

РОССИЙСКАЯ АКАДЕМИЯ НАУК
Южный научный центр

RUSSIAN ACADEMY OF SCIENCES
Southern Scientific Centre

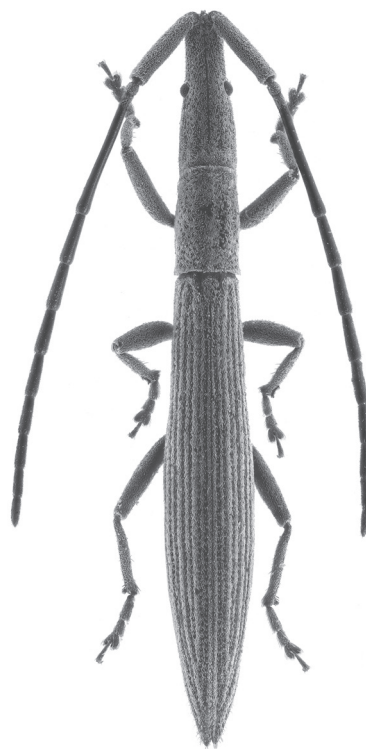


Кавказский Энтомологический Бюллетень

CAUCASIAN ENTOMOLOGICAL BULLETIN

Том 17. Вып. 1

Vol. 17. No. 1



Ростов-на-Дону
2021

The *rousi* species group of the genus *Geodromicus* Redtenbacher, 1857 (Coleoptera: Staphylinidae: Omaliinae)

© A.V. Shavrin

Daugavpils University, Institute of Life Sciences and Technologies, Vienibas str., 13, Daugavpils LV-5401 Latvia. E-mail: ashavrin@hotmail.com

Abstract. The *rousi* species group of the genus *Geodromicus* Redtenbacher, 1857 is reviewed. All four Western Palaearctic species of the group, including *G.* (s. str.) *puncticollis* (Weise, 1875) (Europe), *G.* (s. str.) *anlasi* sp. n. (north-eastern Turkey), *G.* (s. str.) *lobanovi* sp. n. (Iran: Alborz Mts.) and the Caucasian *G.* (s. str.) *rousi* Bordoni, 1984 are (re-)described and illustrated. The following new synonymies are established: *G.* (s. str.) *puncticollis* = *G. schubertorum* Scheerpeltz, 1937, **syn. n.** = *G. robusticornis* Bernhauer, 1941, **syn. n.** = *G. montenegrinus* Bernhauer, 1941, **syn. n.** A key to species and distribution map are provided. Two species are recorded for the first time: *G. puncticollis* from Albania, and *G. rousi* from North Ossetia – Alania and Dagestan in Russia, as well as from Georgia.

Key words: *Geodromicus*, taxonomy, new species, fauna, Palaearctic Region.

Группа видов *rousi* рода *Geodromicus* Redtenbacher, 1857 (Coleoptera: Staphylinidae: Omaliinae)

© А.В. Шаврин

Институт естественных наук и технологий, Даугавпилсский университет, ул. Виенибас, 13, Даугавпилс LV-5401 Латвия. E-mail: ashavrin@hotmail.com

Резюме. Сделан обзор группы видов *rousi* рода *Geodromicus* Redtenbacher, 1857. Описаны, переописаны и проиллюстрированы все четыре западнопалеарктических вида группы, включая европейский *G.* (s. str.) *puncticollis* (Weise, 1875), *G.* (s. str.) *anlasi* sp. n. (Северо-Восточная Турция), *G.* (s. str.) *lobanovi* sp. n. (Иран: хребет Эльбурс) и кавказский *G.* (s. str.) *rousi* Bordoni, 1984. Установлена новая синонимия: *G.* (s. str.) *puncticollis* = *G. schubertorum* Scheerpeltz, 1937, **syn. n.** = *G. robusticornis* Bernhauer, 1941, **syn. n.** = *G. montenegrinus* Bernhauer, 1941, **syn. n.** Приведены определительная таблица видов группы и карта их распространения. Два вида впервые указаны: *G. puncticollis* из Албании и *G. rousi* из Северной Осетии – Алании и Дагестана в России и из Грузии.

Ключевые слова: *Geodromicus*, таксономия, новые виды, фауна, Палеарктическая область.

Introduction

The genus *Geodromicus* Redtenbacher, 1857 includes about 130 species distributed in the Holarctic Region, reaching its greatest diversity in Asia and strongly associated with mountain regions [Schülke, Smetana, 2015]. About 40 species were described from the Western Palaearctic Region. Nevertheless, the fauna of this territory remains insufficiently studied, especially in its southeastern territories. Bordoni [1984] revised the main part of this fauna, described several new taxa and provided the species group concept based on the morphology of the aedeagus.

This study presents the redescription of *rousi* group of the *Geodromicus* which is distributed from south-eastern Europe to south-western Asia. This group contains four species: two species that were previously assigned to *longipes* and *rousi* groups [Bordoni, 1984], and two species new to science, described and illustrated from Turkey and Iran. Besides that, based on the study of type and additional material, three species were synonymized. All published data on the taxa species involved in this study are summarized, and distribution maps and new faunistic records are provided.

Material and methods

The examined material is deposited in the following collections:

cA – collection of V. Assing (Hannover, Germany);
 cG – collection of A.V. Gontarenko (Odessa, Ukraine);
 cK – collection of E.A. Khachikov (Rostov-on-Don, Russia);
 cR – collection of A.B. Ryvkin (Moscow, Russia);
 cS – collection of A.V. Shavrin (Daugavpils, Latvia);
 cZ – collection of A. Zanetti (Verona, Italy);
 CSC – collection of M. Schülke, deposited in Museum für Naturkunde (Berlin, Germany);
 FMNH – Field Museum of Natural History (Chicago, USA (M.K. Thayer, J. Snyder));
 HNHM – Hungarian Natural History Museum (Budapest, Hungary (Gy. Makranczy));
 MHNH – Muséum d'Histoire Naturelle de Paris (France (A. Taghavian));
 MZHF – Finnish Zoological Museum of Natural History (Helsinki, Finland (J. Muona, J. Mattila));
 NHMW – Naturhistorisches Museum Wien (Austria (H. Schillhammer));
 NMPC – National Museum (Prague, Czech Republic (J. Hájek));
 NSMT – collection of A. Smetana (The National Museum of Nature and Science, Toshiba, Japan (S. Nomura));
 SNMB – Slovenské Národné múzeum (Bratislava, Slovakia (V. Jánky));
 ZMM – Zoological Museum of Moscow University (Moscow, Russia (A.A. Gusakov));
 ZMUC – Zoological Museum, University of Copenhagen (Copenhagen, Denmark (A.Yu. Solodovnikov)).

The following measurements are used and abbreviated in this paper:

- HW – maximum width of head including eyes;
 HL – length of head (from base of labrum to posterior constriction of head);
 OL – ocular length (longitudinal);
 LT – length of temple;
 AL – length of antenna;
 PL – length of pronotum;
 PWmax – maximum width of pronotum;
 PWmin – minimum width of pronotum;
 ESL – sutural length of elytra (length of elytra from the apex of scutellum to the posterior margin of sutural angle);
 EW – maximum width of elytra;
 MTbL – length of metatibia;
 MTrL – length of metatarsus;
 AW – maximum width of abdomen;
 AedL – length of aedeagus (from base of median lobe to apex of parameres);
 BL – total length (from anterior margin of clypeus to apex of abdomen).

