N. Sundukov), 1 ♀ (FEB); Kedrovaya Pad' Nature Reserve: 26.VIII.1964 (B.M. Mamaev), 1 ♂ (MSPU); same locality, at light, 28.VIII.1971 (V.N. Kuznetsov), 1 ♂, 1 ♀ (FEB); Kedrovaya River mouth, 43°04'47"N, 131°36'47"E, swamps, 24.VIII.2018 (K.V. Makarov), 1 ♀ (MSPU); environs of Ryazanovka Vill., night col-

lecting, 21.V.2023 (Yu.N. Sundukov), 1 ♀ (FEB); Vityaz' Vill., 25.VIII.1980 (I.S. Smirnov), 1 ♂, 1 ♀ (ZISP); environs of Andreevka Vill., at light, 15.VIII.1985 (S.Yu. Sinyev), 2 ♂ (ZISP); Popov Island, at light, 26.VIII.2018 (M.E. Sergeev), 1 ♂ (FEB); Furugelm Island, 21–22.IX.2012 (E. A. Belyaev), 1 ♀ (FEB). *Sakhalin Prov.* Sakhalin Island. Lower course of Langeri River, Pogranichnyi Vill., 19.VIII.1979 (A.V. Plutenko), 1 ♂ (FEB); Western shore, Viyakhtu Vill., 1968 (Titlyanov), 1 ♂ (FEB); Stlanikovyy Mt. Range, source of River Tym', 50°49'52"N, 143°09'37"E, 14.VII.2003 (I.V. Melnik), 1 ♀ (MSPU); Eokhomonaibu [probably, south of Sakhalin Island], 19.VI.1901 (P.Yu. Shmidt), 1 ♀ (ZISP); Mauka (= Kholmsk), 3.VI.1901 (P.Yu. Shmidt), 1 ♂ (ZISP); 12 km NW of city of Aniva, Lyutoga River, Urozhainoe Vill., 16.VIII.1989 (V.V. Dubatolov, V.K. Zinchenko, O.D. Rusanov), 1 ♂ (ISEA); Busse Bay, Murav'ev Vill., 15.VIII.1975 (G.N. Pavlova), 1 ♂, 1 ♀ (ZISP); "Saghalien Centr. Exp. Stn. Siritopi," 10.VI.1935 (M. Yashihura), 3 ♂, 5 ♀ (FEB). Kuril Islands. Iturup Island: environs of city of Kuril'sk, 6.VII.1963 (G.O. Kryvolutskaia), 1 ♀ (FEB); between Burevestnik and Iodnyi villages, 9–10.VIII.1975 (G.Sh. Lafer), 1 ♀ (FEB); Lake Sopochnoe, 1–10.VIII.1966 (collector unknown), 2 ♂ (FEB). Kunashir Island: Rudnoe Vill., 19.VIII.2013 (Yu.N. Sundukov), 1 ♂ (FEB); Mendelevo Vill., 27.VII.1989 (S.S. Saluk), 2 ♀ (MSPU); Asin Stream valley S of Tret'yakovo Vill., 43°59'03"N, 145°37'33"E, h ~ 30 m, 16.IX.2009 (I.V. Melnik), 1 ♀ (MSPU); Golovnin Volcano, 13.VI.1973 (I.M. Kerzhner), 1 ♀ (ZISP); Veslovskii Peninsula, 27.VII.2017 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂ (FEB); Belozerskie Lakes, 19.VIII.2017 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); Golovnin Vill., at light, 23.VIII.2017 (Yu.N. Sundukov), 10 ♂, 6 ♀ (FEB); Golovnin Vill.—Rikorda River mouth, 6–8.VII.2018 (Yu.N. Sundukov, L.A. Sundukova), 2 ♂, 3 ♀ (FEB). Shikotan Island, Kraboza-vodskoe Vill., 18–20.VIII.2012 (Yu.N. Sundukov), 1 ♀ (FEB). **Latvia.** Latgale, Daugava valley, Piedruja, 18.VII.1995 (A. Barševskis), 1 ♀ (MSPU). **Ukraine.** Transcarpathia: Velikaya Bakta Vill., 5.VII.1980 (V.V. Zolotikhin), 1 ♀ (MSPU); Karpaty Nature Reserve, Ugol'skoe forestry, at light, 14.VIII.1986 (V.A. Kolyada), 1 ♂ (MSPU). **Moldova.** Kakhul'skii Distr., environs of Roshu Vill., Prut River floodland, at UV light, 22.VIII.1982 (V.E. Karpova), 1 ♂ (MSPU). **Kazakhstan.** Pavlodar Prov. Kyzyl Zhar State Farm, 24.VII.1975 (V.V. Zolotikhin), 1 ♀ (MSPU). *Dzhez-*

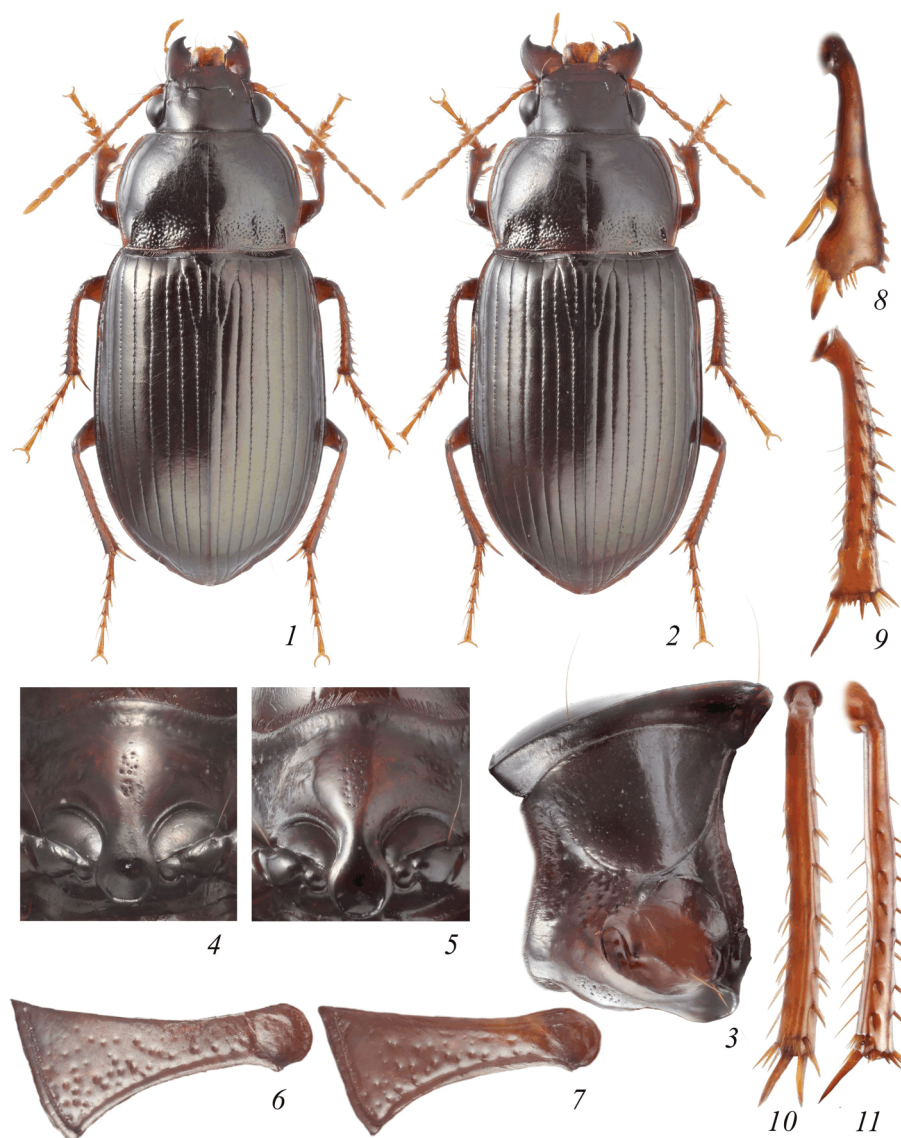


Fig. 28. *Amara (Bradytus) majuscula* (Chaudoir, 1850), male (1, 3–6, 8–11) and female (2, 7). (1, 2) dorsal habitus; (3) prothorax, lateral view; (4, 5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, ventral surface; (11) metatibia, posterior view.

kazgan Prov. City of Karazhal, at light, 1.VIII.1984 (Yu.N. Chekanov), 1 ♂ (ISEA).

Diagnosis. Body (Fig. 28, 1, 2) elongate ([PL + EL]/PW = 2.25–2.48); length 7.5–9.5 mm, width 3.4–4.1 mm. Body dark brown or pitch-brown; elytra with or without bronze, copper, or greenish sheen; antennae pale brown to red; legs rather dirty-red.

Head slightly thickened or with usual proportions, dorsally smooth, weakly shining; microsculpture isodia-

metrical, weak to inconspicuous, occasionally no microsculpture present.

Pronotum (Fig. 28, 1, 2) considerably narrowing anteriorly (PB/PA = 1.26–1.36), rectangular, sparsely weakly trapeziform, 1.52–1.77 times as wide as long, widest at mid-length; anterior angles slightly if at all projecting; lateral explanation narrow throughout; sides rounded before posterior angles; posterior angles obtuse, with small tooth; base rectilinear or weakly projecting posteriorly in middle; keels in posterior corners

nearly longitudinal, reaching posterior margin of pronotum medial to posterior seta (Fig. 51, 3); basal foveae shallow, separated by wide convexity. Punctuation covering basal foveae or entire base (frequently small punctures present at posterior and anterior angles, rarely narrow stripe running along lateral margins), keels in posterior corners impunctate or sparsely punctate; microsculpture weak to inconspicuous isodiametrical, occasionally no microsculpture present.

Elytra (Fig. 28, 1, 2) elongate, occasionally long (EL/EW = 1.31–1.51), with weakly rounded or subparallel sides; striae weakly deepened, with small punctures; bases of 1st and 2nd striae merged and separated from basal edge by narrow interval; parascutellar stria situated on 1st interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 8 pores in apical half. Intervals impunctate; microsculpture isodiametrical, weak to inconspicuous.

Ventral side. Submentum with 2 setae on each side, medial tooth of mentum (Fig. 51, 7) pointed, rounded, or truncate apically. Propleura (Fig. 28, 3) with small scattered punctures; prosternum laterally with rather dense (occasionally scattered) small punctures; in male, middle of prosternum with flattened area bearing small or rather large punctures (Fig. 28, 4, 5); prosternal process with truncate or rounded apex. Metepisterna (Fig. 28, 6, 7) elongate; their length along ventral margin about 1.5 times their width along anterior margin. Small and large punctures covering most of metepisterna; punctures denser along their inner margin. Sides of thorax and abdomen with small punctures separated by wide intervals; 2nd visible abdominal sternite smooth or finely punctate in middle third, with longitudinally striate area at base of metacoxa; anal sternite with 2 setae in male (in one male with 3 setae) and 4 setae in female.

Outer apical angle of protibia slanting (Fig. 28, 8); protibia dorsally with 1–3 setae usually symmetrically situated on both tibiae; protarsus of male moderately widened. Mesotibia of male (Fig. 28, 9) slightly curved, with 2 (less frequently with 3) low, gently sloping tubercles and with 5 or 6 regularly arranged curved setae on ventral margin in distal third. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 28, 11) moderately slender, straight, slightly widened in distal third; ventral surface (Fig. 28, 10) with regularly arranged 6–8 fine

curved setae, without fine short hairs at apex. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 29, 1) curved at nearly 90°; 2 carinae slightly widened and thickened proximally passing in distal part outside from margins of preputial area; preputial area only slightly narrowed in the place of maximum thickness of carinae. Shallow furrows running in parallel to carinae; on the right, furrow merging with groove on lamella. Lamella (Fig. 29, 2) short (its length nearly 1/5 aedeagus diameter in basal part), rounded, slightly slanting to the right. Right paramere (Fig. 29, 3) sharply curved at the level of distal margin of ligaments, further nearly straight to apex; its apex (Fig. 29, 3a) rounded, with small (its length about 1/4 paramere diameter), triangular apical hook. Endophallus (Fig. 29, 5, 6) elongate, deflexed ventrally, asymmetrical. Dorsobasal lobe conical, large; weak paired ventrobasal lobes present. Ventromedial lobe wide, gently sloping; dorsomedial lobe small, rounded, distinctly separated, shifted to the right. Endophallus narrowed before gonopore; constriction at the left more heavily sclerotized, its surface more distally weakly sclerotized. Wide, weakly separated right lateroapical lobe and very wide, gently sloping left lateroapical lobe situated before constriction. Gonostyli short, wide, diamond-shaped (Fig. 29, 7, 8).

Distribution. A Transpalearctic polyzonal species: from France in the west to the Southern Kuriles in the east; in the west of the range: from the tundra zone of Russia in the north to Asia Minor and Iran in the south; in the east of Asia: from Central Yakutia and the Stanovoi Mt. Range in the north to South-Western China (Sichuan) and Honshu Island in the south.

Amara (Bradytus) mikae Lafer, 1980

Amara (Bradytus) mikae Lafer, 1980 : 46, 56–59, figs. 13, 21–24. Type locality: “Primorskii Territory, Razdol’naya River mouth,” Primorskii Territory, Russia.

Amara mikae was described based on the series of 16 specimens (Lafer, 1980 : 59), deposited in ZISP and FEB. Since we have failed to find the holotype and part of the paratypes, and some specimens are provided with several type labels, we consider useful to describe all the type specimens examined and to give photographs of the best preserved paratypes, a male and a female (Fig. 30).

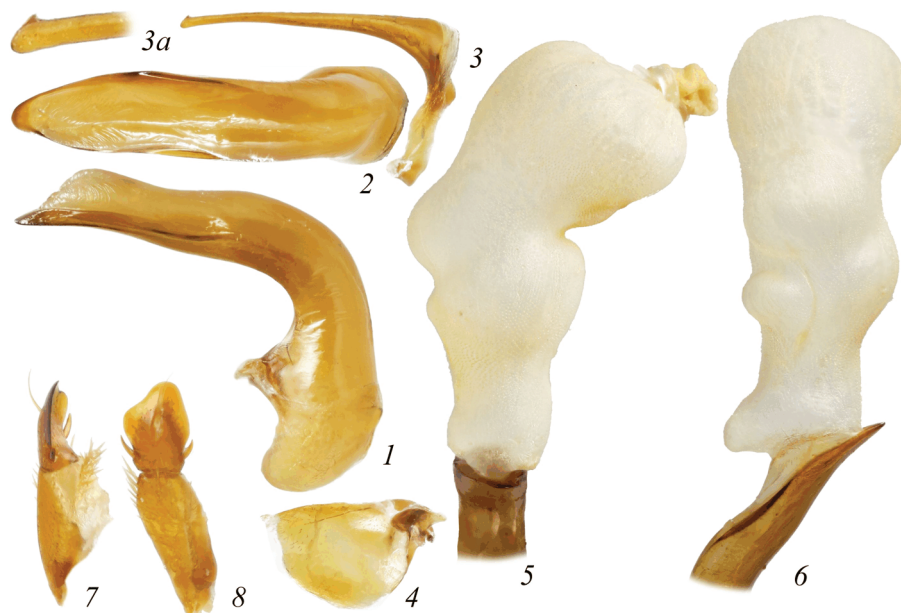


Fig. 29. *Amara (Bradytus) majuscula* (Chaudoir, 1850), male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

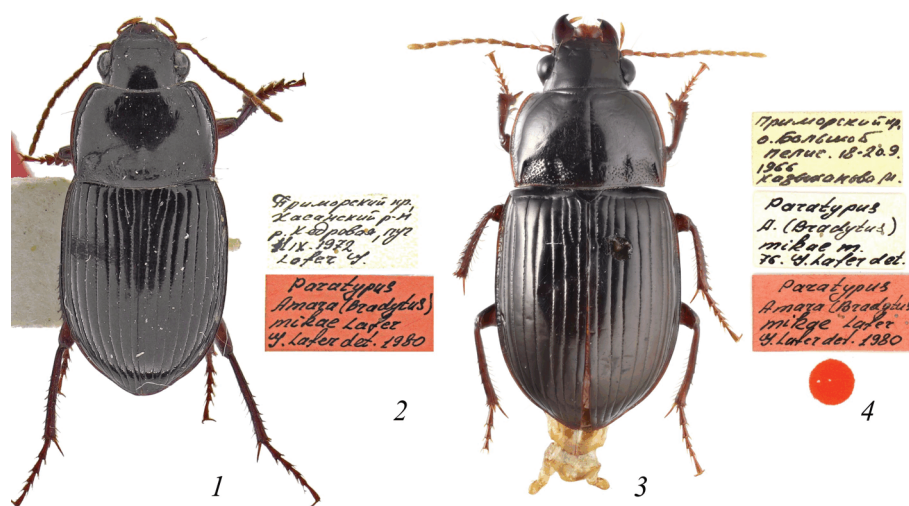


Fig. 30. *Amara (Bradytus) mikae* Lafer, 1980, paratypes from the FEB collection and their labels: male (1, 2) and female (3, 4).