Type and historic labels are cited verbatim. In the specimen lists, 'dissected' means that for males a plastic plate with the aedeagus in Canada balsam was pinned under the card with the beetle; abdominal tergite VIII, sternite VIII, and the apical segment are glued to the same card under the specimen. A detailed description is provided only for *G. rousi*, other descriptions focus on diagnostic characters only. Specimens were examined using Nikon SMZ 745T and Nikon Eclipse E200 stereomicroscopes. A digital camera (Sony Alpha DSLR-A300) was used for photographs of the habitus. Photographs of the habitus and type labels of types of *G. robusticornis* and *G. montenegrinus* are available online [The Field Museum, 2021]. All figures were modified using Adobe Photoshop software. All measurements are given in millimeters and were made with a stereoscopic microscope equipped with an ocular micrometer. The distribution map was created using MapCreator 2.0 software.

Systematic part

Redescription of the *rousi* group. Body medium-sized (4.5–6.7 mm); pronotum wide, slightly or sharply narrowed posteriad, with notable, subparallel-sided basal part; elytra short, transverse, usually significantly widened posteriad; aedeagus with moderately wide median lobe and narrow to moderately wide lancet-shaped apical portion, parameres narrow, slightly widened apically, reaching or exceeding apex of median lobe, middle part of median lobe with two long parallel structures and wide, long flagellum between them.

Species included. *Geodromicus* (s. str.) *anlasi* sp. n., *G.* (s. str.) *lobanovi* sp. n., *G.* (s. str.) *puncticollis* (Weise, 1875), *G.* (s. str.) *rousi* Bordon, 1984.

Distribution. Species of the *rousi* group are distributed in the Western Palaearctic Region, from Carpathian and Balkan Mountains through the Caucasus and North-Eastern Turkey to Northern Iran (Fig. 5).

Bionomics. Species of the *rousi* group inhabit banks of rivers and streams, and can be found in gravel, under

stones and in wet litter, debris, etc. Specimens were collected at elevations from 200 to 3500 m a.s.l. from May to September.

Notes. This group included Eastern European *G.* (s. str.) *puncticollis*, which was previously included to the *longipes* group by Bordon [1984]. Other two taxa, which were assigned by Bordon to the *rousi* group are *G.* (s. str.) *bodemeyeri* Bernhauer, 1902 and *G.* (s. str.) *hauserianus* Bordon, 1984. Zerche [1992] synonymized the latter with *G.* (s. str.) *convexicollis* Luze, 1903. These species have different external and internal morphology of the aedeagus and belong to a separate group, with the main part of species distributed in the Central Asia.

Based on the presence of long subparallel sclerotized structures in the middle of the median lobe and the shape of the flagellum, the *rousi* group is similar to *major* and *kunzei* groups of the nominal subgenus *Geodromicus* [Bordon 1984], but differs by the shape of apical portion of the aedeagus, narrower apical parts of the parameres and details of the structure of the internal sac.

Key to the species of the *rousi* group

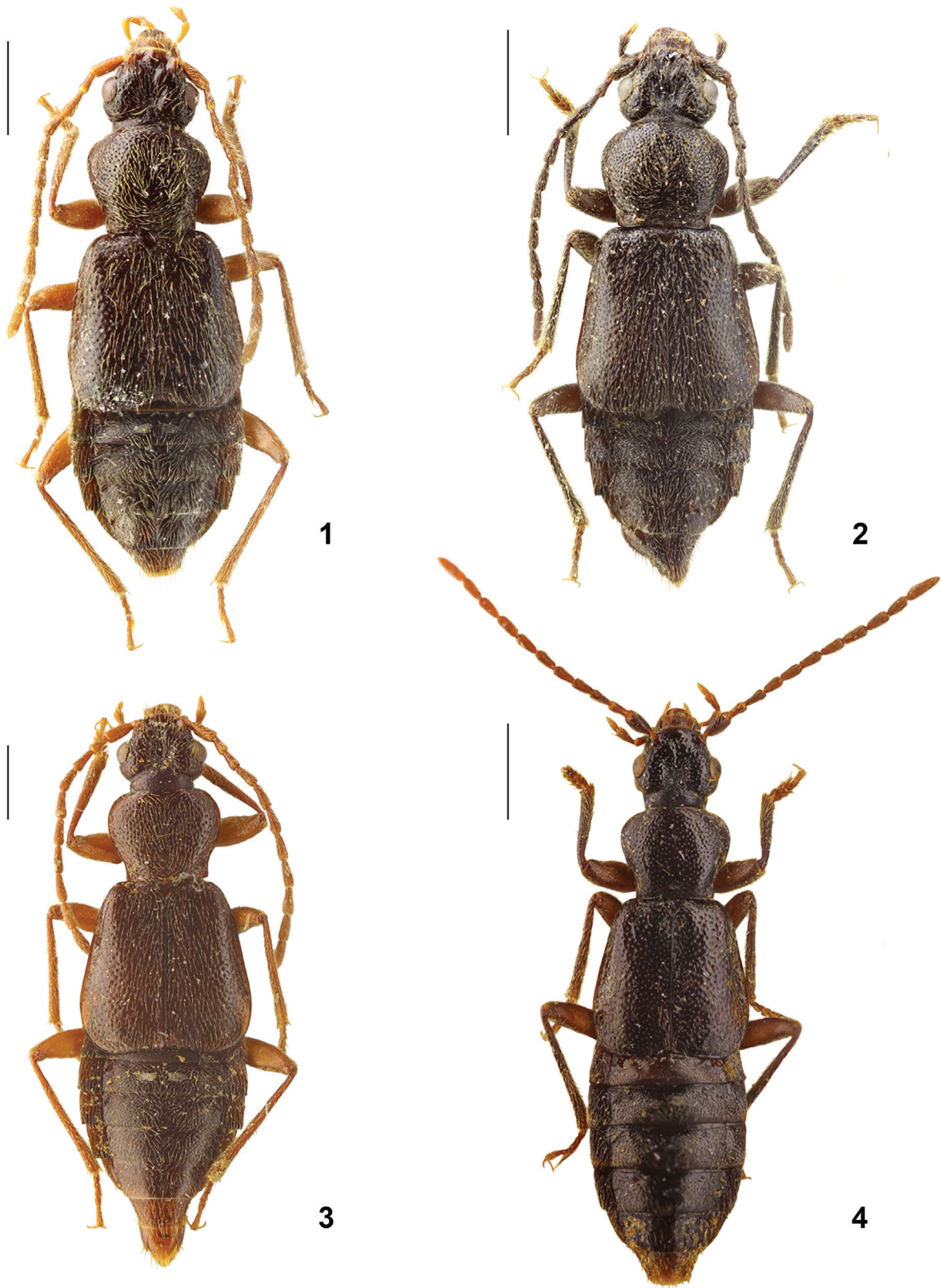
1. Lateral sides of pronotum sharply narrowed anteriorly and gradually narrowed posteriorly. Apical part of median lobe somewhat elongate, parameres very long (Figs 12, 14). Body dark-brown. Habitus as in Fig. 2. Body length 5.75–6.3 mm *G. anlasi* sp. n.
 – Lateral sides of pronotum widely rounded anteriorly and sharply narrowed posteriorly. Apical part of median lobe and parameres moderately short 2
2. Elytra slightly widened posteriorly. Parameres distinctly exceeding apex of median lobe (Figs 6, 8–11). Body yellow-brown to reddish-brown. Habitus as in Fig. 1. Body length 4.5–6.7 mm *G. rousi*
 – Elytra significantly widened posteriorly. Parameres somewhat shorter 3
3. Apical part of median lobe moderately narrow (Figs 18, 20–23). Body brown to reddish-brown. Habitus as in Fig. 4. Body smaller: 5–6.12 mm
 *G. puncticollis*
 – Apical part of median lobe wide (Figs 15, 17). Body reddish-brown, with brown abdomen. Habitus as in Fig. 3. Body larger: 6.2–6.35 mm *G. lobanovi* sp. n.