Type material. Holotype was not examined. Paratypes: ♂, “Paratypus *A. (Bradytus) mikae* m. 76. G. Lafer det.” [white rectangle, handwritten], “*Amara (Bradytus) mikae* Lafer, sp. n. 74. Lafer det.” [white rectangle, handwritten], “Primorskii krai, pos. Khasan, griva u Vudunupty [in Cyrillic, = Primorskii Territory, Khasan Vill., low hill near Vudunupta], 24.5.72 Lafer G.Sh.”

[white rectangle, handwritten], [red circle] (ZISP); ♀, “Paratypus *Amara (Bradytus) mikae* Lafer G. Lafer det. 1980” [red rectangle, handwritten], “Paratypus *A. (Bradytus) mikae* m. 76. G. Lafer det.” [white rectangle, handwritten], “Primorskii kr. o. Bol’shoi Pelis [in Cyrillic, = Primorskii Territory, Bol’shoi Pelis Island]. 18–20.9.1966 Kazykhanova M.” [white rectangle, hand-

written], [circle of red paper] (ZISP); ♀, "Paratypus *A. (Bradytus) mikae* m. 76. G. Lafer det." [white rectangle, handwritten], [red circle], "Primorskii kr. ust'e r. Suifun, levyy bereg [in Cyrillic, = Primorskii Terr., Suifun (= Siufen) River mouth, left bank], 9.V.1969, Lafer G." [white rectangle, handwritten] (FEB); ♂, "Paratypus *Amara (Bradytus) mikae* Lafer, G. Lafer det. 1980" [red rectangle, handwritten], [red circle], "Paratypus *A. (Bradytus) mikae* m. 76. G. Lafer det." [white rectangle, handwritten], "Primorsk. kr., Island Bol'shoi Pelis, 12–15.5.1966, Lafer G." [white rectangle, handwritten] (FEB); ♀, "Paratypus *Amara (Bradytus) mikae* Lafer, G. Lafer det. 1980" [red rectangle, handwritten], [red circle], "Paratypus *A. (Bradytus) mikae* m., 76. G. Lafer det." [white rectangle, handwritten], "Primor'e, Kedrovaya pad' [in Cyrillic, = Primorskii Territory, Kedrovaya Pad'], 9.9.72, G. Lafer." [white rectangle, handwritten] (FEB).

Other material. Russia. *Primorskii Terr.* Ussuriiskii Distr., 18 km SE of city of Ussuriisk, Gornotayozhnoe Vill., 30.VI.1995 (V.V. Dubatolov, R.Yu. Dudko), 1 ♂, 1 ♀ (ISEA); Nadezhdinskii Distr., environs of Razdol'noe Vill., 8.VII.2023 (M.E. Sergeev), 1 ♀ (FEB); Lazovskii Distr.: Lazo-raitsentr Vill., 11–22.V.1999 (Yu.N. Sundukov), 1 ♂ (FEB); Vesyolyi Stream, 1–3.VI.1995 (Yu.N. Sundukov), 2 ♂ (FEB); Lazovskii Nature Reserve, Petrov Cordon, 24–27.VI.1996 (L.A. Sundukova), 1 ♀ (FEB); Vladivostok, Sputnik Railway Station, summer house, 25.VIII.2005 (S.K. Kholin), 2 ♂, 1 ♀ (FEB); Khasanskii Distr.: Kedrovaya River mouth, 43°04'47"N, 131°36'47"E, swamps, 24.VIII.2018 (K.V. Makarov), 1 ♀ (MSPU); Kedrovyy Cape, coast of Amur Bay, 43°04'04"N, 131°36'17"E, 27.V.2015 (A.V. Matalin), 1 ♂ (MSPU); 3 km W of Perevoznaya Bay, Sukhaya Rechka River valley, 24.VI.1990 (I.V. Melnik), 1 ♂, 1 ♀ (MSPU); eastern outskirts Ovchinnikovo Vill., 10.5 km WNW of Barabash Vill., 43°13'49"N, 131°22'16"E, 30.V.2021 (K.V. Makarov), 1 ♂ (MSPU); environs of Ryazanovka Vill., night collecting, 21.V.2023 (Yu.N. Sundukov), 1 ♀ (FEB); Andreevskaya Pad' near Andreevka Vill., 26.V.2022 (Yu.N. Sundukov), 1 ♀ (FEB); 4 km NE of Andreevka Vill., Andreevskaya Pad', 42°39'41"N, 131°10'59"E, 26.V.2022 (K.V. Makarov), 2 ♀ (MSPU); 7–9 km SE of city of Khasan, Golubinyi Utyos, seaside meadow, 22.V.2022 (Yu.N. Sundukov), 1 ♂ (FEB); 24.V.2022 (K.V. Makarov, A.V. Makarov), 2 ♂, 2 ♀ (MSPU); 12–15.VI.2022 (B.M. Kataev), 3 ♂, 1 ♀

(ZISP); Furugelm Island, 20.VI.2012 (S.A. Shabalin), 1 ♂ (FEB).

Diagnosis. Body (Fig. 31, 1, 2) robust ([PL + EL]/PW = 1.98–2.11); length 8.5–10.1 mm, width 3.7–4.2 mm. Body pitch-brown to black; antennae pale brown to red; legs entirely blackish claret-red, or tarsi red.

Head considerably thickened, dorsally smooth, shining; no microsculpture present, surface smooth.

Pronotum (Fig. 31, 1, 2) narrowing anteriorly (PB/PA = 1.37–1.47), rounded or weakly trapeziform, 1.49–1.60 times as wide as long, widest behind mid-length; anterior angles slightly if at all projecting; lateral explanation rather narrow, slightly wider in basal half than in apical one; sides convex before posterior angles; posterior angles obtuse, with small tooth; base slightly curved; keels in posterior corners weakly diverging posteriorly, reaching posterior margin of pronotum medial to posterior seta (Fig. 51, 2); basal foveae rather wide, separated by wide convexity. Punctuation present in basal foveae and along lateral groove; keels in posterior corners impunctate; no microsculpture present, surface smooth.

Elytra (Fig. 31, 1, 2) short (EL/EW = 1.19–1.29), with weakly rounded sides; striae deep, coarsely or finely punctate; bases of 1st and 2nd striae separated; parascutellar stria situated on 2nd interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 pores in apical half. Intervals impunctate; microsculpture strongly transverse reticulate or no microsculpture present.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum widely rounded, truncate, or pointed apically (Fig. 51, 8). Propleura (Fig. 31, 3, 4) with scattered, weakly depressed punctures; prosternum laterally densely and coarsely punctate; in male, middle of prosternum with small area with sparse fine punctures (Fig. 31, 5, 6); prosternal process rounded apically. Metepisterna (Fig. 31, 7, 8) slightly elongate (with length along ventral margin about 1.2 times their width along anterior margin), densely covered on most part with large punctures. Sides of thorax and abdomen with large separate punctures; 2nd visible abdominal sternite with small scattered punctures medially; anal sternite with 2 setae in male (in one male with 3 setae) and 4 setae in female.



Fig. 31. *Amara (Bradytus) mikae* Lafer, 1980, male (1, 3, 5–7, 9–12) and female (2, 4, 8). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5, 6) prosternum, ventral view; (7, 8) metepisternum, lateral view; (9) protibia, front view; (10) mesotibia, posterior view; (11) metatibia, ventral surface; (12) metatibia, posterior view.

Outer apical angle of protibia slanting (Fig. 31, 9); protibia dorsally always with 1 seta; protarsus of male strongly widened. Mesotibia of male (Fig. 31, 10) distinctly curved, with 2 strongly protruding tubercles and with 7 or 8 regularly arranged curved setae on ventral surface in distal third. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 31, 12) rather slender, slightly curved, not widened in distal third; its ventral surface

(Fig. 31, 11) with 8 or 9 fine curved setae and with dense brush of fine short hairs covering nearly third of tibia length. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 32, 1) rather narrow, regularly curved, straightened near apex. Lamella rather long (its length 0.5–0.6 times diameter of penis at base), wide, slightly pointed apically, weakly asymmetrical (Fig. 32, 2). Groove on right side of lamella deep and



Fig. 32. *Amara (Bradytus) mikae* Lafer, 1980, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, lateral view; (6) everted endophallus, posterior view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

long. Right paramere (Fig. 32, 3) distal to the area of attachment of ligaments regularly curved and smoothly narrowing, without apical hook (Fig. 32, 3a). Endophallus (Fig. 32, 5, 6) wide, without distinct lobes, rather strongly curved in sagittal plane. Its middle part with transverse zone bearing larger and stronger sclerotized spines; rather small ventrolateral sclerite present. Gonostyli short, wide, somewhat diamond-shaped (Fig. 32, 7, 8).

Distribution. An East Asian nemoral species: Russia (the Jewish Autonomous Area (Budilov, 2017), Primorskiy Territory (including Bol'shoi Pelis Island)), North Korea (Šustek, 2011).

***Amara (Bradytus) pallidula* (Motschulsky, 1844)**

Bradytus pallidulus Motschulsky, 1844 : 182, Tab. VIII, fig. 9. Type locality: “des rives du fleuve Selenga et du fleuve Ouda au-delà du Baïcal,” the Selenga and Uda rivers, Buryatia, Russia.

Amara (Bradytus) humilis Baliani, 1934b : 196. Type locality: “Yunnan-fou,” Yunnan, China; the name is preoccupied by *Amara humilis* Casey, 1918; synonymy after Hieke, 1997 : 217.

Amara (Bradytus) Hummeli Jedlička, 1935 : 20. Type locality: “China: Prov. Kansu,” Gansu, China; synonymy after Hieke, 1995b : 299.

Type material. *Bradytus pallidulus*: ♂, lectotype (designated here): “*Bradytus pallidulus* mihi Vierhnje Udin.” [white rectangle, handwritten], [rectangle of red paper without inscriptions], “Lectotypus Hieke 1974” [red rectangle, printed/handwritten], “Vierchnje Udin” [white rectangle, handwritten] (ZMU). Paralectotypes (designated here): 1 ♀, “*Bradytus pallidulus* Dauriam” [white square, handwritten], [rectangle of red paper without inscriptions], “Kul. Bäd.” [pink rectangle, handwritten] (ZMU); 1 ♂, 1 ♀: “fl. Selenga” [white rectangle, handwritten], [rectangle of red paper without inscriptions] (ZMU).

Other material. Russia. Buryatia. Tunkinskii Distr.: environs of Zun-Murino Vill., 27.VII.1974 (V.G. Shilenkov), 1 ♀ (MSPU); Tunka Vill., Podgorbunskii Sands, 23.VI.1916 (S.N. Rodionov), 2 ♂, 4 ♀ (ZISP); Uda River, 30 km upstream of Ulan-Ude, 13.VIII.1966 (O.N. Kabakov), 1 ♂, 1 ♀ (FEB); Kyakh-tinskii Distr., Khoronkhoi Vill., 2.VIII.1977 (A.B. Egorov), 1 ♀ (FEB). *Zabaikal'skii Terr.* Ononskii Distr., environs of Nizhnii Tsasuchei Vill., 2.VI.1996 (V.V. Dubatolov, R.Yu. Dudko), 1 ♂, 2 ♀ (ISEA). *Amurskaya Prov.* Skovorodinskii Distr., upper course of

Amur River, Ignashino Vill., 10.VII.1961 (O.N. Kabakov), 1 ♂, 1 ♀ (ZISP). *Jewish Autonomous Area*. Oktyabr'skii Distr., Ekaterino-Nikol'skoe Vill., Amur River bank, 47°45'06"N, 130°57'38"E, h ~ 50 m, 5.VII.2013 (I.V. Melnik), 1 ♀ (MSPU). *Khabarovsk Terr.* Komsomol'sk-on-Amur, 17.VI.1993 (Koval'chuk), 2 ♀ (FEB); Khabarovsk, 17.VII.1970 (A.S. Ryabukhin), 1 ♀ (KTM). *Primorskii Terr.* Dal'negorskii Distr., Tetyukhe River mouth, 4.VIII.1909 (S. V. Dyukin), 1 ♂ (ZISP); Oktyabr'skii Distr., Novogeorgievka Vill., 2.IX.1983 (A.S. Lelej), 1 ♂ (FEB); Khankaiskii Distr.: Lake Khanka, Troitskoe Vill., 19.V.1973 (G.Sh. Lafer), 8 ♂, 8 ♀ (FEB, ZISP); same locality, 24.V.1973 (G.Sh. Lafer), 3 ♂, 3 ♀ (FEB); lower course of Vtoraya Rechka River and shore of Lake Khanka 3 km S of Turii Rog Vill., 13.V.2024 (Yu.N. Sundukov), 9 ♂, 6 ♀ (FEB); Novo-Kachalinsk Vill., shore of Lake Khanka, 16.V.2024 (Yu.N. Sundukov), 1 ♂ (FEB); Ussuriiskii Distr.: city of Ussuriisk, Komarovka River bank, 23.VIII.1971 (V.N. Kuznetsov), 1 ♂ (FEB); same locality, beach, 23.VIII.1971 (V.N. Kuznetsov), 1 ♀ (ZISP); Lazovskii Distr.: Lazo-raitsentr Vill., 20–31.VIII.2001 (Yu.N. Sundukov), 1 ♀ (FEB); 5–15.IX.2006 (V.P. Shokhrin), 1 ♀ (FEB); Valentin Vill., road to Titov Cape, 21.VII.2003 (R.V. Filimonov), 1 ♀ (MSPU); Sokolovskaya Bay, Sokolovka River mouth, 28.VII.2005 (Yu.N. Sundukov), 1 ♀ (FEB); Preobrazhenie Vill., 14–16.VIII.2005 (Yu.N. Sundukov, V.P. Shokhrin), 1 ♂ (FEB); Lazovskii Nature Reserve, Petrov Cordon, 16–20.IX.1998 (Yu.N. Sundukov), 3 ♂, 1 ♀ (FEB); Melkovodnaya Bay near Kievka River mouth, 22–25.VII.1973 (A.S. Ryabukhin), 2 ♀ (FEB); Nadezhdinskii Distr., lower course of Pravaya Klyopohnaya River near Razdol'noe Vill., 5.IX.2019 (Yu.N. Sundukov, L.A. Sundukova), 1 ♂ (FEB); Razdol'naya River near Utyosnoe Vill., meadow, 23.VIII.1978 (R. Fyodorova), 1 ♀ (FEB); 11.VII.1978 (R. Fyodorova), 1 ♀ (FEB); environs of Vladivostok, 28.VIII.1969 (O.L. Kryzhanovskij), 1 ♀ (ZISP); Murav'ev-Amursky Peninsula, Lazurnaya Bay, 5.IX.1971 (V.N. Kuznetsov), 1 ♂ (FEB); Khasanskii Distr.: southern outskirts of Barabash Vill., 43°10'52"N, 131°29'21"E, 23.V.2021 (K.V. Makarov), 3 ♂, 2 ♀ (MSPU); environs of Barabash Vill., Izvestkovyi Stream, 7.VI.2019 (M.E. Sergeev), 1 ♀ (FEB); 12.5 km WNW of Barabash Vill., Barabashevka River floodland near Ovchinnikov Cordon, 10.VIII.2020 (Yu.N. Sundukov), 1 ♀ (FEB); environs of Barabash Vill., Barabashevka River, 43°11.33'N, 131°30.18'E, 10.VI.2022

(B.M. Kataev), 1 ♂, 1 ♀ (ZISP); environs of Barabash Vill., 16–17.VIII.1914 (V.M. Berger), 1 ♀ (ZISP); Kedrovaya Pad' Nature Reserve, 29.VIII.1968 (D.V. Naumov), 1 ♂, 1 ♀ (FEB, ZISP); city of Khasan, near Mt. Golubinyi Utyos, 9–12.VI.1968 (N.G. Nikolaev), 1 ♀ (FEB); Golubinyi Utyos, seaside meadow, 22.V.2022 (Yu.N. Sundukov), 1 ♀ (FEB); 14.V.2023 (Yu.N. Sundukov), 1 ♀ (FEB); same locality, seacoast, 42°24.93'N, 130°45.22'E, 12.VI.2022 (B.M. Kataev), 1 ♀ (ZISP); 8 km NW of Poima Station (S.N. Ivanov), 1 ♀ (FEB).

Diagnosis. Body (Fig. 33, 1, 2) robust ([PL + EL]/PW = 1.84–2.03); length 8.0–9.4 mm, width 3.8–4.6 mm. Body rufous-brownish to dark red, with darkened base and apex of elytra; eyes black; antennae yellowish to red; legs pale or rather dirty-brown.

Head wide, dorsally smooth, shining; microsculpture very inconspicuous isodiametrical, or surface smooth.

Pronotum (Fig. 33, 1, 2) distinctly narrowing anteriorly (PB/PA = 1.33–1.41), 1.73–1.85 times as wide as long, widest at mid-length; anterior angles strongly projecting; lateral explanation wide along entire length, including anterior angles; sides straight or weakly rounded before posterior angles; posterior angles rectangular or weakly obtuse, with small tooth; base weakly projecting posteriorly and slightly sinuate near posterior angles; keels in posterior corners strongly diverging posteriorly, shortened, resting against posterior seta (Fig. 50, 2); basal foveae wide, separated by wide convexity. Strong punctation developed on base; fine punctures situated along lateral margin; keels in posterior corners smooth or with single fine punctures; microsculpture inconspicuous isodiametrical, or surface smooth.

Elytra (Fig. 33, 1, 2) short (EL/EW = 1.10–1.28), with weakly rounded sides; striae shallow, occasionally superficial, very finely punctate or impunctate; bases of 1st and 2nd striae separated; parascutellar stria situated on 2nd interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 8 pores in apical half. Intervals impunctate; microsculpture weak to inconspicuous, meshes isodiametrical or weakly transverse.

Ventral side. Submentum with 1 seta on each side; medial tooth of mentum weakly emarginate or pointed apically. Propleura (Fig. 33, 3, 4) smooth; prosternum laterally with sparse minute punctures; in male, middle

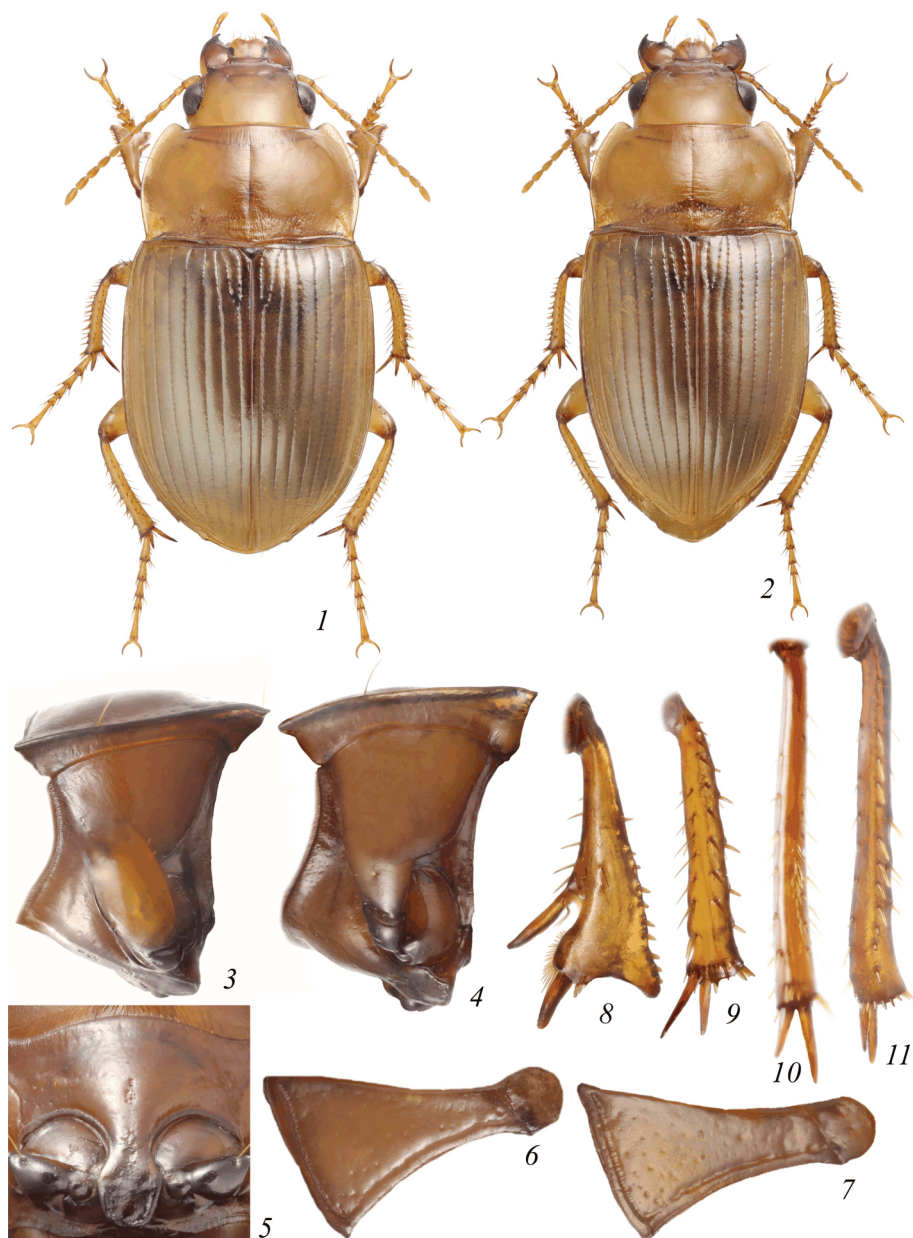


Fig. 33. *Amara (Bradytus) pallidula* (Motschulsky, 1844), male (1, 3, 5, 6, 8–11) and female (2, 4, 7). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, ventral surface; (11) metatibia, posterior view.

of prosternum with several sparse punctures (Fig. 33, 5); prosternal process truncate apically. Metepisterna (Fig. 33, 6, 7) weakly elongate (with length along ventral margin about 1.3 times their width along anterior margin), sparsely, rather finely punctate. Thorax and abdomen with small sparse punctures at sides; 2nd visible abdominal sternite smooth in medial third; anal sternite with 2 setae in both sexes.

Outer apical angle of protibia produced into rather long lobe (Fig. 33, 8); protibia dorsally with 2 or 3 setae (in 1 specimen, with 4 on one tibia); protarsus of male very weakly widened. Mesotibia of male (Fig. 33, 9) almost straight, with 1 or 2 low, gently sloping tubercles and with 5 or 6 regularly arranged curved setae on ventral surface in distal third. Mesofemur ventrally with 4–6 setae (Fig. 52, 3). Metatibia of male (Fig. 33, 11)

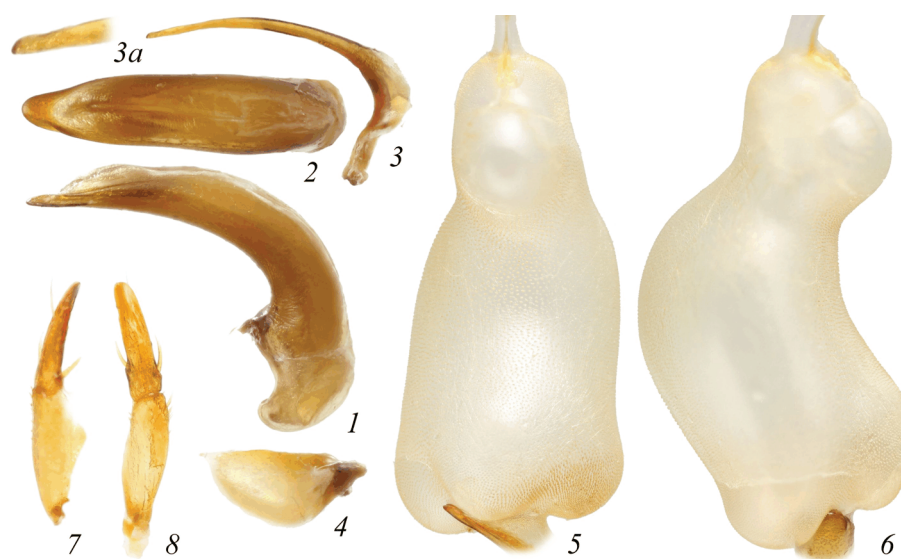


Fig. 34. *Amara (Bradytus) pallidula* (Motschulsky, 1844), male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, lateral view; (6) everted endophallus, posterior view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

slightly thickened, almost straight, distinctly widened outwards only near apex; its ventral surface (Fig. 33, 10) with 8 or 9 fine curved setae, without brush of short hairs. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 34, 1) rather thick, regularly curved, without carinae and furrows. Lamella rather long (Fig. 34, 2) (its length about 0.4 times diameter of penis at base), with wide rounded subsymmetrical apex. Groove on right side of lamella deep and long. Right paramere (Fig. 34, 3) curved in the area of attachment of ligaments, more distally slightly curved toward apex, without apical hook (Fig. 34, 3a). Endophallus (Fig. 34, 5, 6) wide in basal part, rather strongly S-curved in transverse plane, distinctly narrowed toward gonopore. Base with 3 wide, weakly separated lobes: paired ventrobasal and unpaired dorsobasal; latter covered with larger sclerotized spines. Small area with enlarged sclerotized spines present in basal part at the left. Gonostyli very long and narrow (Fig. 34, 7, 8).

Distribution. An Eastern Palearctic subboreal species: from the southwestern Transbaikalia, northeastern Mongolia, and the eastern foothills of Tibet in the west to the lower course of the Amur River, the southern Sikhote-Alin Mts. and North Korea in the east, from the

southern Transbaikalia and the foothills of the Northern Amur Area in the north to the Chinese provinces of Yunnan and Fujian in the south; the species was recorded for Central Yakutia (Averensky, 2001).

Notes. *Bradytus pallidulus* (Motschulsky, 1844 : 182) was described by V.I. Motschulsky based on 5 syntypes from the banks of the Selenga and Uda rivers in the Transbaikalia. According to the unpublished catalogue of the genus *Amara*, the female with the label “Vierchnje Udin” was distinguished by F. Hieke as the lectotype in 1990, but the designation was not published (Hieke, 2013 : 91). We found 4 specimens with the corresponding geographical labels (Fig. 35) in Motschulsky’s collection (ZMU), among them one was signed as “Lectotypus Hieke 1974.” This male we designate here as the lectotype, the others are paralectotypes.

***Amara (Bradytus) pseudosimplicidens* Lafer, 1980**

Amara (Bradytus) pseudosimplicidens Lafer, 1980 : 46, 55–56, fig. 12, 17–20. Type locality: “Primorskii Territory, Razdol’naya River mouth,” Primorskii Territory, Russia.

Type material. Holotype, ♀ (Fig. 36): “Primorskii Terr., Suifun River mouth, left bank, 1–6–1969 Lafer G.

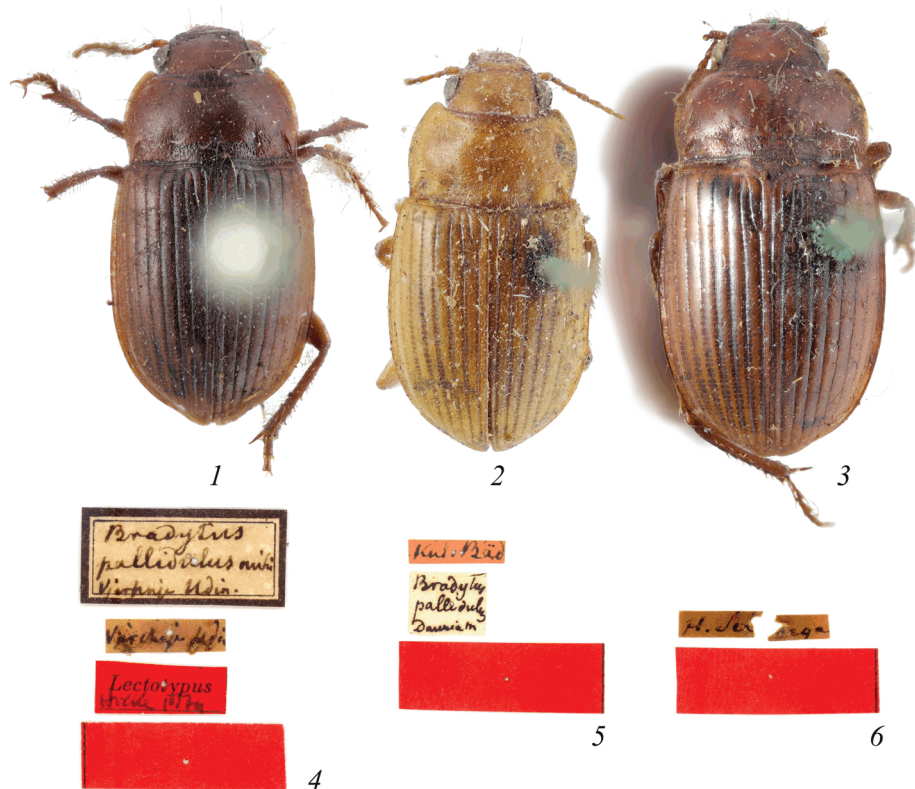


Fig. 35. *Amara (Bradytus) pallidula* (Motschulsky, 1844), lectotype, male (1, 4), and paralectotypes, females (2, 3, 5, 6). (1–3) dorsal habitus, (4–6) labels.

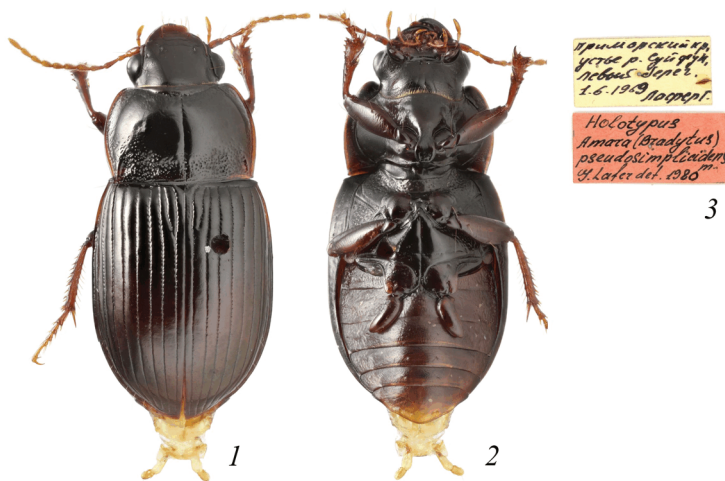


Fig. 36. *Amara (Bradytus) pseudosimplicidens* Lafer, 1980, holotype, female. (1) dorsal habitus, (2) ventral habitus, (3) labels.

[in Cyrillic]" [white rectangle, handwritten], "Holotypus *Amara (Bradytus) pseudosimplicidens* m. G. Lafer det. 1980" [red rectangle, handwritten] (ZISP). Paratypes: 1 ♀, "Primorsk. Terr. Suifun River Mouth, left bank, 4–6–67 Lafer G" [white rectangle, handwritten],

"3489" [white rectangle, handwritten], "Paratypus *Amara (Bradytus) pseudosimplicidens* G. Lafer det. 1980" [red rectangle, handwritten] (FEB); 1 ♀, "Primorskii Territory, Suifun River mouth, left bank, 4.VI.1967, G. Lafer" [white rectangle, handwritten],

“Paratypus *Amara (Bradytus) pseudosimplicidens* m., G. Lafer det. 1980” [red rectangle, handwritten] (FEB); 1 ♀, “Vladivostok, Lianchikhe River bank, tall grasses, 13.6.69, Yaroshenko” [white rectangle, handwritten], “Paratypus *Amara (Bradytus) pseudosimplicidens* m., G. Lafer det. 1980” [red rectangle, handwritten] (FEB).

Other material. Russia. Khabarovsk Terr. Khabarovsk, 19.IX.1970 (A.S. Ryabukhin), 1 ♀ (KTM); Lake Udyl', sandy beach in Malaya Silasu River floodland, 21–28.VII.2016 (O.V. Kuberskaya), 1 ♂ (SNRK). **Primorskii Terr.** 18 km SE of city of Ussuriisk, Gornotayozhnoe Vill., 27.VI.1995 (V.V. Dubatolov, R.Yu. Dudko), 1 ♂ (ISEA); Lazovskii Distr.: Lazovskii Nature Reserve, Petrov Cordon, 16–20.IX.1998 (Yu.N. Sundukov), 1 ♂ (FEB); Nadezhdinskii Distr., Suifun [= Razdol'naya] River mouth, left bank, 4.VI.1967 (G.Sh. Lafer), 2 ♀ (FEB); Khasanskii Distr.: 18 km SW of Barabash Vill., Bezymyannyi Stream, 15.VIII.2020 (Yu.N. Sundukov), 1 ♂, 1 ♀ (FEB); environs of Ryazanovka Vill., hills with *Quercus dentata*, 3–10.IX.2000 (D.E. Shchigel'), 1 ♀ (MSPU); Andreevskaya Pad' near Andreevka Vill., 26.V.2022 (Yu.N. Sundukov), 1 ♀ (FEB).

Diagnosis. Body (Fig. 37, 1, 2) weakly elongate ($[PL + EL]/PW = 2.10–2.17$); length 7.5–8.6 mm, width 3.4–4.1 mm. Body black or nearly black; antennae dark red; legs brownish claret-red or claret-red.

Head relatively wide, dorsally smooth or weakly punctate, strongly shining, without microsculpture.

Pronotum (Fig. 37, 1, 2) weakly narrowing anteriorly ($PB/PA = 1.21–1.35$), rounded, 1.47–1.61 times as wide as long, widest at mid-length or slightly behind it; anterior angles not projecting; lateral explanation narrow throughout; sides before posterior angles straight or very weakly rounded; posterior angles obtuse, with small, weakly pointed tooth; base rectilinear; keels in posterior corners nearly longitudinal or weakly diverging posteriorly, reaching posterior margin of pronotum medial to posterior seta (Fig. 50, 7); basal foveae rounded and wide, separated by very weakly convex area. Punctuation very dense at base, sparse at sides and along anterior margin; keels in posterior corners densely or sparsely punctate; no microsculpture present, surface strongly shining.

Elytra (Fig. 37, 1, 2) weakly elongate ($EL/EW = 1.23–1.27$), with weakly rounded sides; striae moderately deep, with rather small punctures; bases of 1st and 2nd striae separated; parascutellar stria situated on 2nd interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 7 pores in apical half. Intervals impunctate; no microsculpture present, or (in females) very inconspicuous isodiametrical; surface strongly shining.