Species list

Geodromicus (s. str.) *rousi* Bordon, 1984
 (Figs 1, 5, 6–11)

Geodromicus rousi Bordon, 1984: 39. Iablokoff-Khznorian, 1989: 137, 138; Khachikov, 1998: 8; Khachikov et al., 2010: 84; Solodovnikov et al., 2017: 213.

Material. Russia. Krasnodar Region: 2♀ (cK), Mezmay, near stream, 06.1991 (E.A. Khachikov); 2♂ (cK, cS), same data, 19–25.06.1996; 1♂ (ZMUC), environs of Ubinskaya Station, 28.05.1992 (V.Yu. Savitsky, M.Yu. Savitsky); 2♂, 4♀ (ZMM, cS), same data, 21.05.1998 (I.A. Ushakov); 1♂, 2♀ (cS), same data, 22.05.1998; 4♂, 2♀ (cK, cS), Mezmay, 17.06.1992 (E.A. Khachikov); 1♂ (cS), Tkhab Mt., 20.06.1992 (M.Yu. Savitsky); 1♂ (ZMUC), tributary of Papay River (near Ubinskaya), 22–24.06.1992 (M.Yu. Savitsky); 1♀ (ZMUC), 30 km NW Dagomys, Khuko Mt., 1500–1600 m a.s.l., forest, near water, 24.06.1994 (A.Yu. Solodovnikov);



Figs 1–4. Habitus of species of *Geodromicus* of the *rousi* group.
 1 – *G. rousi*, male (Mezmay, Russia); 2 – *G. anlasi* sp. n., male, holotype; 3 – *G. lobanovi* sp. n., male, holotype; 4 – *G. puncticollis*, male (Stara Planina, Bulgaria). Scale bars 1 mm.

Рис. 1–4. Габитус видов *Geodromicus* группы *rousi*.
 1 – *G. rousi*, самец (Мезмай, Россия); 2 – *G. anlasi* sp. n., самец, голотип; 3 – *G. lobanovi* sp. n., самец, голотип; 4 – *G. puncticollis*, самец (Стара-Планина, Болгария). Масштабные линейки 1 мм.

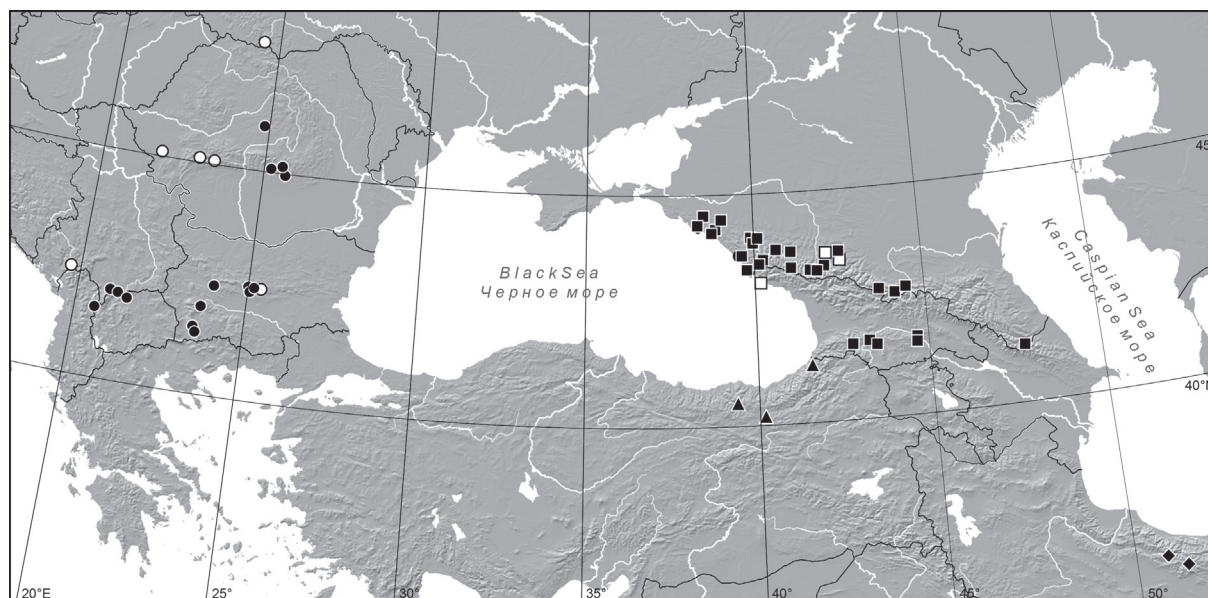


Fig. 5. Distribution of species of *Geodromicus* of the *rousi* group: *G. anlasi* sp. n. – triangles, *G. lobanovi* sp. n. – rhombs, *G. puncticollis* – circles, *G. rousi* – squares. Black symbols mean material studied by the author, white symbols mean previously published material not seen by the author.

Рис. 5. Распространение видов *Geodromicus* группы *rousi*: *G. anlasi* sp. n. – треугольники, *G. lobanovi* sp. n. – ромбы, *G. puncticollis* – круги, *G. rousi* – квадраты. Черные символы соответствуют материалу, изученному автором, белые – ранее опубликованному материалу, который автор не изучал.