Ventral side. Submentum with 2 setae on each side, medial tooth of mentum weakly bifurcate or pointed apically. Propleura (Fig. 37, 3, 4) smooth or with separate shallow punctures; prosternum laterally very sparsely covered with small punctures; in male, middle of prosternum with very deep round fovea (Fig. 37, 5); prosternal process obtused apically. Metepisterna (Fig. 37, 6, 7) weakly elongate; their length along ventral margin about 1.3 times their width along anterior margin. Most of metepisterna densely covered with large punctures. Thorax and abdomen with sparse small punctures; 2nd visible abdominal sternite entirely covered with shallow punctures; anal sternite with 2 setae in male and 4 setae in female.

Outer apical angle of protibia weakly slanting (Fig. 37, 8); protibia dorsally usually with 2 setae (in 1 specimen, with 1 seta on one tibia); protarsus of male moderately widened. Mesotibia of male (Fig. 37, 9) distinctly curved, with 3 conical wide tubercles and with 9 or 10 regularly arranged curved setae ventrally in distal third. Proximal part of tibia not widened but separated from tubercles by shallow sinuation of ventral margin. In addition, fine setae similar to those in apical part of metatibia situated around tubercles in distal quarter of tibia. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 37, 11) straight, widened outwards near apex; its ventral surface (Fig. 37, 10) with 10–12 fine curved setae and with dense brush of fine short hairs in apical half. Metacoxa with 3 setae (additional inner seta present) (Fig. 52, 5).

Genitalia. Penis (Fig. 38, 1) rather narrow, curved at base and near apex, slightly narrowed in the area of preapical curvature, and asymmetrically widened laterally near apex. Lamella (Fig. 38, 2) rather long (its length half diameter of penis at base), widely rounded apically, subsymmetrical. Groove on right side of lamella short, shallow. Right paramere (Fig. 38, 3) strongly curved at the level of distal margin of liga-

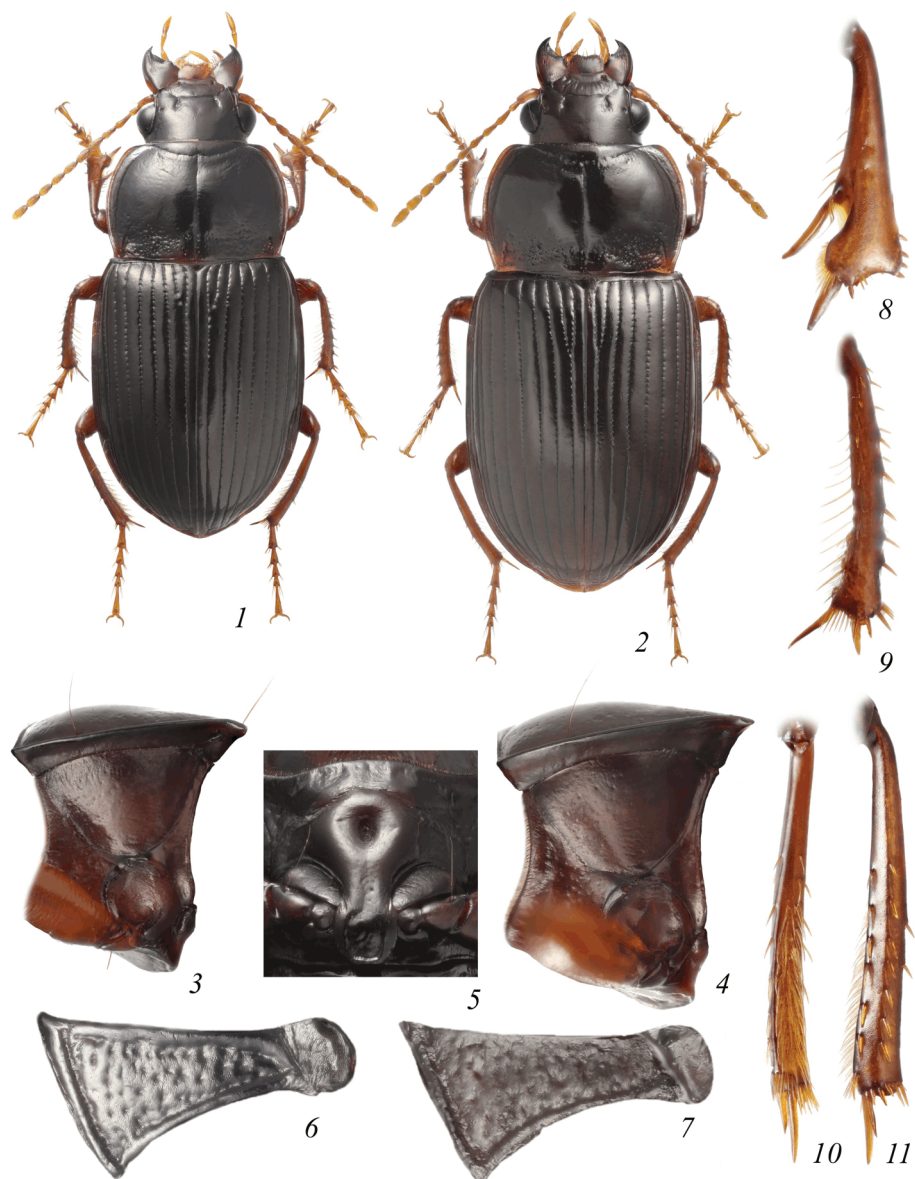


Fig. 37. *Amara (Bradytus) pseudosimplicidens* Lafer, 1980, male (1, 3, 5, 6, 8–11) and female (2, 4, 7). (1, 2) dorsal habitus; (3, 4) prothorax, lateral view; (5) prosternum, ventral view; (6, 7) metepisternum, lateral view; (8) protibia, front view; (9) mesotibia, posterior view; (10) metatibia, ventral surface; (11) metatibia, posterior view.

ments, nearly straight more distally, and distinctly bent only near apex; apex rounded, without hook (Fig. 38, 3a). Endophallus (Fig. 38, 5, 6) weakly widened in distal part, without distinct lobes. Sclerotization rather uniform, spines smaller only in middle part, and endophallus clearly narrowed there. No sclerites present. Gonostyli rather short and wide, rounded (Fig. 38, 7, 8).

Distribution. An East Asian nemoral species: the south of the Far East of Russia (the south of Khabarovsk

Territory (Amur River valley), Primorskii Territory), the Korean Peninsula (Lafer, 1980; Šustek, 2011; Kang et al., 2012).

Amara (Bradytus) reitteri Tschitschérine, 1894

Amara (Bradytus) Reitteri Tschitschérine, 1894a : 257. Type locality: “Sibérie orientale: sources de l’Irkut,” the Irkut River, Buryatia, Russia.

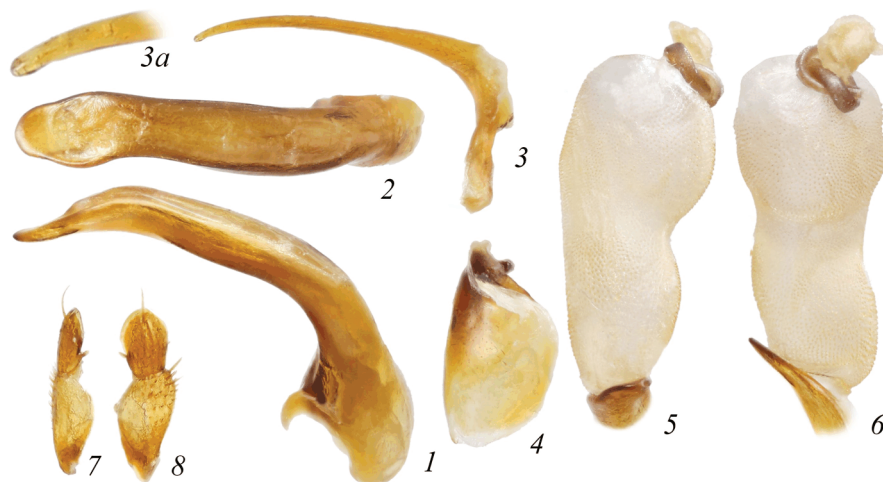


Fig. 38. *Amara (Bradytus) pseudosimplicidens* Lafer, 1980, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

Type material. Lectotype, ♂ (designated here): “Lectotypus *Amara (Brad.) reitteri* Tschit. des. Hieke 1971” [red rectangle, handwritten], “*Reitteri* typ. m. Tschitschérine det” [white rectangle, handwritten], “Transbaikalien Leder. Reitter.” [white rectangle, printed] (ZISP).

According to the catalogue of the genus *Amara* (Hieke, 2013 : 91), the lectotype of *A. reitteri* was not designated. The description by T. Tchitcherin does not specify the number of the type specimens, but, judging by indirect data (“♂♀; Long. 8–8¾ mm.” Tschitschérine, 1894a : 257), there were several ones. In the ZISP collection, we find only one male (Fig. 41) signed by F. Hieke as “Lectotypus *Amara (Brad.) reitteri* Tschit. des. Hieke 1971;” it is designated here as the lectotype.

The references of the catalogue of the genus *Amara* (Hieke, 2013 : 167) includes only one T. Tchitcherin’s paper published in 1894 (Tschitschérine, 1894b), though *A. reitteri* was described in the other publication (Tschitschérine, 1894a).

Other material. Russia. *Yamalo-Nenets Autonomous Area.* 73 km NE of city of Labytnangi, southern foothills of Kharcheruz’ Mt. Range, Longot’egan River, h = 175 m, 16–19.VII.2015 (V.K. Zinchenko), 1 ♂ (ISEA). *Kemerovo Prov.* Kuznetskii Alatau, Mt. Chemodan: 27.VI.1993 (N.V. Demidenko), 1 ♂ (ISEA);

12.VII.1993 (N.V. Demidenko), 2 ♂ (ISEA). *Altai Terr.* Ust’-Koksinskii Distr., Western Altai, basin of Bannaya River floodland, upper course of Bystraya River, 2200–2250 m, 23–24.VI.2005 (A.G. Koval’), 1 ♂ (ISEA); *Krasnoshchyokovskii Distr.*, Tigirekskii Mt. Range, 12 km S of Tigirek Vill., upper course of Malyy Tigirek and Irkutka rivers, 1500–1950 m, 19–21.VI.2000 (R.Yu. Dudko), 3 ♂, 6 ♀ (ISEA, CBK). *Khakassia.* Shirinskii Distr., 1 km S of Kommunar Vill., 1300–1400 m, 24.VII.1990 (D.V. Logunov), 1 ♀ (ISEA). *Irkutsk Prov.* City of Bratsk, Gidrostroitel’, 29.VII.1998 (P.B. Klimov), 1 ♂ (FEB). *Magadan Prov.* Ol’skii Distr., Kharbiz Cape, 15 km E of Ola Vill., no. 28, 9.VI.1979 (V.S. Vedernikov), 1 ♂ (FEB).

Diagnosis. Body (Fig. 39, 1, 2) weakly elongate ($[PL + EL]/PW = 2.12–2.20$); length 7.7–9.2 mm, width 3.6–4.2 mm. Body nearly black, rarely bitch-brown; antennae entirely pale or with partly darkened 4–10th segments; legs entirely dark claret-red, or femora nearly black.

Head with usual proportions, dorsally smooth, weakly shining; microsculpture inconspicuous isodiametrical or no microsculpture present.

Pronotum (Fig. 39, 1, 2) narrowing anteriorly ($PB/PA = 1.49–1.57$), strongly convex, trapeziform, rarely weakly trapeziform, 1.55–1.63 times as wide as long, widest in 1/4–1/3 from base; anterior angles moderately



Fig. 39. *Amara (Bradytus) reitteri* Tschitschérine, 1894, male (1, 3–5, 7–10) and female (2, 6). (1, 2) dorsal habitus; (3) prothorax, lateral view; (4) prosternum, ventral view; (5, 6) metepisternum, lateral view; (7) protibia, front view; (8) mesotibia, posterior view; (9) metatibia, ventral surface; (10) metatibia, posterior view.

projecting; lateral explanation very narrow throughout; sides regularly rounded; posterior angles obtuse, obtused, or with minute tooth; base more or less rectilinear; keels in posterior corners moderately or strongly diverging posteriorly, shortened, resting against posterior

seta (Fig. 51, 1); basal foveae small, deep, separated by wide strongly convex area. Punctuation present in basal foveae, sparser in middle part of base; scattered punctures occasionally present along anterior margin or along lateral margins; keels in posterior corners impunc-

tate, occasionally with few punctures; microsculpture inconspicuous isodiametrical or no microsculpture present.

Elytra (Fig. 39, 1, 2) elongate ($EL/EW = 1.28-1.34$), with weakly or moderately rounded sides; striae deep, with small punctures; bases of 1st and 2nd striae separated; parascutellar stria situated on 1st, occasionally on 2nd interval; *series umbilicata* consisting of 7 setiferous pores in basal quarter and 8 pores in apical half. Intervals impunctate; microsculpture weak or distinct, isodiametrical or transversely reticulate.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum shortly bifid (Fig. 51, 9). Propleura (Fig. 39, 3) smooth; prosternum nearly smooth, with single small punctures; in male, middle of prosternum with flat small plate bearing sparse small punctures or only several punctures (Fig. 39, 4); prosternal process rounded apically. Metepisterna (Fig. 39, 5, 6) elongate; their length along ventral margin about 1.5 times their width along anterior margin. Small and large punctures rather sparsely covering entire surface of metepisterna. Sides of thorax and abdomen weakly punctate; 2nd visible abdominal sternite smooth in medial third; anal sternite with 2 setae in male (in one male, with 3 setae) and 4 setae in female.

Outer apical angle of protibia slanting (Fig. 39, 7); protibia dorsally always with 1 seta (Fig. 52, 2); pro-tarsus of male very strongly widened (Fig. 52, 2). Mesotibia of male (Fig. 39, 8) distinctly curved, with 2 strongly protruding tubercles and with 6 or 7 regularly arranged curved setae ventrally in distal third. Mesofemur ventrally with 2 setae. Metatibia of male slightly thickened (Fig. 39, 10), almost straight, slightly widened outwards only near apex; its ventral surface (Fig. 39, 9) with 8 or 9 fine curved setae, without brushes of short hairs. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 40, 1) rather thick, regularly curved, without carinae and furrows, narrowed in apical quarter. Lamella rather long (its length 0.5–0.7 times 1.5–2.0 diameter of penis at base), with wide rounded subsymmetrical apex (Fig. 40, 2). Groove on right side of lamella deep, rather short. Right paramere (Fig. 40, 3) distal to the area of attachment of ligaments regularly curved and smoothly narrowing, without apical hook (Fig. 40, 3a). Endophallus (Fig. 40, 5, 6) wide, without pronounced tubercles and lobes, with weak constriction in distal third. In the area of constriction, spines slightly larger and more heavily sclerotized; 2 small basal sclerites present. Gonostyli rather short and wide, approximately diamond-shaped (Fig. 40, 7, 8).



Fig. 40. *Amara (Bradytus) reitteri* Tschitschérine, 1894, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, lateral view; (6) everted endophallus, posterior view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

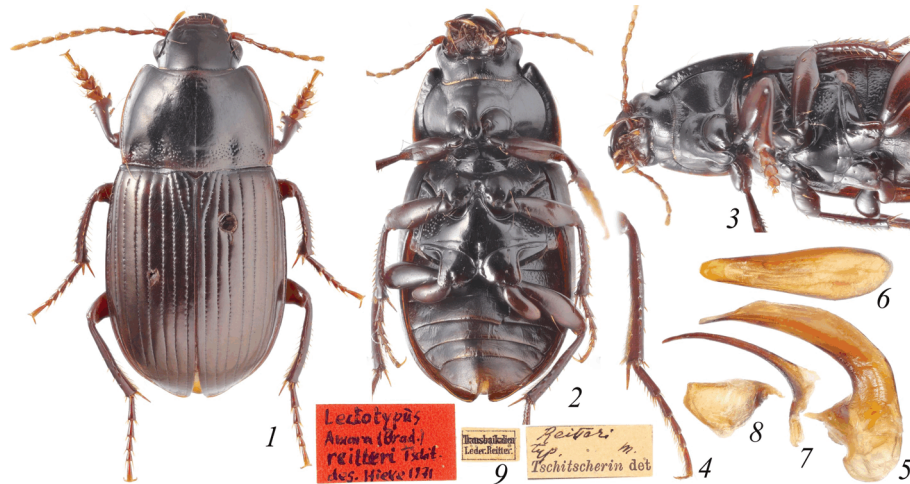


Fig. 41. *Amara (Bradytus) reitteri* Tschitscherine, 1894, lectotype, male. (1) dorsal habitus; (2) ventral habitus; (3) head and thorax, latero-ventral view; (4) metatibia and metatarsus, posterior view; (5) penis, lateral view; (6) penis, dorsal view; (7) right paramere, lateral view; (8) left paramere; (9) labels.

Distribution. A Central Palaearctic boreal species: the Altai-Sayan Mts. (Altai, Kuznetsk Ala Tau); populations in the Polar Urals, the mountains of Southern Yamal (the Kharcheruz' Mt. Range), and Magadan Prov. are probably isolated from the southern mountainous part of the range.

***Amara (Bradytus) simplicidens* A. Morawitz, 1863**

Amara (Bradytus) simplicidens A. Morawitz, 1863 : 60–62. Type locality: “bei Hakodate,” Hokkaido Island, Japan.

Amara (Leiocnemis) marginicollis Lutshnik, 1915a : 130. Type locality: “Japonija: Kharima (“Harima”),” Japan; the name is preoccupied by *Amara marginicollis* A. Morawitz, 1862 (= *Amara rupicola* C. Zimmermann, 1832); synonymy after Hieke, 1999b : 171.

Amara (Leiocnemis) matsumurae Csiki, 1929 : 450, replacement name for *Amara marginicollis* Lutshnik, 1915; synonymy after Hieke, 1999b : 171.

Amara (Bradytus) punctatissima Baliani, 1932 : 13. Type locality: “Tatsienlu, Grenze O[Östliche] Tibet,” Sichuan, China; synonymy after Hieke, 1995b : 301.

Type material. *Amara simplicidens*, lectotype, ♂ (Fig. 42): “Lectotypus *Amara (Bradytus) simplicidens* Mor. Lafer det. 1973” [red rectangle, handwritten],

“119. *simplicidens* Mor.” [white rectangle, handwritten], “Hakodate 119-1” [yellow rectangle, handwritten] (ZISP). Paralectotype, ♀: “Paralectotypus *A. (Bradytus) simplicidens* Mor. Lafer det. 1973” [red rectangle, handwritten], “*Amara (Brad.) simplicidens* Mor. det. F. Hieke 1974” [white rectangle, handwritten], “Hakodate 119-3” [yellow rectangle, handwritten] (ZISP).

Other material. Russia. Sakhalin Prov. Sakhalin Island. Yuzhno-Sakhalinsk, Botanical Garden of Far-Eastern Branch of Russian Academy of Sciences: 17–18.V.2017 (Yu.N. Sundukov), 1 ♀ (FEB); 16.VI.2018 (Yu.N. Sundukov, L.A. Sundukova), 15 ♂, 8 ♀ (FEB); 31.VII–3.VIII.2018 (Yu.N. Sundukov, L.A. Sundukova), 3 ♂, 5 ♀ (FEB); Novo-Aleksandrovsk Vill. (currently a microdistrict of Yuzhno-Sakhalinsk), meadow: VII.1969 (L.P. Molodova), 1 ♀ (FEB); VII.1970 (L.P. Molodova), 1 ♂, 1 ♀ (FEB); Nevel'skii City District, Shebunino Vill., 7–9.VIII.1974 (G.F. Bromlei), 10 ♂, 6 ♀ (FEB); Smirnykh Vill., Orlovka River bank, 19.VIII.1978 (V.N. Kuznetsov), 1 ♀ (FEB). Kunashir Island. Vodopadnyi Stream S of Ivanovskii Cape, 27.IX.2013 (Yu.N. Sundukov), 1 ♂ (FEB); Mendelev Volcano, Tumann GPS (= Geothermal Power Station), 22.IX.2016 (Yu.N. Sundukov), 1 ♂ (FEB); Alyokhinskaya Outpost, 43°55'06"N, 145°31'34"E, 18.VIII.2009 (K.V. Makarov, A.A. Zaitsev), 1 ♂ (MSPU); 14.IX.2014 (Yu.N. Sundukov), 2 ♂, 1 ♀ (FEB); 7.VII.2015 (Yu.N. Sundukov,

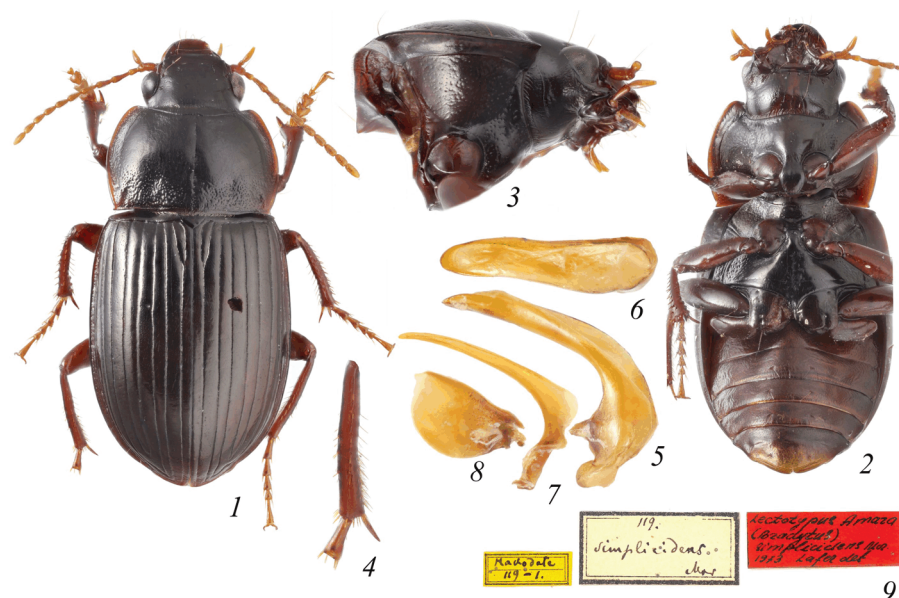


Fig. 42. *Amara (Bradytus) simplicidens* A. Morawitz, 1863, lectotype, male. (1) dorsal habitus; (2) ventral habitus; (3) head and prothorax, lateral view; (4) metatibia, posterior view; (5) penis, lateral view; (6) penis, dorsal view; (7) right paramere, lateral view; (8) left paramere; (9) labels.

L.A. Sundukova), 3 ♂, 3 ♀ (FEB); coast of Sea of Okhotsk S of Znamenka Cape, 43°56'12"N, 145°33'15"E, 3.VIII.2008 (I.V. Melnik), 1 ♂ (MSPU); western shore of Lake Peschanoe, 2.IX.2014 (Yu.N. Sundukov), 1 ♀ (FEB); Asin Stream valley S of Tret'yakovo Vill., 43°59'03"N, 145°37'33"E, h ~ 30 m, 22.VIII.2008 (I.V. Melnik), 1 ♂ (MSPU); Tret'yakovo Vill., 43°59'17"N, 145°39'05"E, 19–25.VIII.2008 (I.V. Melnik), 1 ♂ (MSPU); same locality, 43°59'09"N, 145°39'15"E, h ~ 26 m: 20–25.IX.2009 (I.V. Melnik, A.A. Zaitsev), 10 ♂, 4 ♀ (MSPU); 21–22.VIII.2013 (Yu.N. Sundukov, L.A. Sundukova), 4 ♂, 6 ♀ (FEB); hills S of Stolbchatyi Cape, 44°00'20"N, 145°42'05"E, 23.VIII.2003 (I.V. Melnik), 1 ♂, 1 ♀ (MSPU); Yuzhno-Kuril'sk Vill.: 21.IX.2017 (L.A. Sundukova), 1 ♀ (FEB); swamp between Serebryanka River and seaside, 30.VIII.2014 (Yu.N. Sundukov), 1 ♂ (FEB). **Japan.** "Honshu, Ibaraki, Tsukuba, 27.IX–5.X.1999 (S.A. Belokobyl'skij, K. Konishi)," 1 ♂ (ZISP); "Tamagawa, Tokyo, 25.III.1953 (H. Hayashi)," 1 ♀ (FEB).

Diagnosis. Body (Fig. 43, 1, 2) weakly elongate ([PL + EL]/PW = 2.10–2.25); length 8.5–9.5 mm, width 3.7–4.6 mm. Body pitch-brown to nearly black; antennae yellowish brown to charry-red; legs red.

Head with usual proportions, dorsally smooth or transversely wrinkled, weakly shining; without microsculpture.

Pronotum (Fig. 43, 1, 2) distinctly narrowing anteriorly (PB/PA = 1.30–1.36), rounded, 1.52–1.61 times as wide as long, widest behind mid-length; anterior angles moderately or weakly projecting; lateral explanation rather wide throughout; sides without sinuation before posterior angles, regularly rounded; posterior angles obtuse, with small tooth; base weakly projecting posteriorly in middle or almost straight; keels in posterior corners moderately or strongly diverging posteriorly, shortened, resting against posterior seta (Fig. 50, 10); basal foveae small and shallow, separated by wide flattened convexity. Punctuation dense at base and at sides, sparse or missing at anterior margin; keels in posterior corners punctate; surface of pronotum without microsculpture.

Elytra (Fig. 43, 1, 2) elongate (EL/EW = 1.24–1.37), with weakly rounded sides; striae deep, with or without minute punctures; bases of 1st and 2nd striae separated; parascutellar stria situated on 1st, occasionally on 2nd interval; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 6 or 7 pores in apical half, also 1 pore almost always present between them. Outer (usu-

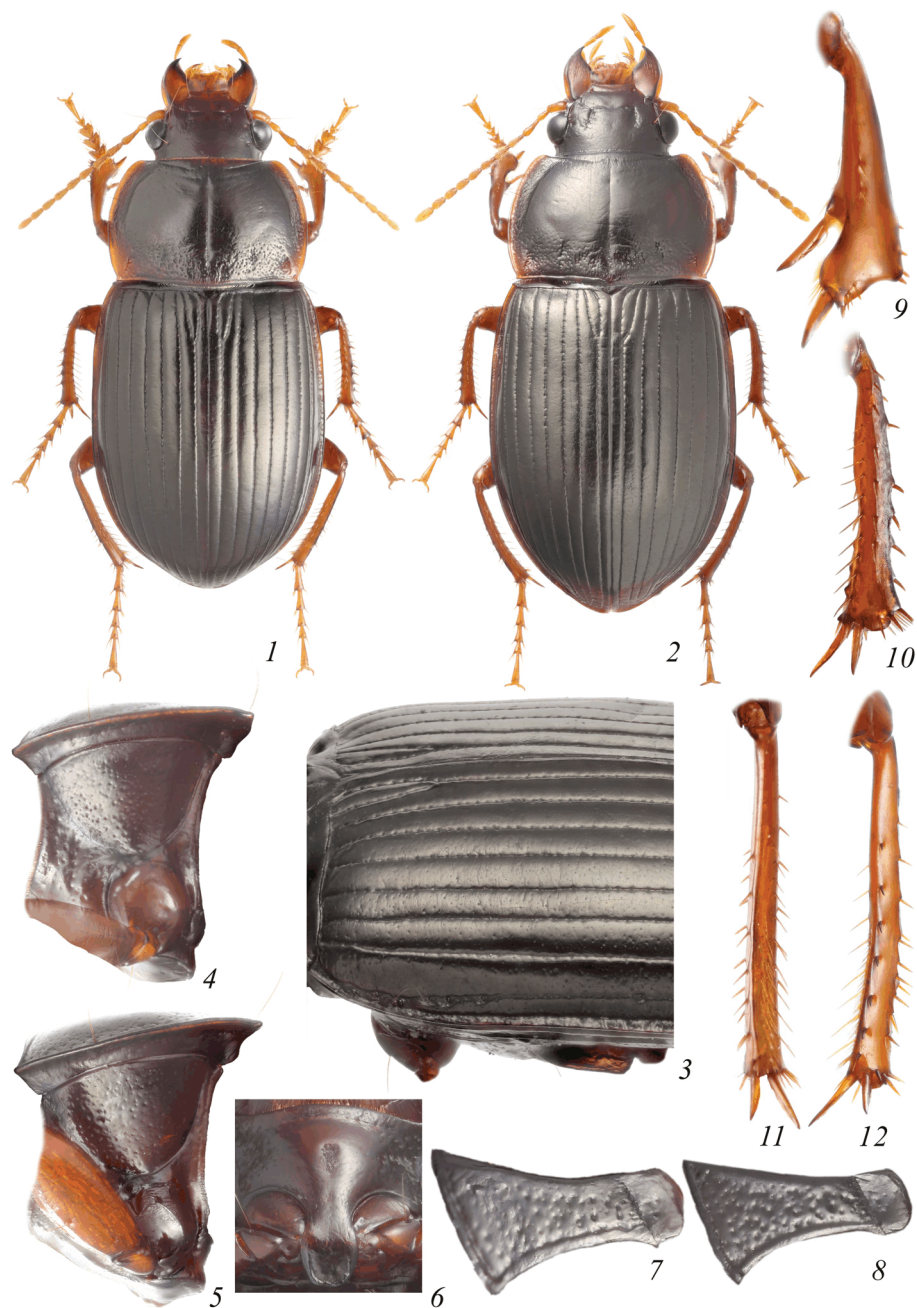


Fig. 43. *Amara (Bradytus) simplicidens* A. Morawitz, 1863, male (1, 3, 4, 6, 7, 9–12) and female (2, 5, 8). (1, 2) dorsal habitus; (3) basal half of elytra, latero-dorsal view; (4, 5) prothorax, lateral view; (6) prosternum, ventral view; (7, 8) metepisternum, lateral view; (9) protibia, front view; (10) mesotibia, posterior view; (11) metatibia, ventral surface; (12) metatibia, posterior view.

ally 8th and 9th) intervals with sparse punctures (Fig. 43, 3); microsculpture absent or inconspicuous reticulate in males, inconspicuous isodiametrical in females.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum pointed, occasionally weakly

rounded, weakly truncate or slightly emarginate apically. Propleura (Fig. 43, 4, 5) entirely finely or coarsely punctate; prosternum laterally densely covered with small or large punctures; in male, middle of prosternum with oval, weakly deepened fovea rugose-punctate at the bottom (Fig. 43, 6); prosternal process truncate api-

cally. Metepisterna (Fig. 43, 7, 8) slightly elongate (with length along ventral margin about 1.2 times their width along anterior margin), rather sparsely covered with small and large punctures. Sides of thorax and abdomen rather densely punctate; 2nd visible abdominal sternite entirely covered with small punctures; anal sternite with 2 setae in male (in one male, with 4 setae) and 4 setae in female, entirely covered with fine scattered punctures.

Outer apical angle of protibia weakly widened (Fig. 43, 9); protibia dorsally with 1–4 setae (usually symmetrical on the two tibiae); protarsus of male strongly widened. Mesotibia (Fig. 43, 10) of male slightly curved, with 3 conical pointed tubercles and with 9 or 10 irregularly arranged curved setae ventrally in distal third. Proximal part of tibia distinctly widened, separated from tubercles on ventral surface by shallow sinuation. Mesofemur ventrally with 2 setae (in lectotype, right femur with 3 setae). Metatibia of male (Fig. 43, 12) slender, slightly curved; its ventral surface (Fig. 43, 11) with 7 or 8 fine curved setae and with sparse brush of fine short hairs covering about half length of tibia. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 44, 1) rather thick, regularly curved, without carinae and striae, asymmetrical in apical third: left side convex, right one slightly concave. Lamella very short (Fig. 44, 2) (its length 0.20–0.25

times diameter of penis at base), wide, rounded, slightly slanting to the right. Groove on right side of lamella short and deep. Right paramere (Fig. 44, 3) rather short and thick, regularly narrowing and curved distal to the area of attachment of ligaments, without apical hook (Fig. 44, 3a). Endophallus (Fig. 44, 5, 6) strongly curved in dorsal direction and divided by deep transverse furrow into 2 parts: proximal part extending in sagittal plane and distal one strongly widened owing to large paired lateral lobes between which gonopore situated. Paired lateral areas of heavily sclerotized spines situated on border of proximal and distal parts; small ventrobasal sclerite present. Gonostyli rather wide, shortly oval (Fig. 44, 7, 8).

Distribution. An East Asian nemoral species: Russia (the south and the center of Sakhalin, the Southern Kuriles: Kunashir Island), Eastern China (as far in the south as Yunnan, as far in the west as the foothills of Eastern Tibet), the Korean Peninsula, Japan (everywhere, including the Ryukyu Islands).

Notes. The records of *A. simplicidens* from Primorskii and Khabarovsk territories (Kavanaugh et al., 2014) may be erroneous, as we know no material of this species from the continental part of the Russian Far East.



Fig. 44. *Amara (Bradytus) simplicidens* A. Morawitz, 1863, male (1–6) and female (7, 8) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3) right paramere, lateral view; (3a) apex of right paramere, $\times 3$ magnification; (4) left paramere; (5) everted endophallus, posterior view; (6) everted endophallus, lateral view; (7) gonostylus, lateral view; (8) gonostylus, ventral view.

***Amara (Bradytus) sinuaticollis* A. Morawitz, 1862**

Amara (Bradytus) sinuaticollis A. Morawitz, 1862b : 257–258 [1862a : 217–218]. Type locality: “Ussuri,” the Ussuri River, Russia.

Type material. Lectotype, ♂: “Lectotypus *Amara (Bradytus) sinuaticollis* Mor., Lafer det. 1973” [red rectangle, handwritten], “236. *sinuaticollis* Mor.” [white rectangle, handwritten], “Ussuri 236-1.” [pink rectangle, handwritten] (ZISP). Paralectotype, ♂: “Paralectotypus *Amara (Bradytus) sinuaticollis* Mor., Lafer det. 1973” [red rectangle, handwritten], “*Amara (Brad.) sinuaticollis* Mor. des. F. Hieke 1974” [white rectangle, handwritten], “Ussuri 236-2.” [pink rectangle, handwritten] (ZISP).