2♀ (ZMUC), 12 km E Krasnaya Polyana, bank of Pslukh River, 700 m a.s.l., 29.07.1994 (A.Yu. Solodovnikov); 1♂ (ZMUC), Mzimta River, near Krasnaya Polyana, 600 m a.s.l., 5.09.1995 (M.Yu. Savitsky); 3♂, 1♀ (cA), Sochi, Agura River, 200 m a.s.l., 30.08.1998 (A.G. Koval); 1♂, 1♀ (cA), Mostovskoy District, Nikitino, valley of Malaya Laba River, left source of Nikitinka Stream, 1600 m a.s.l., gravel bank of Golya River, 8.08.1997 (I.A. Solodovnikov); 1♂, 7♀ (NSMT, cS), Temnolesskaya, near Mezmay, 850 m a.s.l., treading of muddy leaf litter and other debris along edges of a pond, and in wet leaf litter and other debris accumulated at edges of a small creek in a mostly *Fagus* forest (R18), 19.06.1999 (A. Smetana); 1♂, 2♀ (NSMT, cS), same data, wet to very wet fallen leaves and other debris along the edges of a small creek in an old mixed *Abies*, *Fagus* forest (R4), 8.06.1999; 1♀ (NSMT), same data, 750 m a.s.l., leaf litter and moldy debris under it around bases of large standing *Fagus* trees in an old *Fagus* forest with intermixed young *Abies* (R2), 7.06.1999; 1♂ (ZMUC), Aibga Mt. Range, valley of river Galion 1, 600 m a.s.l., stream, under stones, 20.06.1999 (A.Yu. Solodovnikov); 1♂ (CSC), environs of Solokhaul, S slope, 250 m a.s.l., 11.07.1999 (A.V. Putschkov); 1♂ (cS), Stschyotka Mt., 5–8.05.2005 (D.G. Kasatkin); 1♂, 2♀ (cS), Goryachiy Klyuch, Kavyarze River, 30.09.2007 (D.D. Fominykh); 2♂, 1♀ (cG), Tuapse District, Tenginka, 14.05.2017 (M.O. Salnitska).

Adygea: 1♀ (cK), Maykop District, Nikel', 06.1990 (Yu.G. Arzanov); 2♂ (ZMUC, cS), Lagonaki, Azish-Tau Mt., 1500 m a.s.l., forest, stream edge, 27.08.1994 (A.Yu. Solodovnikov).

Karachay-Cherkessia: 1♀ (cK), Daut Gorge, 13.06.1992 (Yu.G. Arzanov); 1♀ (ZMUC), left bank of Daut River, near El'brusskiy, 1400 m a.s.l., 19.06.1993 (A.Yu. Solodovnikov); 1♀ (ZMUC), valley of Dzhenuat River, forest zone, 21.06.1993 (A.Yu. Solodovnikov); 1♂ (cK), Olikhonovka River, Medovye Vodopady, 30.07.1994 (E.A. Khachikov); 1♂, 2♀ (ZMUC, cS), mouth of Urup River near Urup, Timber line, near water, 14.08.1995 (A.Yu. Solodovnikov); 1♂ (cK), confluence of Arkhyz and Dukka rivers, 15.07.1996 (E.A. Khachikov); 1♂, 1♀ (cS), Teberda, 8.07.2011, (E.A. Khachikov).

North Ossetia – Alania: 1♂ (cR), right side of Ardon River near Zintsar, under stones, 12.09.1983 (S.K. Alekseev); 2♂ (CSC), Kasbegi, Terek River, 1800 m a.s.l., 1.07.1988 (D. Wrase); 1♂ (cK), Uruk River, Matsuta, 5.08.1992 (K.A. Grebennikov); 1♂ (cS), same data, 8.08.1992 (K.A. Grebennikov).

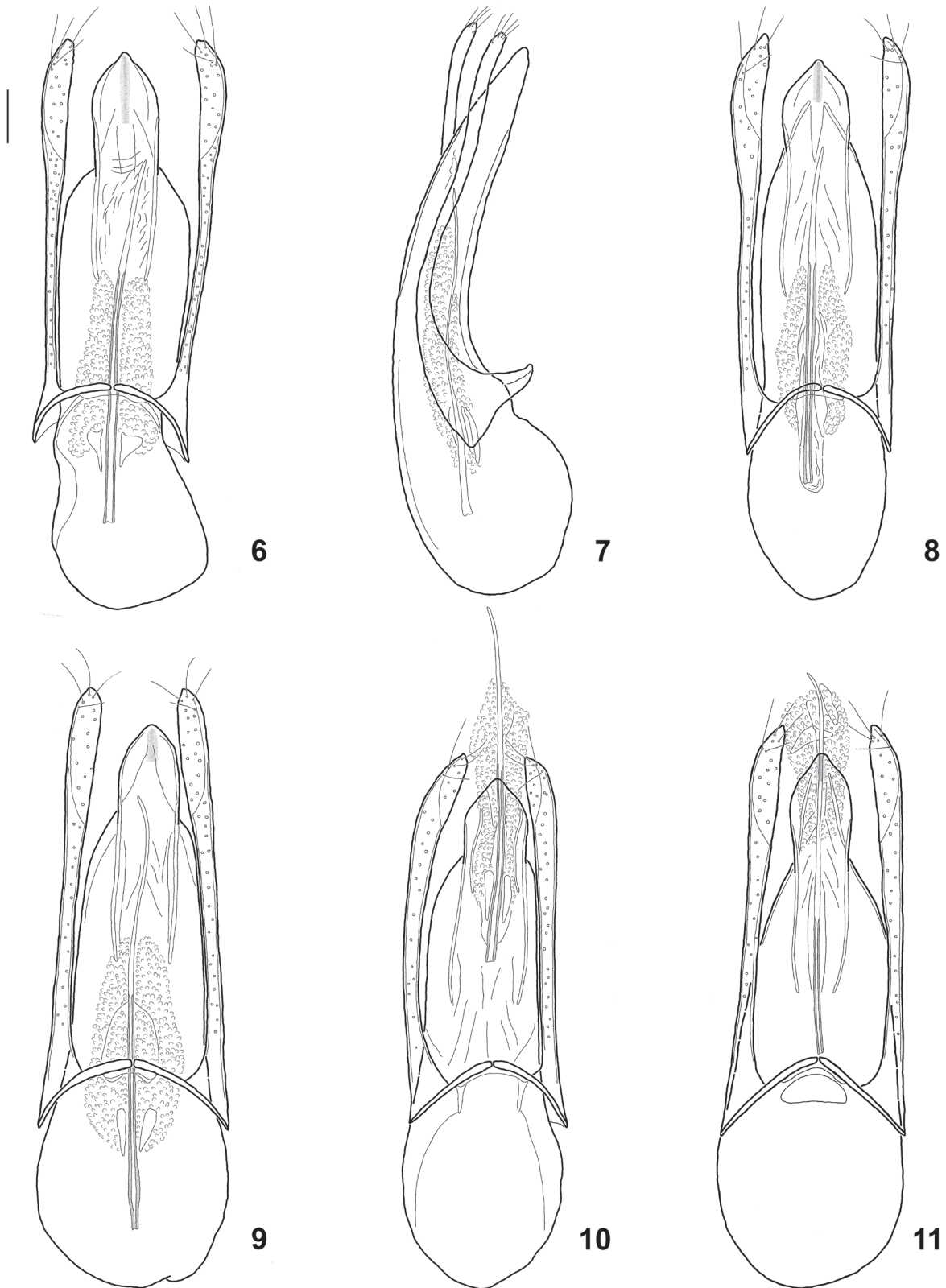
Dagestan: 2♀ (ZMUC), W slopes of Shalbuzdag Mt., 2000–2500 m a.s.l., 6.07.1994 (V.Yu. Savitsky).