Other material. Russia. Krasnoyarsk Terr. “S. Shushenskoe, Minusinsk okr. [in Cyrillic, = Shushenskoe Vill., environs of Minusinsk]” (A.V. Tyrkov), 1 ♂ (ZISP). *Amurskaya Prov.* Tambovskii Distr., Sadovoe Vill., soy, 8.VIII.1986 (V.S. Arefin, A.G. Bakholdin, A.V. Kostenko), 1 ♀ (FEB). *Primorskii Terr.* “*sinuaticollis* Mor. / Suyfun,” “*Am. (Brad.) simplicidens* Mor. det. F. Hieke 1970,” “Typ? (*A. sinuaticollis* Mor.) = *Am. (Brad.) simplicidens* Mor. det. F. Hieke 1971,” “*Amara (Bradytus) sinuaticollis* Mor. 1973 Lafer det.,” 1 ♀ (ZISP). Terneiskii Distr., Sikhote-Alin Nature Reserve, environs of Blagodatnoe Cordon, 17–18.VI.1998 (Yu.N. Sundukov), 2 ♂, 3 ♀ (FEB); Lazovskii Distr.: Kievka Vill. on Sudzukhe River, Bezymyanni Stream, 16.VII.1973 (A.Yu. Storozhenko), 1 ♀ (FEB); Lazo-raitsentr Vill., Lazovka River floodland, 1–12.VI.1998 (Yu.N. Sundukov), 1 ♀ (FEB); Khankaiskii Distr., Lake Khanka, Novosel'skoe Vill., 29.VIII.1971 (Pinsker), 1 ♀ (FEB); Lake Khanka, Troitskoe Vill., 5.IX.1914 (I. D. Cherskii), 1 ♂, 1 ♀ (ZISP); Ussuriiskii Distr.: city of Ussuriisk, 10–13.IX.1986 (B.M. Kataev), 2 ♂, 1 ♀ (ZISP); Razdol'naya River, Utyosnoe Vill.: 24.V.1977 (R. Fyodorova), 1 ♀ (FEB); 11.VII.1978 (R. Fyodorova), 1 ♂, 1 ♀ (FEB); 16.IX.1978 (R. Fyodorova), 1 ♀ (FEB); 7.X.1978 (R. Fyodorova), 4 ♀ (FEB); Vladivostok: 24.III.1909 (V.M. Berger), 1 ♂ (ZISP); 7.V.1909 (V.M. Berger), 1 ♀ (ZISP); 5–8.IX.1914 (V.M. Berger), 1 ♀ (ZISP); Sidemi [Yankovsky Peninsula], 17513 (M.I. Yankovskii (= Jankowski)), 2 ♂, 2 ♀ (ZISP); Khasanskii Distr.: Kedrovaya Pad' Nature Reserve, 11.IX.1972 (G.Sh. Lafer), 1 ♀ (FEB); city of Khasan, Golubinyi Utyos, meadow, 6.VI.1972 (G.Sh. Lafer), 1 ♂ (FEB); 7–9 km E of city of

Khasan, environs of Golubinyi Utyos Hill, 42°24.45'N, 130°45.27'E, 12–15.VI.2022 (B.M. Kataev), 1 ♂ (ZISP); 20 km E of city of Khasan, environs of Golubinyi Utyos Hill, 42°24'51"N, 130°44'54"E, 1–8.VII.2000 (I.V. Melnik), 1 ♂ (MSPU); Bol'shoi Pelis Island: 15.IX.1966 (M.G. Kazykhanova), 1 ♂ (FEB); 18–20.IX.1966 (M.G. Kazykhanova), 5 ♂, 1 ♀ (FEB). **China.** “Ghingan,” “Typ? *A. sinuaticollis* Mor. = *A. simplicidens* Mor. det. F. Hieke 1971,” “*Amara (Bradytus) sinuaticollis* Mor. Lafer det. 1973,” 1 ♂ (ZISP); “China, Shaanxi, Taibashan 1600 m, Tsinling Mts, Houzhenzhi vill., 33°53'N 107°49'E, 15.VIII–15.X.1999” (collector unknown), 2 ♀ (ZISP).

Diagnosis. Body (Fig. 45, 1, 2) rather robust ([PL + EL]/PW = 2.04–2.23); length 7.3–8.6 mm, width 3.5–4.0 mm. Body pitch-brown; elytra dark brown with blackened base and apex or only base; antennae rufescent or red; legs red.

Head wide, dorsally smooth, with large punctures only in frontal furrows, shining; no microsculpture present.

Pronotum (Fig. 45, 1, 2) distinctly narrowing anteriorly (PB/PA = 1.35–1.40), weakly trapeziform, 1.49–1.70 times as wide as long, widest in 1/4–1/3 from base; anterior angles not projecting; sides rounded along entire length, with lateral explanation rather narrow and widened in basal half; posterior angles obtuse, with small rounded tooth; base strongly curved lateral to middle; keels in posterior corners moderately or strongly diverging posteriorly, shortened, reaching posterior seta (Fig. 50, 9); basal foveae rather narrow, deepened, separated by wide, moderately convex area. Entire pronotum punctate, except for middle of disc; no microsculpture present, surface shining.

Elytra (Fig. 45, 1, 2) short (EL/EW = 1.18–1.27), with weakly rounded sides; striae deep, with rather large (occasionally small) punctures; bases of 1st and 2nd striae separated; parascutellar stria reaching basal margin or merged with 1st stria; *series umbilicata* consisting of 6 setiferous pores in basal quarter and 8 pores in apical half. All intervals with fine scattered punctures (Fig. 45, 3); no microsculpture present in males, microsculpture absent or inconspicuous isodiametrical in females.

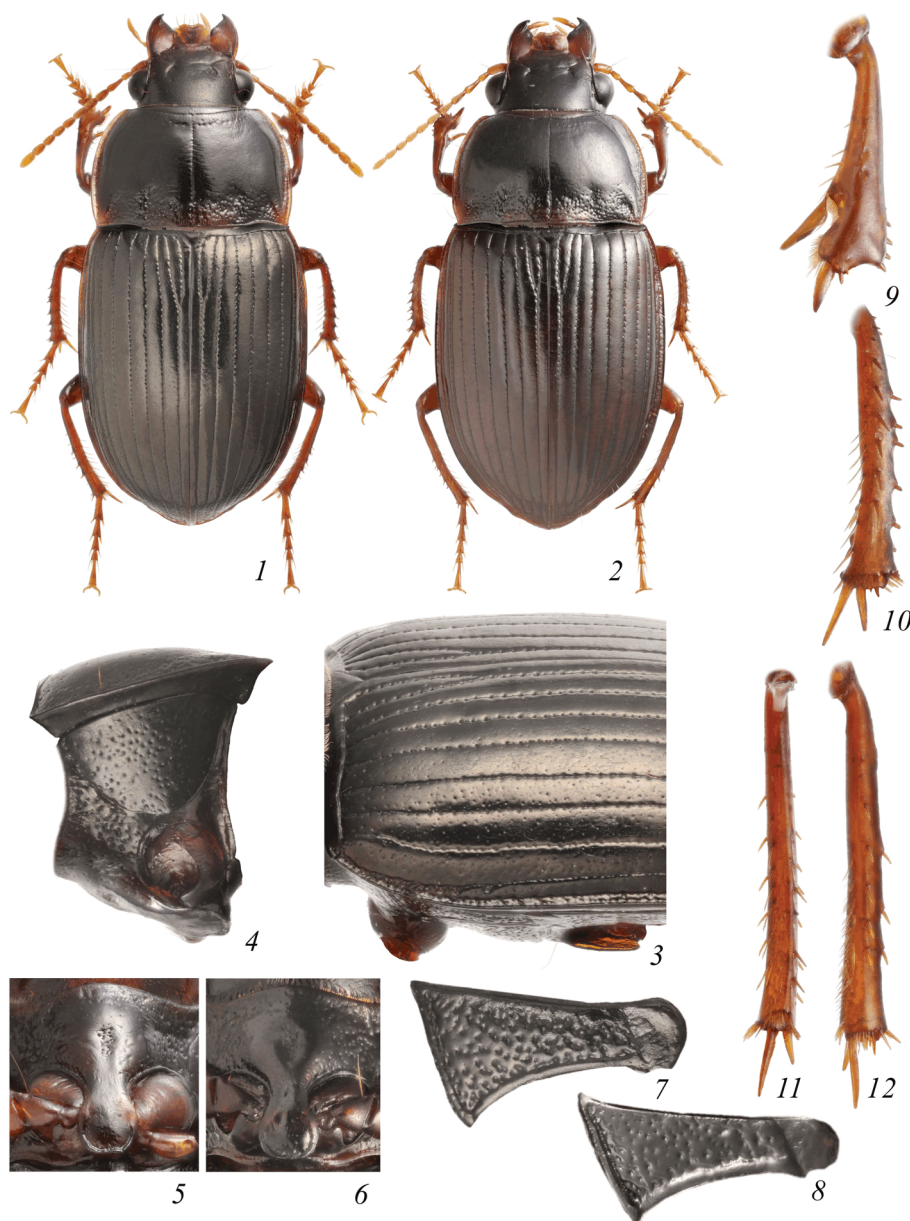


Fig. 45. *Amara (Bradytus) sinuaticollis* A. Morawitz, 1862, male (1, 3–7, 9–12) and female (2, 8). (1, 2) dorsal habitus; (3) basal half of elytra, latero-dorsal view; (4) prothorax, lateral view; (5, 6) prosternum, ventral view; (7, 8) metepisternum, lateral view; (9) protibia, front view; (10) mesotibia, posterior view; (11) metatibia, ventral surface; (12) metatibia, posterior view.

Ventral side. Submentum with 2 setae on each side; medial tooth of mentum pointed or narrowly rounded apically. Propleura (Fig. 45, 4) entirely, and prosternum laterally densely and coarsely punctate; in male, middle of prosternum with oval, weakly depressed area or fovea with small sparse punctures (Fig. 45, 5, 6); prosternal process smooth or with small punctures, widely rounded apically. Metepisterna (Fig. 45, 7, 8) weakly elongate,

their length along ventral margin about 1.3 times their width along anterior margin, with dense rather large, frequently merging punctures. Sides of thorax and abdomen densely covered with large punctures; entire 2nd visible abdominal sternite finely punctate; anal sternite with 2 setae in male and 4 setae in female, entirely finely punctate.



Fig. 46. *Amara (Bradytus) sinuaticollis* A. Morawitz, 1862, male (1–7) and female (8, 9) genitalia. (1) penis, lateral view; (2) penis, dorsal view; (3–5) penis, dorsal view, variations of shape; (6) right paramere, lateral view; (6a) apex of right paramere, $\times 3$ magnification; (7) left paramere; (8) gonostylus, lateral view; (9) gonostylus, ventral view.

Protibia weakly widened outwards near apex (Fig. 45, 9), usually with 1 seta dorsally (occasionally with 2 setae on one or both tibiae); protarsus of male moderately widened. Mesotibia of male (Fig. 45, 10) slightly curved, with 2 protruding tubercles and with 9 or 10 irregularly arranged curved setae ventrally in distal third. Proximal part of tibia slightly widened, separated from tubercles at inner margin by shallow sinuation. Mesofemur ventrally with 2 setae. Metatibia of male (Fig. 45, 12) straight, weakly regularly widened toward apex; its ventral surface (Fig. 45, 11) with 6 or 7 fine curved setae and with sparse brush of fine short hairs in apical half. Metacoxa with 2 setae.

Genitalia. Penis (Fig. 46, 1) rather narrow, smoothly curved from base, straightened in distal part. Lamella (Fig. 46, 2–5) short (its length about 1/3 diameter of penis at base), roundly triangular, distinctly slanting to the right. Groove on right side of lamella short and deep. Right paramere (Fig. 46, 6) rather thick, regularly narrowed and straightened distal to the area of attachment of ligaments, slightly bent only near apex, without apical hook (Fig. 46, 6a). Endophallus was examined only based on temporary preparation: it wide, with distal part separated by distinct constriction covered with large and heavily sclerotized spines; proximal part with large, slightly separated, gently sloping lobes: ventromedial lobe and lateral one situated before constriction; large

area of sclerotized spines situated on the right at base of endophallus. Gonostyli short, rhombic (Fig. 46, 8, 9).

Distribution. An East Asian nemoral species: Russia (the south of Amurskaya Province and Khabarovsk Territory (the Amur River valley), Primorskii Territory (including Bol'shoi Pelis Island), Eastern China (as far in the south as Yunnan, in the west as Eastern Tibet), the Korean Peninsula, Japan (Honshu and Shikoku islands). The ZISP collection includes a specimen from the Yenisei River (Shushenskii Vill.); at present, this is the westernmost record of the species.

Notes. The species was described based on several specimens (the exact number is not indicated) of both sexes with the label "Ussuri (Maack!)" (Morawitz, 1862a : 218; 1862b : 258). In his revision of the subgenus *Bradytus* of the fauna of the Russian Far East, G.S. Lafer (1980 : 52) designated the lectotype (a male with the label "Ussuri 236-1") and paralectotype (a female with the label "Ussuri 236-2") from two syntypes. According to the catalogue of the genus *Amara* (Hieke, 2013 : 92), the ZISP collection also includes a male and a female with the label "Ussuri." Actually, both these specimens (Fig. 47) are males. It was not possible to find out whether any female syntype is preserved.

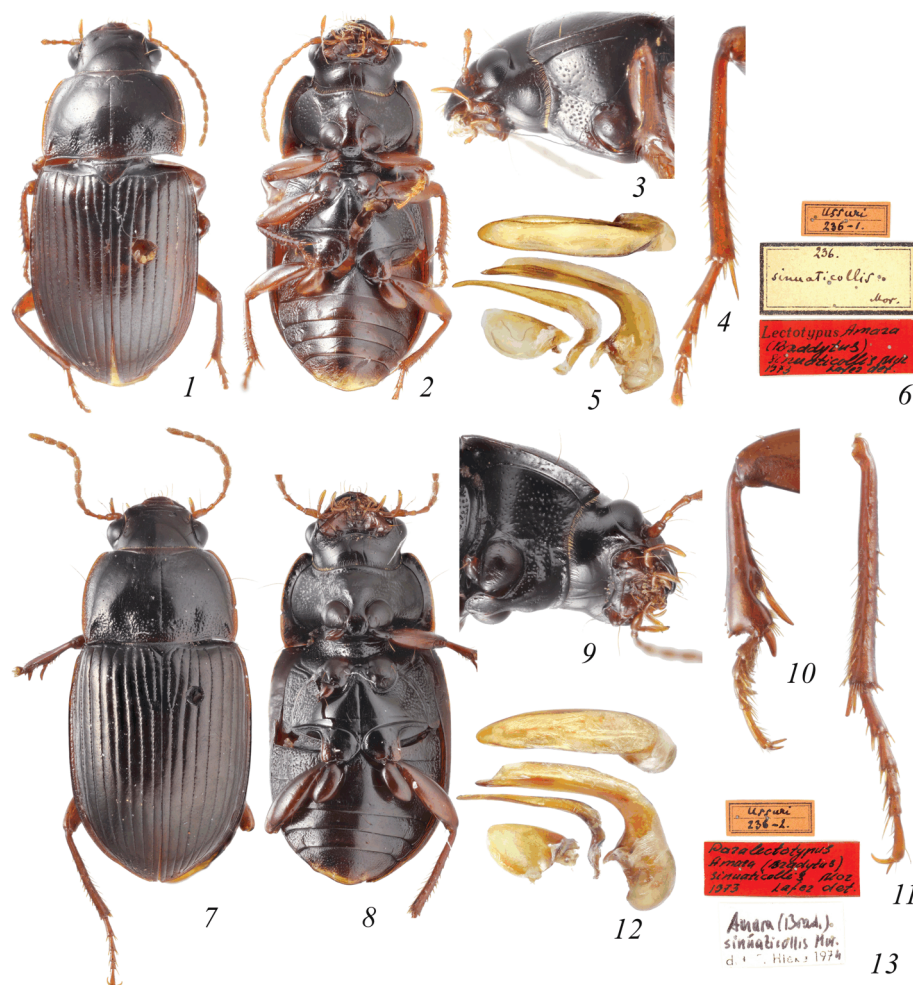


Fig. 47. *Amara (Bradytus) sinuaticollis* A. Morawitz, 1862, lectotype and paralectotype, males. (1, 7) dorsal habitus; (2, 8) ventral habitus; (3, 9) head and prothorax, lateral (3) and ventrolateral (9) view; (4, 11) metatibia, posterior view; (5, 12) aedeagus; (6, 13) labels; (10) protibia, front view.

*KEY TO THE SPECIES OF THE SUBGENUS
BRADYTUS IN THE FAUNA OF RUSSIA*

1. Coloration yellowish brown to reddish brown or dark red (Fig. 48, 1, 2); mesofemur ventrally with 3–5 setae (Fig. 52, 3) 2.
- Coloration dark brown to black (Fig. 48, 3–9); mesofemur ventrally only with 2 setae (Fig. 52, 4) 3.
2. Anterior angles of pronotum almost not projecting, their apices widely rounded (Fig. 50, 1); outer apical angle of protibia forming short triangular projection (Fig. 17, 7); anal sternite of female with 4 setae *A. fulva*.

- Anterior angles of pronotum strongly projecting, their apices narrowly rounded (Fig. 50, 2); outer apical angle of protibia produced into rather long lobe (Fig. 33, 8); anal sternite of female with 2 setae ...
..... *A. pallidula*.
3. Pronotum with wide stripe of punctation extending along lateral margins and covering areas around lateral setae and keels in posterior corners (Fig. 50, 3–10) 4.
- Pronotum impunctate along sides or with narrow stripe of punctures in lateral grooves; area around lateral setae and keels in posterior corners impunc-



Fig. 48. *Amara* (*Bradytus*) spp., habitus, male. (1) *A. fulva* (O.F. Müller, 1776); (2) *A. pallidula* (Motschulsky, 1844); (3) *A. glacialis* (Mannerheim, 1853); (4) *A. aurichalcea* Germar, 1823; (5) *A. fritzhieki* Sundukov, 2013; (6) *A. macra* (Bates, 1883); (7) *A. pseudosimplicidens* Lafer, 1980; (8) *A. khasanensis* sp. n.; (9) *A. sinuaticollis* A. Morawitz, 1862.

- tate or only with single punctures (Fig. 50, 11, 12; Fig. 51, 1–6) 11.
4. Antennae one-colored, yellowish brown to dark red 5.
- Antennae black; 1st segment reddish entirely or at base, frequently also bases of 2nd and 3rd antennomeres reddish (Fig. 19, 1, 2); dorsal side usually with bright metallic sheen *A. glacialis*.
5. Pronotum impunctate in middle of disc, smooth (Fig. 50, 5–10) 6.
- Head and pronotum entirely densely punctate (Fig. 26, 1, 2; Fig. 50, 4). Body black; legs black with red tarsi (Fig. 48, 6); all elytral intervals densely covered with small punctures; outer apical angle of protibia elongate (Fig. 26, 8) *A. macra*.
6. Sides of pronotum with distinct, occasionally deep sinuation near base; posterior angle with tooth attenuate sideways and deflexed (Fig. 50, 5, 6) 7.
- Sides of pronotum rounded or straight near base, shortly sinuate near posterior angles (Fig. 50, 7–10) 8.
7. Lateral explanation of pronotum flattened and widened; anterior angles strongly or moderately projecting forward, with lobiform apices (Fig. 5, 1–12; Fig. 50, 5); submentum usually with 1 seta on each side; anal sternite of male usually with 2 setae; protibia more strongly widened near apex (Fig. 4, 9) *A. aurichalcea*.
- Lateral explanation of pronotum slightly flattened and widened, anterior angles weakly projecting, with widely rounded apices (Fig. 50, 6); submentum usually with 2 setae on each side; anal sternite of male usually with 4 setae; protibia less strongly widened near apex (Fig. 15, 8) *A. fritzhieki*.
8. Propleura densely punctate; metacoxa with 2 setae (Fig. 52, 6) 9.
- Propleura smooth or with single shallow punctures; metacoxa with 3 setae (Fig. 52, 5); elytral intervals impunctate *A. pseudosimplicidens*.
9. At least outer elytral intervals punctate; prosternal process smooth or with single punctures near apex 10.
- Elytral intervals impunctate, smooth (Fig. 48, 8); prosternal process with small punctures near apex (Fig. 23, 5–7) *A. khasanensis* sp. n.
10. All elytral intervals punctate; pronotum widest near base (Fig. 45, 1, 2), with bisinuate base (Fig. 50, 9); no additional seta present between humeral and apical groups of setae on 9th interval *A. sinuaticollis*.
- Only outer (usually 8th and 9th) elytral intervals punctate; pronotum widest at mid-length (Fig. 43, 1, 2); base of pronotum rectilinear or weakly projecting posteriorly in middle (Fig. 50, 10); single seta or pore situated on 9th interval between humeral and apical groups of setae *A. simplicidens*.
11. Propleura smooth, impunctate or with fine single punctures (Fig. 1, 3, 4; Fig. 7, 3, 4; Fig. 13, 3, 4; Fig. 21, 3, 4; Fig. 28, 3; Fig. 39, 3); medial tooth of mentum bifid or simple 12.
- Propleura more or less densely punctate (Fig. 10, 3, 4; Fig. 28, 3; Fig. 31, 3, 4); medial tooth of mentum always simple 17.
12. Outer keels at base of pronotum diverging toward posterior angles, usually terminating near basal seta (Fig. 50, 11, 12; Fig. 51, 1); medial tooth of mentum bifid (Fig. 51, 9, 10). Rather robust (Fig. 49, 2–4), convex beetles; pronotum strongly narrowed anteriorly (PB/PA = 1.35–1.57). Metatibia of male with dense brush of hairs in distal part (Fig. 7, 11, 12; Fig. 13, 11, 12; Fig. 39, 9, 10) 13.
- Outer keels of pronotum longitudinal, parallel or subparallel to axis of body (Fig. 51, 3–5); medial tooth of mentum simple (Fig. 51, 7). Relatively slender, slightly flattened beetles; pronotum weakly narrowed anteriorly (PB/PA = 1.17–1.36). Metatibia of male with single hairs or with rather dense brush 15.
13. Pronotum widest at mid-length; sides shallowly sinuate before posterior angles (Fig. 50, 11); sides of prosternum with large punctures (Fig. 13, 3, 4); mesotibia of male almost straight, with large

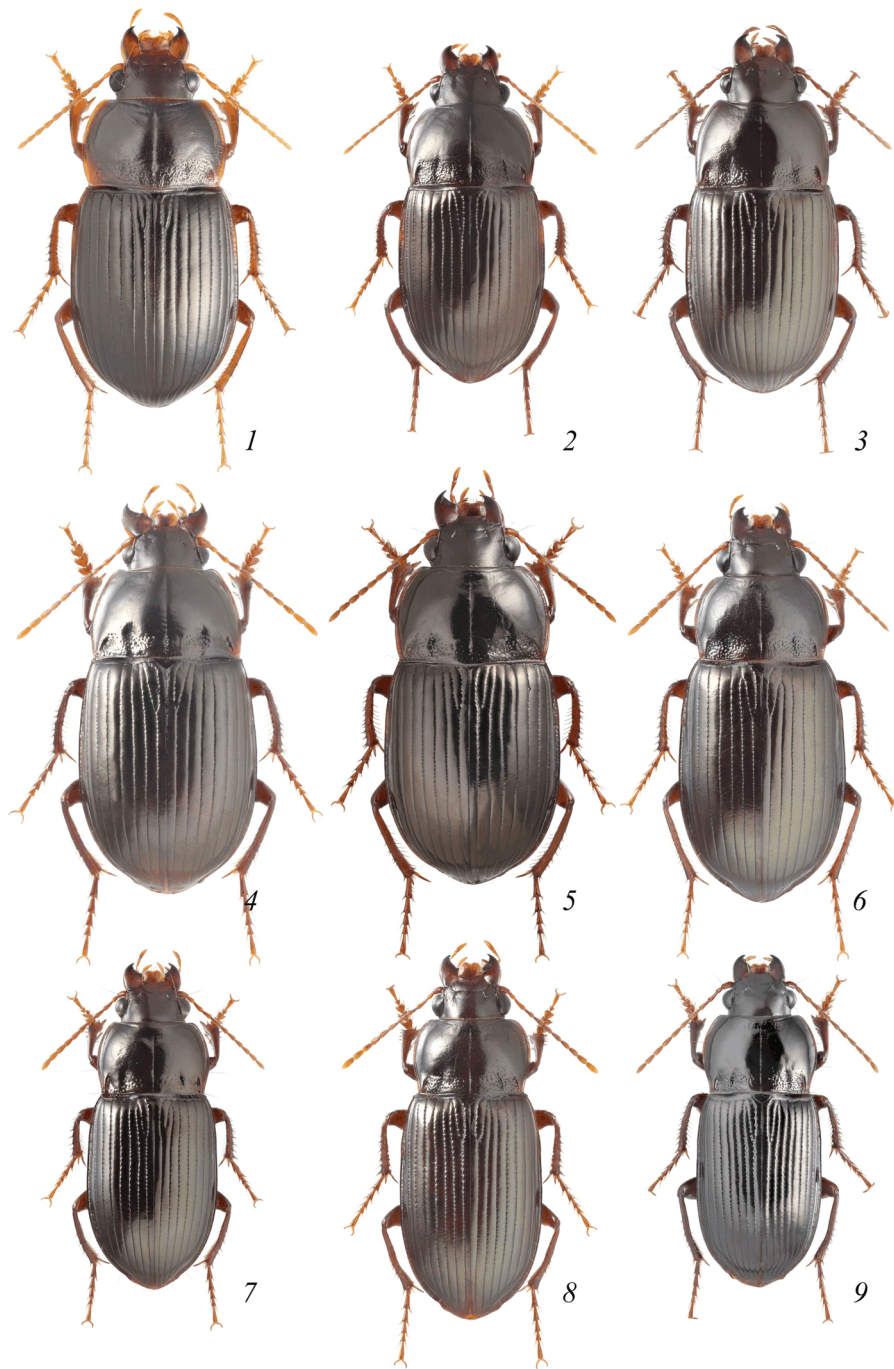


Fig. 49. *Amara* (*Bradytus*) spp., habitus, male. (1) *A. simplicidens* A. Morawitz, 1863; (2) *A. distinguenda* A. Morawitz, 1862; (3) *A. consularis* (Duftschmid, 1812); (4) *A. reitteri* Tschitscherine, 1894; (5) *A. mikae* Lafer, 1980; (6) *A. majuscula* (Chaudoir, 1850); (7) *A. apricaria* (Paykull, 1790); (8) *A. irkutensis* Baliani, 1934; (9) *A. crenata* Dejean, 1828.

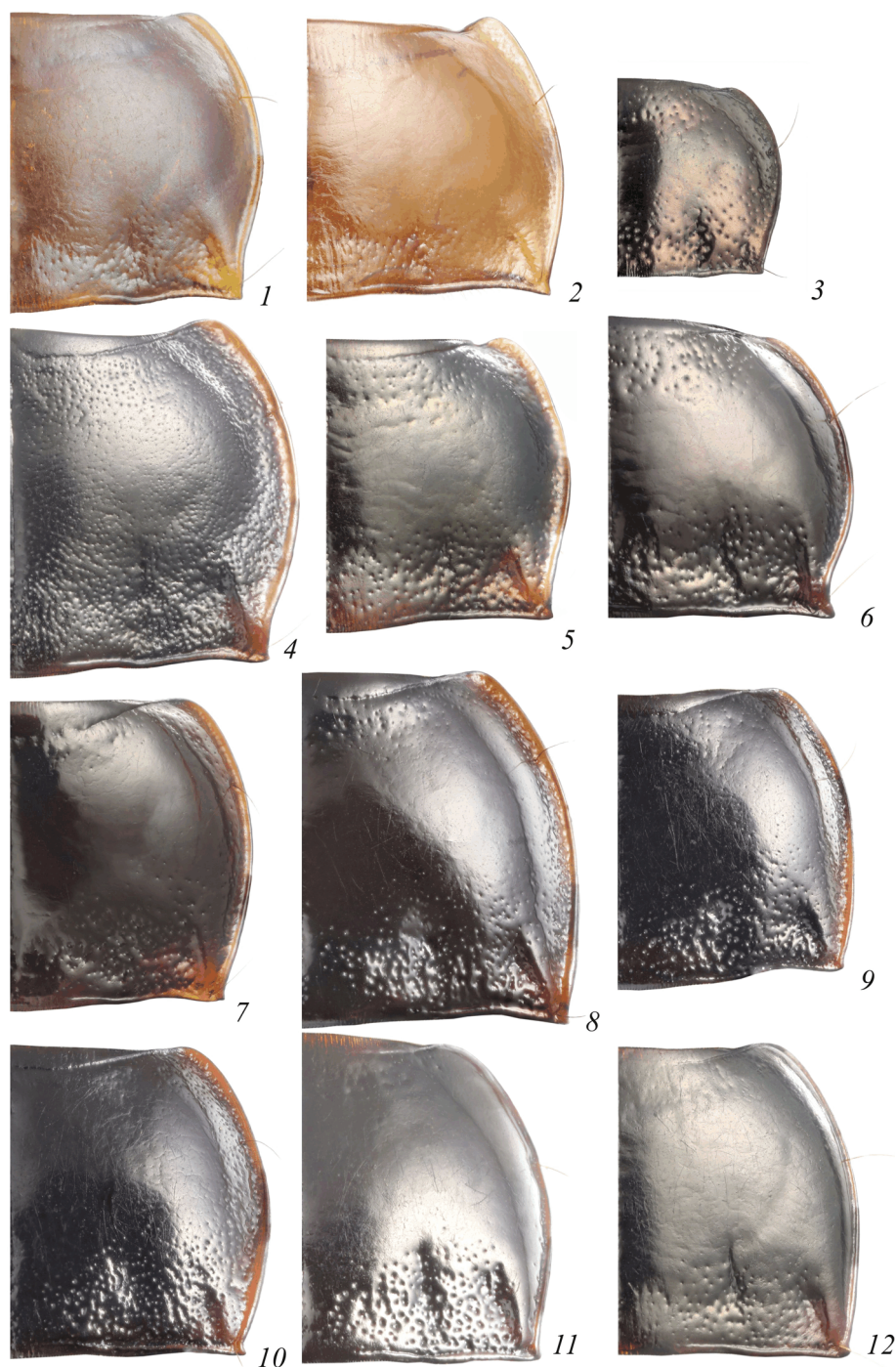


Fig. 50. *Amara* (*Bradytus*) spp., right half of pronotum, dorsal view. (1) *A. fulva* (O.F. Müller, 1776); (2) *A. pallidula* (Motschulsky, 1844); (3) *A. glacialis* (Mannerheim, 1853); (4) *A. macra* (Bates, 1883); (5) *A. aurichalcea* Germar, 1823; (6) *A. fritzhieki* Sundukov, 2013; (7) *A. pseudosimplicidens* Lafer, 1980; (8) *A. khasanensis* sp. n.; (9) *A. sinuaticollis* A. Morawitz, 1862; (10) *A. simplicidens* A. Morawitz, 1863; (11) *A. distinguenda* A. Morawitz, 1862; (12) *A. consularis* (Duftschmid, 1812).

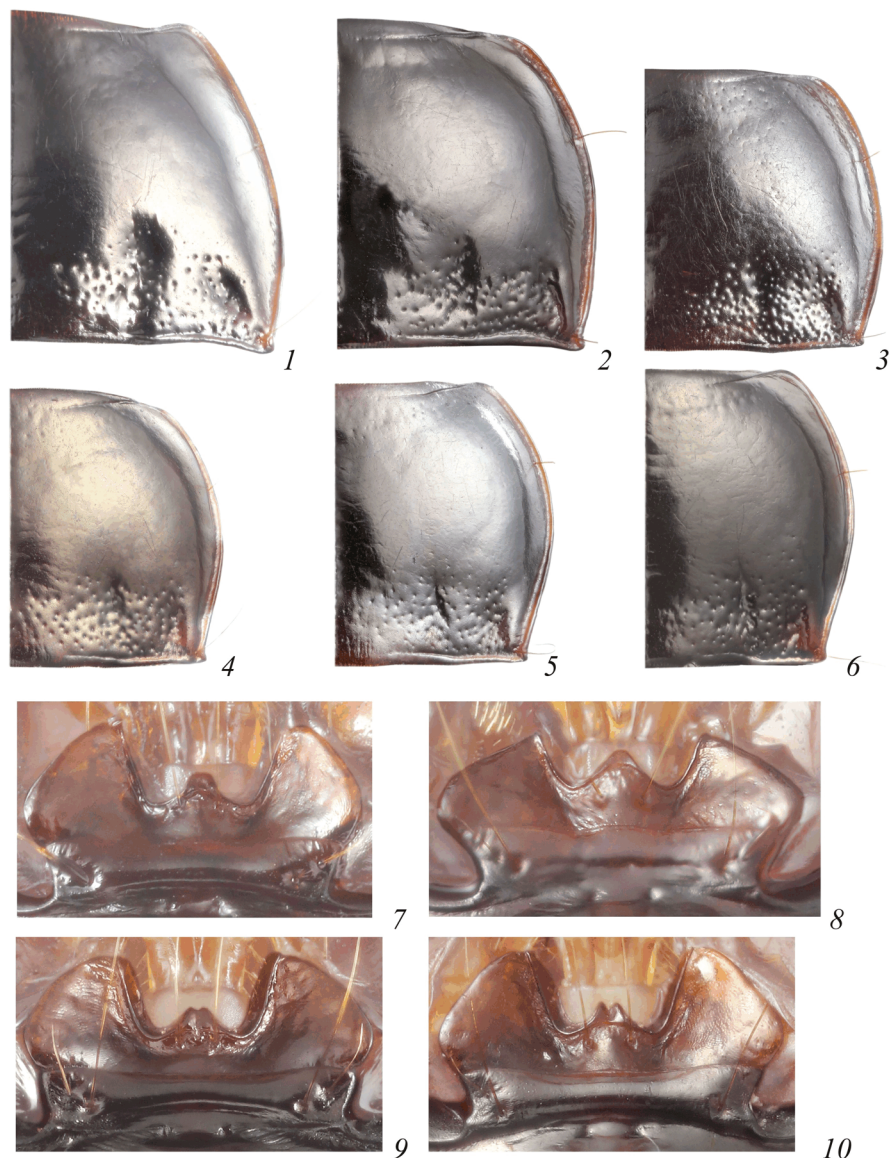


Fig. 51. *Amara (Bradytus)* spp., right half of pronotum, dorsal view (1–6), and mentum, ventral view (7–10). (1, 9) *A. reitteri* Tschitschérine, 1894; (2, 8) *A. mikae* Lafer, 1980; (3, 7) *A. majuscula* (Chaudoir, 1850); (4) *A. apricaria* (Paykull, 1790); (5) *A. irkutensis* Baliani, 1934; (6) *A. crenata* Dejean, 1828; (10) *A. consularis* (Duftschmid, 1812).

rounded tubercles (Fig. 13, 10)
..... *A. distinguenda*.