Georgia. 1♂ (MHNH), "Caucasus Abastuman[i] Leder (Reitter)"; 1♂ (FMNH), "v. *major* Col. Borshom", "major Epp. [sic] Caucasus v. Schneider" (FMNH); 1♂ (ZMUC), environs of Tbilisi, Zkhneti, 1200 m a.s.l., 23.09.1980 (O.L. Kryzhanovskiy); 1♂ (cZ), same data, 800 m a.s.l., 22.06.1986 (D. Wrase, M. Schülke); 1♀ (cZ), Trialetskiy Mts., Bakuriani, 1800–2200 m a.s.l., 3–7.07.1986 (D. Wrase, M. Schülke).

Redescription. Measurements ($n = 50$): HW: 0.85–1.11; HL: 0.54–0.83; OL: 0.16–0.34; TL: 0.11–0.16; AL (averaged): 3.64; PL: 0.85–1.13; PWmax: 1.09–1.38; PWmin: 0.75–1.03; ESL: 1.47–1.84; EW: 1.57–2.12; MTbL (averaged): 1.52; MTrL (averaged): 0.68 (MTrL 1–4: 0.36; MTrL 5: 0.32); AW: 1.55–2.14; AedL: 0.84–1.13; BL: 4.5–6.7.

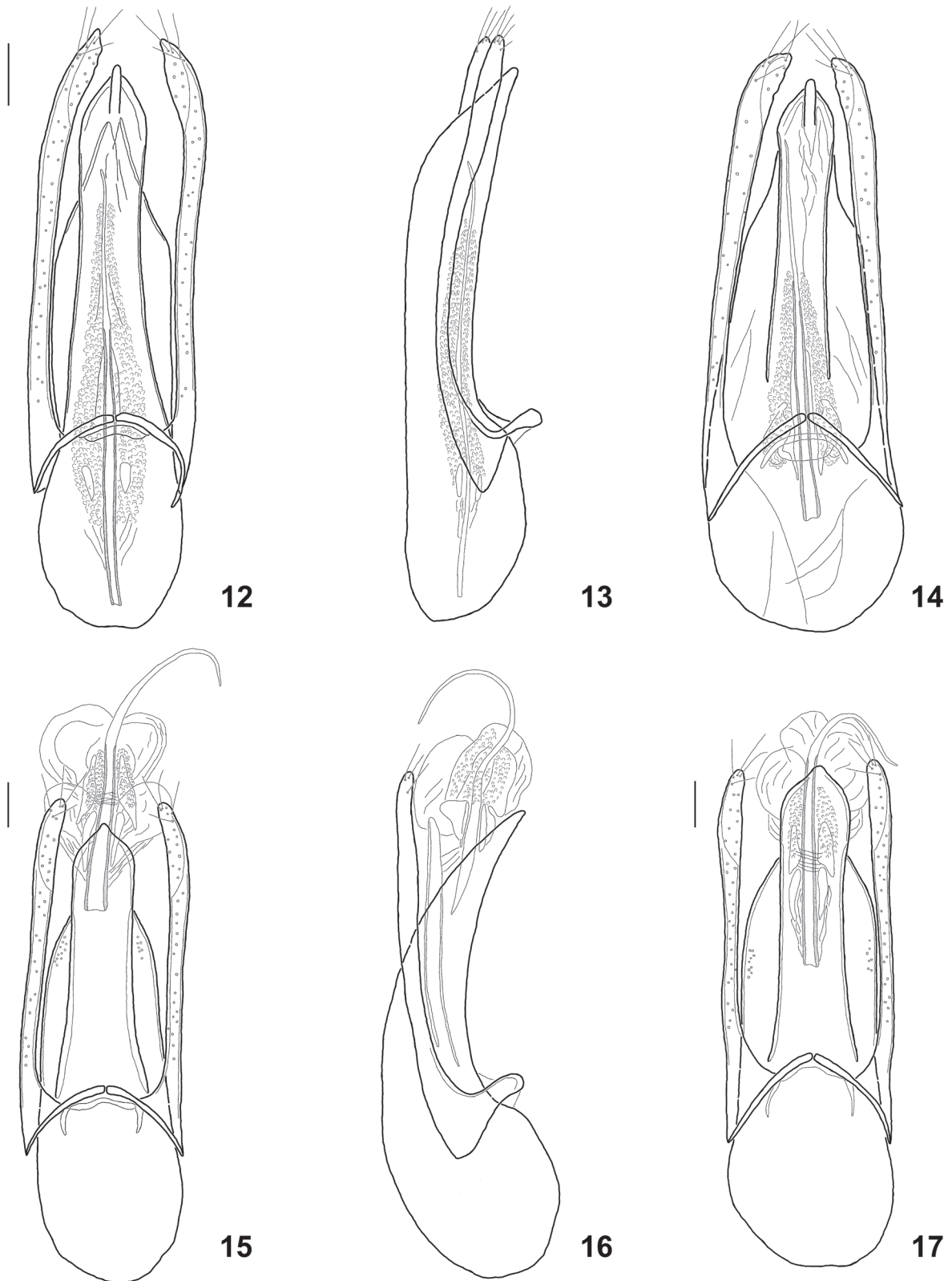
Body yellow-brown to reddish-brown, sometimes with paler middle portion of elytra (some specimens with very wide yellow-brown or reddish spots), paratergites and apical part of abdomen; mouthparts, antennae and legs yellow to yellow-brown (usually apical part of femora and tibiae darker); apical segment of maxillary palpi and tarsi usually yellow. Body glossy; head with very indistinct transverse meshes in medioapical part of vertex and fine, transverse, isodiametric meshes on portions between grooves and margins of eyes, and sometimes with fine and transverse meshes on interocellar depression; pronotum usually without microsculpture, but some specimens with indistinct transverse microreticulation in medioapical third; abdominal tergites with indistinct to distinct transverse microreticulation. Pubescence of forebody yellow, dense, semierect, longer on head; abdomen with dense, decumbent pubescence. Habitus as in Fig. 1.

Head 1.3–1.5 times as wide as long, slightly convex; frontal portion with elevated supra-antennal prominences, relatively deep, transverse antero-median depression, narrowly extended basad to level of anterior margins of eyes and sometimes very narrowly connected with interocellar depression; temples 1.4 times to twice as long as longitudinal length of eyes, gradually narrowed toward neck; interocellar depression moderately narrow to wide, subrectangular or subtrapezoidal. Eyes moderately large and convex. Ocelli small, distance between ocelli about as long as distance between ocellus and posterior margin of eye. Punctuation variable, from fine and sparse to dense and deep in middle, usually sparser and finer in vertex and median portion, and larger and deeper in orbital portions. Maxillary palpomere 3 about as long as preceding segment, significantly widened apicad; apical palpomere 1.3–1.4 times as long as preapical segment, from middle gradually narrowed toward acute apex. Antenna very long, reaching apical third of elytra when reclined; scape moderately robust and long, about 3 times as long as wide, antennomere 2 distinctly narrower



Figs 6–11. Aedeagus of *Geodromicus rousi*.
 6, 8–11 – ventral view; 7 – lateral view. Specimens: 6–7 – from Ubinskaya, Russia; 8 – from Arkhyz, Russia; 9 – from Temnolesskaya, Russia; 10 – from Zkhneti, Georgia. 11 – from Goryachiy Klyuch, Russia. Scale bar 0.1 mm.

Рис. 6–11. Эдеагус *Geodromicus rousi*.
 6, 8–11 – вентрально; 7 – латерально. Экземпляры: 6–7 – из Убинской, Россия; 8 – из Архыза, Россия; 9 – из Темнолесской, Россия; 10 – из Цхнети, Грузия; 11 – из Горячего Ключа, Россия. Масштабная линейка 0.1 мм.



Figs 12–17. Aedeagi of *Geodromicus*.
 12–14 – *G. anlasi* sp. n.; 15–17 – *G. lobanovi* sp. n. 12, 14–15, 17 – ventral view; 13, 16 – lateral view. Specimens: 12–13 – from Zigana Pass, Turkey; 14 – from Bayburt, Turkey; 15–16 – from Alam Kuh, Iran; 17 – from Gajereh, Iran. Scale bars 0.1 mm.

Рис. 12–17. Эдеагусы видов рода *Geodromicus*.

12–14 – *G. anlasi* sp. n.; 15–17 – *G. lobanovi* sp. n. 12, 14–15, 17 – вентрально; 13, 16 – латерально. Экземпляры: 12–13 – с перевала Зигана, Турция; 14 – из Байбурга, Турция; 15–16 – из Алам-куха, Иран; 17 – из Гайереха, Иран. Масштабные линейки 0.1 мм.

and about twice shorter than scape, 3 significantly longer than 2, about as wide as segment 2, 4–6 about as long as 3 or slightly longer, 7–10 distinctly longer than 6, apical antennomere about 1.3 times as long as 10.

Pronotum convex, 1.2 times as wide as long, from widest anterior third sharply narrowed towards subparallel narrowest portion, sometimes with slightly concaved laterobasal margins; middle portion usually without or sometimes with indistinct, very narrow longitudinal depression starting from about middle toward base, or with traces of it in front of moderately deep oval mediobasal depression; anterior margin straight, rounded or slightly concaved in middle, slightly shorter or about as long as somewhat straight or concaved posterior margin. Punctuation regular, moderately large and deep, distinctly denser than that on head, with interspaces between punctures in middle about as long as diameters of two-three nearest punctures, finer in mediobasal part and/or with impunctated longitudinal band in some specimens, mediobasal portion usually without punctures.

Scutellum large, without punctuation, with fine transverse meshes, with elongate subtriangular apex without microreticulation.

Elytra slightly convex or somewhat flattened, slightly wider than long, weakly widened posteriad; lateral margins narrowly flattened and slightly reflexed in latero-apical portions; hind margins straight or weakly rounded. Punctuation about as that on pronotum or slightly larger and deeper, but distinctly sparser in middle. Wings fully developed.

Legs slender; pro- and mesotarsi about 1/2 as long as tibia; metatarsomeres twice shorter than metatibia; apical metatarsomeres about as long as preceding four tarsomeres.

Abdomen slightly narrower, as wide as or slightly wider than elytra, with two very large, transverse spots in middle of abdominal tergite IV and narrow palisade fringe on apical margin of abdominal tergite VII.

Male. Profemuri moderately wide. Apical margin of abdominal tergite VIII straight or rounded. Apical margin of abdominal sternite VIII concaved. Aedeagus with moderately wide basal part, gradually narrowed toward median lobe and sharply narrowed toward strongly protruded, moderately wide apical portion, from middle gradually narrowed toward rounded apex; parameres distinctly exceeding apex of median lobe; median lobe with two relatively short subparallel and two small, oval or subtriangular structures between basal part of flagellum (Figs. 6, 8–11). Lateral aspect of the aedeagus as in Fig. 7.

Female. Profemuri somewhat narrow. Apical margin of abdominal tergite VIII straight or rounded. Apical margin of abdominal sternite VIII rounded.

Differential diagnosis. *Geodromicus rousi* differs from the remaining species of the *rousi* group by the shape of the elytra, slightly widened posteriad, as well as by the details of the internal and external morphology of the aedeagus.

Distribution. *Geodromicus rousi* is widely distributed in the Greater Caucasus and the Lesser Caucasus (Fig. 5).

Bionomics. Specimens were collected at elevations from 200 to 2500 m a.s.l. and were taken from under stones and in gravel along rivers and streams, and by sifting leaf litter and wet debris near riverbanks.

Notes. *Geodromicus rousi* was originally described from Gagra (Abkhazia). Iablokoff-Khznorian [1989] included it to his key of the Caucasian *Geodromicus*. It was recorded from Krasnodar Region, Karachay-Cherkessia, Kabardino-Balkaria and Adygea in Russia [Khachikov, 1998; Khachikov et al., 2010]. *Geodromicus rousi* was included into the Red Book of Krasnodar Region by Solodovnikov et al. [2017] and subsequently even to the list of protected

species of the Sochi National Park [Miroshnikov, 2018]. It should be noted however, that *G. rousi* is one of the common species of the genus of the Caucasus and to the present time, it is known from many localities there, in Russia and in Georgia (Fig. 5). It is here recorded from North Ossetia – Alania, Dagestan in Russia and from Georgia for the first time.

Geodromicus (s. str.) *anlasi* sp. n.
(Figs 2, 5, 12–14)

Material. Holotype, ♂ (dissected) (NHMW): “TR-Gümüşhane 30.5. Zigana Paß (31) leg. S. Schödl 1989” (printed), “HOLOTYPE *Geodromicus anlasi* sp.n. Shavrin A.V. des. 2021” (red, printed). Paratypes: 1♂ (dissected) (NHMW): “TR-ARTVIN 1989 w. Borcka (46) lg. Schödl 4. 6.”; 1♂ (dissected; left antennomeres 7–11 missing) (CSC): “Tr. bor. or. 1.6.1994 Bayburt Skoupý leg.”. Paratypes with additional red printed label: “PARATYPE *Geodromicus anlasi* sp.n. Shavrin A.V. des. 2021”.

Description. Measurements ($n = 3$): HW: 1–1.1; HL: 0.69–0.87; OL: 0.27–0.3; TL: 0.12; AL (holotype): 3.5; PL: 1.02–1.12; PWmax: 1.23–1.45; PWmin: 0.87–1.08; ESL: 1.63–1.85; EW: 1.75–1.95; MTbL (holotype): 1.37; MTrL (holotype): 0.65 (MTrL 1–4: 0.33; MTrL 5: 0.32); AW: 1.75–1.85; AedL: 1–1.12; BL: 5.75–6.3 (holotype: 6).

Body dark-brown (paratype from Bayburt immature, yellow-brown); legs and antennae reddish-brown, with slightly paler antennomeres 6–11; mouthparts and tarsi yellow to yellow-brown (mouthparts of holotype darker, with yellow apical segment of maxillary palpus). Latero-apical portions between supra-antennal prominences and apical margins of eye with moderately coarse longitudinal meshes, medioapical portion of vertex, orbital portions and temples with very fine and sometimes indistinct transverse microreticulation, interocellar depression with relatively rugose sculpture; pronotum with indistinct transverse microsculpture in medioapical part; abdominal tergites with dense and moderately fine transverse sculpture. Habitus as in Fig. 2.