—Pronotum widest near base, its sides straight or rounded near dentiform posterior angles, without sinuation (Fig. 50, 12; Fig. 51, 1); sides of prosternum smooth or sparsely punctate 14.

14. Outer fovea of pronotum long, nearly reaching basal margin, not separated from it or separated by slightly convex area (Fig. 50, 12); metepisterna

with several large punctures (Fig. 7, 7, 8); mesotibia of male slightly curved, with low, gently sloping tubercles (Fig. 7, 10); penis sharply bent, with short lamella and lateral carinae (Fig. 8, 1); right paramere with hook apically (Fig. 8, 3, 3a) *A. consularis*.

—Outer fovea of pronotum short, separated from basal margin by wide convex area (Fig. 51, 1); metepisterna with numerous large punctures

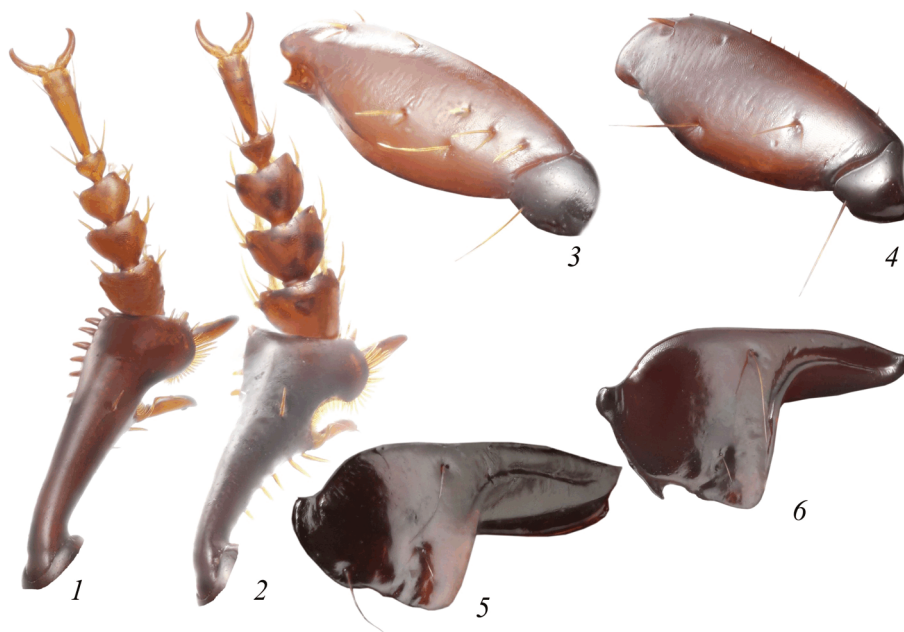


Fig. 52. *Amara* (*Bradytus*) spp., protibia and protarsus of male (1, 2), mesofemur, ventral view (3, 4), and metacoxa, ventral view (5, 6). (1, 4) *A. consularis* (Duftschmid, 1812); (2) *A. reitteri* Tschitschérine, 1894; (3) *A. pallidula* (Motschulsky, 1844); (5) *A. pseudosimplicidens* Lafer, 1980; (6) *A. khasanensis* sp. n.

(Fig. 39, 5, 6); mesotibia of male distinctly curved, with conical tubercles (Fig. 39, 8); penis smoothly curved (Fig. 40, 1), with long lamella, without lateral carinae; right paramere with rounded apex (Fig. 40, 3, 3a) *A. reitteri*.

15. Pronotum rectilinearly narrowing toward posterior angles, without pronounced sinuation; area between outer and inner foveae weakly convex, uniformly covered with punctation similar to that in foveae (Fig. 51, 3); sides of prosternum sparsely covered with small punctures (Fig. 28, 3–5). Metatibia of male with or without single additional hairs in distal part (Fig. 28, 10, 11) *A. majuscula*.

—Pronotum distinctly sinuate before posterior angles; area between outer and inner foveae convex, with sparse punctation; sides of prosternum smooth. Metatibia of male in distal part with or without hair brush 16.

16. Anterior angles of pronotum slightly projecting; posterior angles with small sharp tooth; basal foveae deep, separated by weakly punctate area (Fig. 51, 4); metatibia of male with dense brush of hairs ventrally in distal part (Fig. 1, 10, 11) *A. apricaria*.

—Anterior angles of pronotum distinctly projecting; posterior angles without tooth; basal foveae weakly deepened, separated by wide punctate convexity (Fig. 51, 5); metatibia of male without ventral brush of hairs (Fig. 21, 11, 12) *A. irkutensis*.

17. Body wide (EL/EW = 1.19–1.29; Fig. 49, 5), convex; lateral keel bounding outer fovea of pronotum directed obliquely posteriorly (Fig. 51, 2); metatibia of male with rather sparse brush of hairs in distal third (Fig. 31, 11, 12). Penis smoothly curved, without lateral carinae (Fig. 32, 1); right paramere with rounded apex (Fig. 32, 3, 3a) *A. mikae*.

—Body narrower (EL/EW = 1.31–1.60; Fig. 49, 6, 8), flattened; outer fovea at base of pronotum bounded by longitudinal keel subparallel to axis of body (Fig. 51, 3, 6); metatibia of male without dense brush of hairs. Penis sharply bent, with lateral carinae; right paramere with hook 18.

18. Pronotum narrower than elytra (EW/PW = 1.19–1.29); 1st and 2nd elytral striae merged at base and separated at some distance from basal edge (Fig. 49, 6); elytral striae finely punctate; punctation of metepisterna rather fine, scattered (Fig. 28, 6, 7); penis with small lateral carinae

(Fig. 29, 1, 2); right paramere with small hook apically (Fig. 29, 3, 3a) *A. majuscula*.

—Pronotum subequal to elytra in width (EW/PW = 0.93–1.10); 1st and 2nd elytral striae merged immediately near basal edge; elytral striae deep, with large coarse punctures (Fig. 49, 8); metepisterna with large dense punctures (Fig. 10, 6, 7). Penis with triangularly widened lateral carinae (Fig. 11, 1, 2); right paramere with large perpendicular hook (Fig. 11, 3, 3a) *A. crenata*.

DISCUSSION

We have studied more than half of the species in the subgenus *Bradytus* and have thus obtained sufficient material to discuss their characters and draw some general conclusions.

Firstly, the subgenus reveals a variety of male structural features related to sexual dimorphism. These include a group of punctures on the prosternum that is characteristic of all *Bradytus* species and often lies in a more or less deep depression. Using light microscopy, we have shown that these punctures are associated with a cluster of glands located under the hypoderm. The glands are connected to more or less extended, sometimes branching ducts passing through the cuticle. Each duct opens outwards with one or several pores that look like punctures from the outside. It is obvious that the walls of the ducts increase the total evaporation area for the gland secretion and at the same time protect the ducts from clogging. Such structures are not unique, being known in at least 12 subgenera of the genus *Amara*: *Paraleirides*, *Harpaloamara*, *Armatoleirides*, *Pseudoamara* Baliani, 1934, *Xenocelia*, *Phaenotrichus*, *Zabroscelis*, *Amathitis*, *Phanerodonta*, *Cribramara*, *Bradytodema*, and *Harpalodema*. The strongly developed microsculpture around the pores in the subgenera *Hyalamara* and *Pseudoleirides* also increases the evaporation surface.

Besides the group of prothoracic pores, the subgenus *Bradytus* also shows variation in other secondary sexual characters of males: the width of the fore tarsi, the armature of the mesotibiae, and the presence of the brush on the metatibiae and its size. These variants are not unique by themselves and can also be found in other subgenera of *Amara*, but the species of *Bradytus* possess many different combinations of these traits. For instance, dif-

ferent sizes of the prosternal fossa may be combined with different numbers of punctures. A dense brush of short hairs on the metatibia in males may be combined with a varying depth of the prosternal fossa, strongly or weakly developed tubercles on the mesotibiae, and straight or curved metatibiae. Similar combinations of secondary sexual characters occur in other subgenera, but none of them is exactly the same. Particularly noteworthy is the presence of a brush of hairs on the mesotibiae in males of two species: *A. khasanensis* sp. n. and *A. pseudosimplicidens*. This character is rare in the genus *Amara* and known only in some species of the nominotypical subgenus.

Secondly, the subgenus *Bradytus* reveals a number of morphological changes associated with the characteristics of the habitats, primarily the substrate. The most pronounced complex of traits is related to life on sandy soils. It includes a change in the shape of the protibia with the formation of a large triangular apical lobe and with the number of spines on its outer margin increasing from 3 or 4 to 8–10 (Fig. 53, 1–7), elongation of the gonostyli (Fig. 53, 8–14), apical dilation of the metatibiae, and in the most specialized psammobionts (*A. fulva*, *A. pallidula*) also depigmentation of the integument and reduction of its sculpture. In two closely related species, *A. aurichalcea* and *A. fritzhieki*, the protibia is only scoop-shape dilated in its distal quarter, while the gonostyli are narrowed to a lesser extent. The traits associated with life on loose sandy soils are less pronounced in *A. fritzhieki* than in *A. aurichalcea*.

The subgenus *Pseudobradytus* was established by Csiki (1908 : 353) for a single species, *A. crenata*, differing in a simple, non-bifid medial tooth of mentum and absence of brush of hairs on the ventral surface of the metatibia. Later, Kult (1947) placed in this subgenus one more species, *A. majuscula* with a wide, blunt or slightly emarginate medial tooth of mentum. Still later, Habu (1978) commented on the unreliability of such diagnosis and suggested the structure of the stylomeres as a differentiating character; at the same time, he placed four additional species in the subgenus *Pseudobradytus*: *A. majuscula*, *A. simplicidens*, *A. batesi*, and *A. apri-caria*. As shown above, all of the mentioned traits vary and combine within the subgenus *Bradytus* to such an extent that its synonymy with *Pseudobradytus* can hardly be disputed.



Fig. 53. *Amara (Bradytus)* spp., protibia, front view (1–7), and gonostylus, ventral view (8–14). (1, 8) *A. crenata* Dejean, 1828; (2, 9) *A. consularis* (Duftschmid, 1812); (3, 10) *A. mikae* Lafer, 1980; (4, 11) *A. aurichalcea* Germar, 1823; (5, 12) *A. khasanensis* sp. n.; (6, 13) *A. macra* (Bates, 1883); (7, 14) *A. pallidula* (Motschulsky, 1844).

Finally, analysis of the traits related to sexual dimorphism or biological features can be used to identify groups of closely related species. F. Hieke (1930–2015), the leading expert on the genus *Amara*, suggested already in his early works that many differentiating characters fail to strictly define the taxa because the subgenera and species groups within *Amara* are still in the nascent state (Hieke, 1978). Accordingly, the traits typical of “species” or “members” of one subgenus can also be found in other subgenera. In particular, the fossa and/or punctation on the male prosternum are characteristic of *Bradytus* but also occur in species from a dozen other subgenera (see above). The fossa is present in many species of the subgenera *Amarocelia*, *Celia*, *Pseudocelia*, *Cumeres* and in a few species of the nominotypical subgenus (Hieke, 2002). The many years of studying *Amara* allowed Hieke (2005 : 149) to conclude that a synapomorphy is not the shared possession of apomorphic traits, but rather the shared genetic potential to develop a certain apomorphic trait: “... eine Synapomorphie nicht der gemeinsame Besitz von apomorphen Merkmalen ist, sondern die gemeinsame genetische Potenz, ein bestimmtes apomorphes Merkmal auszubilden.”

This statement clearly disagrees with the strict cladistic interpretation of synapomorphy, but it does reflect a significant problem posed by the extreme variety of combinations of diagnostic characters. Since the intrageneric structure of *Amara* has to be based on such characters, the boundaries of many groups remain poorly defined and the hiatuses are often indistinct.

A similar variety of trait combinations is observed in the male copulatory apparatus of *Bradytus*. Most species of this subgenus have a smoothly curved penis without carinae, with the non-hooked right paramere and with a quite simple saccular endophallus without clearly defined compact tubercles. A peculiar endophallus with broad lateroapical lobes is present only in *A. simplicidens* (Fig. 44, 5, 6). Other species show little variation in the endophallus armature: no sclerites in *A. pseudosimplicidens* and *A. glacialis*, one basal sclerite in *A. aurichalcea*, *A. fritzhieki*, *A. fulva*, *A. mikae*, and *A. pallidula*, two basal sclerites in *A. macra* and *A. reitteri*, and a lateral field of sclerotized spinules in *A. khasanensis* sp. n. and *A. sinuaticollis*. The endophallus of *A. glacialis* and *A. pallidula* tapers apically.

In view of the above, it is all the more surprising that the subgenus *Bradytus* includes a group of species with a stable set of male genital features. The penis in *A. apricaria*, *A. consularis*, *A. crenata*, *A. distinguenda*, *A. irkutensis*, and *A. majuscula* is bent sharply at almost 90° and has lateral carinae in the preputial area, the right paramere with a hook, and an intricately shaped endophallus with a large ventrobasal lobe and several smaller medial and apical lobes. None of these species has endophallic sclerites, and the metatibiae in the males are clearly dilated distally. They are quite different in other secondary sex characteristics, coloration, size, and body proportions; however, in our opinion, the matching complex structural features of the copulatory apparatus imply the belonging of these species to the same natural group.

The ranges of most species in this group are limited to the Western Palaearctic, except for the Eastern Palaearctic *A. distinguenda* and the widespread Palaearctic *A. majuscula*. According to some researchers (Boer, 1962; Fedorenko, 1988; Hieke and Wrase, 1988; Desender, 1992), *A. majuscula* has been actively spreading westwards during the 20th century. Their opinions were based on the study of collections and comparing the dates of discovery of the species in different countries, and they gave rise to ideas about the invasive (Timus, 2015) or alien (Pawłowski, 2012) status of *A. majuscula* in Europe. The latter of the cited authors suggested that *A. majuscula* could have been introduced to Europe from the Far East following the construction of the Trans-Siberian Railway. This assumption is additionally supported by the high species diversity of *Bradytus* in the Eastern Palaearctic, consistent with the usual speciation center concept. However, our data indicate that *A. majuscula* belongs to a group of species with predominantly Western Palaearctic distribution. This species was described (Chaudoir, 1850) from “East Siberia” without specifying the precise locality, based on the materials of V.I. Sedakov who collected insects mainly in the Baikal area and Transbaikalia. Soon after its description, the species was recorded for the “Caucasus” (Gemming and Harold, 1868 : 339) and much later, for Mongolia, China, and Tibet (Tschitscherine, 1898 : 214). In the eastern part of its range, the species was discovered in Japan only in the 1970s (Habu, 1978), and in Korea even later (Kirschenhofer, 1997). Thus, eastward expansion of *A. majuscula* appears equally likely.

The case of *A. majuscula* can be used to consider the relevancy of such popular categories as “range expansion,” “invasion,” and “alien species.” There is no doubt that such phenomena and species do exist in nature. But how easy is it to justify the status of an “invasive” species? To do this, one must at least prove that the species was not present in the given territory before and appeared there recently. The second task is relatively easy, but the first one requires a thorough examination of collections and literature. The reliability of these data sources is obviously affected by failure to find and identify the species in question. For example, *A. majuscula* has been known in Western Europe since 1917, where it was found first in Sweden, then in Poland (1927), Bohemia (1947), etc. (Fassati, 1952b; Boer, 1962; Hieke and Wrase, 1988; Desender, 1992; Lindroth, 1992; Bruneau de Mire, 1995). However, the species was discovered in Moscow only in the 1940s (Fedorenko, 1988), and in Kaluga only after 1970 (Aleksanov and Alekseev, 2020). These data clearly disagree with the supposed expansion of *A. majuscula* from the east. Any attempt to analyze the spread of the species in Europe reveals contradictions in the dates and localities of its collection. This inevitably leads to the assumption that *A. majuscula* was not collected or could not be identified in some places. This assumption, in its turn, raises a reasonable question: if the species was accidentally overlooked during collecting in one place, why could not the same have happened in other places? Misidentification is even more likely, because a species described from “East Siberia” would not be expected to be present in Europe. Thus, *A. majuscula* had most probably been misidentified before it was included in the main keys, and our understanding of its distribution in the past is therefore distorted. The harder it is to collect and identify an insect, the greater the distortion can be expected; this is why the status of many so-called “invasive” species remains to be thoroughly reassessed.

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ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Statement on the welfare of animals. All applicable international, national, and institutional guidelines for the care and use of animals were followed. All procedures performed in studies involving animals were in accordance with the ethical standards of the institution or practice at which the studies were conducted.

CONFLICT OF INTEREST

The authors of this work declare that they have no conflicts of interest.

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