Head 1.2–1.4 times as wide as long, with distinctly elevated mediolateral portions, with deep, transverse antero-median depression, narrowly extended basad and connected with interocellar depression; temples about twice as long as longitudinal length of eyes; interocellar depression moderately wide, subtrapezoidal, separated from orbital portions by moderately deep and wide grooves in front of ocelli, slightly convergent latero-antieriad. Distance between ocelli about as long as distance between ocellus and posterior margin of eye. Punctuation irregular and moderately large, very sparse in medioapical and middle portions, larger and denser between grooves and margins of eyes. Apical segment of maxillary palpus moderately long, 1.2 times as long as preapical segment. Scape wide and long, about 3 times as long as wide, antennomere 3 distinctly longer than 2, 4–6 slightly shorter than 3, 7–10 slightly longer and indistinctly wider than 7.

Pronotum very convex, 1.2 times as wide as long, widest about anterior third, lateral portions sharply narrowed towards anterior angles and gradually narrowed posteriad; narrowest basal part of pronotum moderately short, subparallel, with subacute posterior angles; mediobasal third with distinct and moderately deep oval depression (holotype with very short longitudinal depression in front of mediobasal depression); anterior margin somewhat straight, shorter than slightly concaved posterior margin. Punctuation very dense, large and deep, regular in apical part and middle, with interspaces between punctures about as an average diameter of one nearest puncture, distinctly sparser and finer in mediobasal portion, with narrow impunctate area in front of mediobasal depression.

Elytra slightly wider than long, gradually widened posteriad (paratypes with relatively narrower elytra, even more insignificantly widened toward posterior angles). Punctuation moderately large, but distinctly denser and less deep than that on pronotum, finer in precutellar portion, along suture and apical part.

Male. Apical margin of abdominal tergite VIII rounded. Apical margin of abdominal sternite VIII slightly concaved. Aedeagus with wide basal part, gradually narrowed toward median lobe and sharply narrowed toward moderately narrow, elongated apical portion, from widest middle gradually narrowed toward subacute apex; parameres very long, distinctly longer than apex of median lobe, gradually widened apically, with subacute apices, with three long apical and one preapical setae; internal sac short or long, with two long or suboval sclerotized structures between basal part of wide and very long flagellum (Figs 12, 14). Lateral aspect of the aedeagus as in Fig. 13.

Female unknown.

Differential diagnosis. *Geodromicus aniasi* sp. n. differs from all other species of the *rousi* group by the shape of the pronotum, somewhat sharply narrowed towards anterior angles and gradually narrowed towards posterior angles; also it differs by the aedeagus: by the elongate apical part of the median lobe and longer parameres, and by the details of the internal sac.

Distribution. The species is known from three localities in Gümüşhane, Bayburt and Artvin provinces of the north-eastern Turkey (Fig. 5).

Bionomics. The detailed bionomic data are unknown.

Etymology. The species is named in honour of my colleague, known Turkish staphylinidologist Sinan Anlaş (Manisa, Turkey).

Geodromicus (s. str.) *lobanovi* sp. n.
(Figs 3, 5, 15–17)

Material. Holotype, ♂ (dissected) (MHNH): “Alam Kuh Elbourz” (handwritten), “25. 3500 m 1h[?].VIII. [19]72” (handwritten), “N[orth]. Iran G.M[eurgues]. et O.L[edoux].” (handwritten), “meurgues Jar.” (handwritten), “(HOLOTYPE *Geodromicus* (s.str.) *lobanovi* sp.n. Shavrin A.V. des. 2021” (red, printed). Paratype: 1♂ (dissected) (MHNH): “Dizin (Gajereh)” (handwritten), “Prov. de Karaj 3000 m VIII.[19]72” (handwritten), “G.M[eurgues]. et. G.L[edoux].” (handwritten), “PARATYPE *Geodromicus* (s.str.) *lobanovi* sp.n. Shavrin A.V. des. 2021” (red, printed).

Description. Measurements ($n = 2$): HW: 1.05; HL: 0.69–0.75; OL: 0.27; TL: 0.13–0.17; AL (holotype): 3.46; PL: 1.05; PWmax: 1.3–1.32; PWmin: 0.92–0.98; ESL: 1.7–1.8; EW: 1.9–2; MTbL (holotype): 1.6; MTrL (holotype): 0.6 (MTrL 1–4: 0.35; MTrL 5: 0.3); AW: 1.95–1.97; AedL: 1.15–1.2; BL: 6.2 (holotype: 6.35).

Forebody reddish-brown, with slightly paler elytra; abdomen brown, with paler paratergites and apical portion; mouthparts, antennae and legs yellow-brown; apical segment of maxillary palpi and tarsi yellow. Latero-apical portions of head between supra-antennal prominences and apical margins of eyes with distinct longitudinal meshes, vertex impunctate in middle and with fine and transverse lateral microreticulation, interocellar depression with irregular and fine isodiametric sculpture (indistinct in paratype) and distinct isodiametric microsculpture on orbital portions, markedly coarser on temples; pronotum with indistinct transverse meshes in medioapical third. Habitus as in Fig. 3.

Head 1.4–1.5 times as wide as long, with moderately strongly elevated supra-antennal prominences and slightly elevated median portion between level of anterior margin of eyes and orbital portions; anterio-median depression moderately deep, gradually extended basad, not exceeding level of anterior margins of eyes; temples more than twice as long as longitudinal length of eyes; interocellar depression moderately narrow, subrectangular, separated from orbital portions by moderately deep and slightly convergent grooves in front of ocelli. Punctuation irregular, moderately large, sparser in middle and slightly denser on interocellar depression and between grooves and eyes, finer on temples, with elongate median impunctated portions in front

of interocellar depression and apical part of vertex. Scape about 3 times as long as wide, antennomere 2 narrower and more than twice shorter than scape.

Pronotum 1.2 times as wide as long; narrowest basal part of pronotum with subparallel lateral margins, with slightly divergent laterally subacute posterior angles; mediobasal third of pronotum with moderately deep, oval depression, without or with (holotype) short and narrow longitudinal depression in front of basal depression. Punctuation dense, deep and large, with interspaces between punctures on middle about as an average diameter of two punctures, punctuation sparser in lateral and basal portions, with impunctate mediobasal third area (punctuation of mediobasal part of paratype finer and sparser).

Elytra slightly wider than long, significantly widened posteriorly. Punctuation moderately large, sparser than that on pronotum, denser and coarser in prescutellar and finer in median portions.

Abdomen with two large, transverse spots in middle of abdominal tergite IV.

Male. Apical margin of abdominal tergite VIII somewhat straight. Apical margin of abdominal sternite VIII concaved. Aedeagus with wide median part, gradually narrowed toward wide apical portion, strongly protruded apicad, sharply narrowed in apical third toward rounded apex; parameres about as long as or slightly exceeding apex of median lobe; median lobe with thin and very long subparallel structures, with moderately wide flagellum, strongly curved apically, internal sac very short, slightly sclerotized except of four elongate structures on each basal sides of flagellum (Figs 15, 17). Lateral aspect of the aedeagus as in Fig. 16.

Female unknown.

Differential diagnosis. Based on the habitus, *G. lobanovi* sp. n. is similar to *G. puncticollis*, from which it differs by the larger body, and by the aedeagus: wider apical part of the median lobe and details of the internal sac.

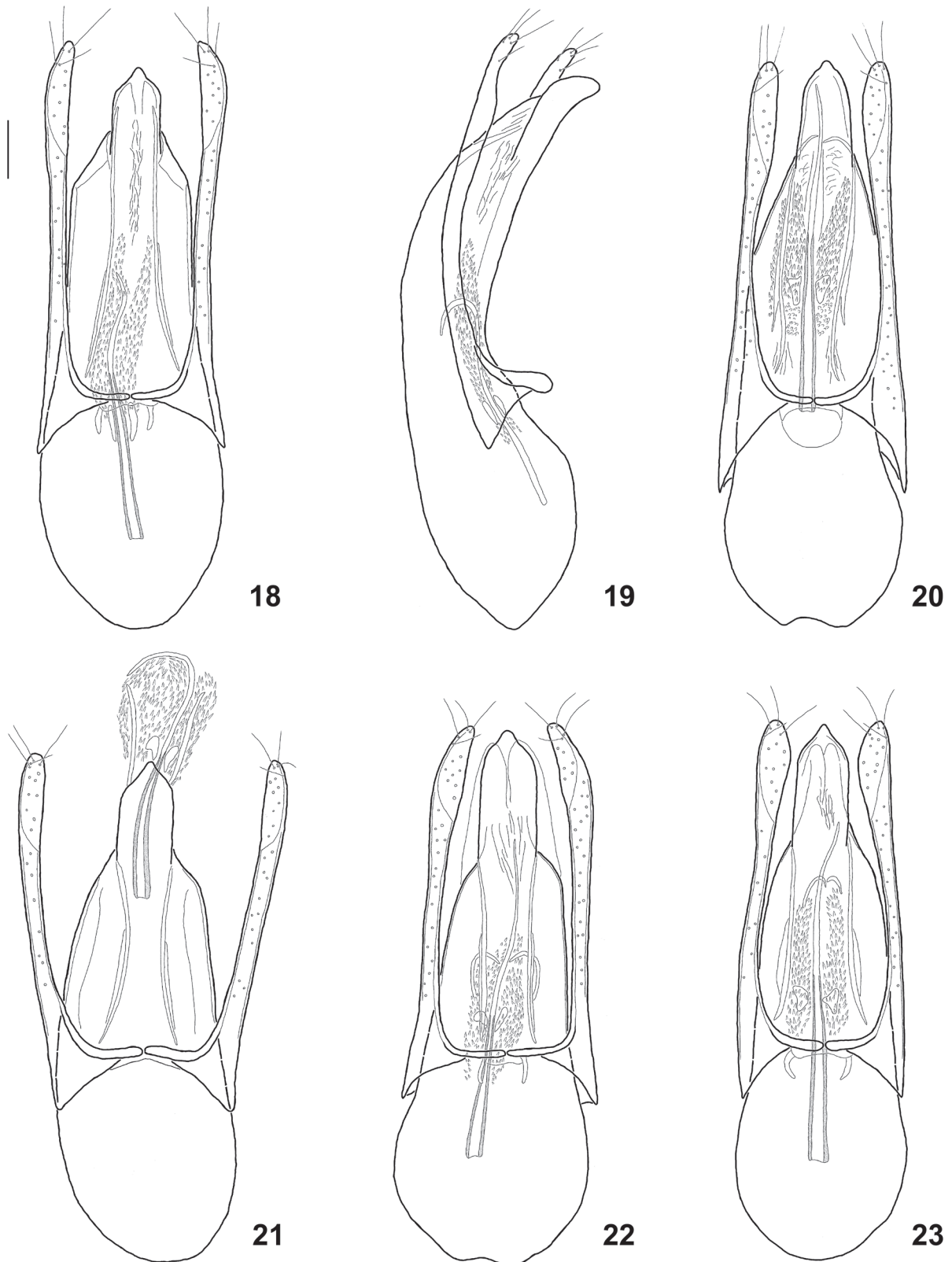
Distribution. The new species is known from two localities in Alborz Mountain Range in northern Iran (Fig. 5).

Bionomics. Specimens were collected at elevations from 3000 to 3500 m a.s.l. The detailed bionomic data are unknown.

Etymology. The species is named in honor of the Russian coleopterologist Andrei L. Lobanov (1940–2020).

Geodromicus (s. str.) *puncticollis* (Weise, 1875)
(Figs 4, 5, 18–23)

- Anthrophagus* (*Geodromicus*) *puncticollis* Weise, 1875: 364.
Geodromicus puncticollis: Ganglbauer, 1895: 711; Luze, 1903: 111; Montandon, 1908: 78; Rambousek, 1909: 5; Roubal, 1930: 317; Lindroth, Holdhaus, 1939: 157; Székessy, 1939: 4; Smetana, 1959: 362; Bordoni, 1984: 54; Zerche, 1988: 362; Szujecki, 2008: 132.
Psephidonus puncticollis: Tóth, 1982: 104.
Geodromicus plagiatus v. *puncticollis*: Łomnicki, 1884: 12.
Geodromicus globulicollis: Eppelsheim, 1887: 432.
Geodromicus plagiatus v. *puncticollis*: Kuthy, 1897: 72.
Geodromicus cordicollis Petri, 1891: 18; Csiki, 1911: 150.
Geodromicus schubertorum Scheerpeltz, 1937: 197 (cited as *schuberti*; incorrect original spelling [Herman, 2001], **syn. n.**
Geodromicus schuberti: Csiki, 1940: 225, Zanetti, 1984: 78; Coiffait, 1989: 135.
Geodromicus schubertorum: Herman, 2001: 303; Schülke, Smetana, 2015: 315.
Geodromicus robusticornis Bernhauer, 1941: 209, **syn. n.**
Geodromicus montenegrinus Bernhauer, 1941: 210, **syn. n.**
Geodromicus montenegrinus: Zanetti, 1984: 78; Zanetti et al., 2008: 402.



Figs 18–23. Aedeagus of *Geodromicus puncticollis*.
 18, 20–23 – ventral view; 19 – lateral view. Specimens: 18–19 – from Botev Peak, Bulgaria; 20 – from Pirin, Bulgaria; 21 – from Musala Mt., Bulgaria;
 22 – from Stara Planina, Bulgaria; 23 – from Ljuboten, Serbia. Scale bar 0.1 mm.

Рис. 18–23. Эдеагус *Geodromicus puncticollis*.

18, 20–23 – вентрально; 19 – латерально. Экземпляры: 18–19 – с г. Ботев, Болгария; 20 – с Пирина, Болгария; 21 – с г. Мусала, Болгария; 22 – со
 Стара-Планины, Болгария; 23 – с г. Люботин, Сербия. Масштабная линейка 0.1 мм.

Type material. Paratypes of *Geodromicus schubertorum* Scheerpeltz, 1937: 1♀ (MHNH), "Jumrukschal, Blg. 1200-1600 m, Mdl." (printed), "Paratypus" (red, printed), "Geodromicus schuberti Scheerp. 7272 b." (printed); 1♂ (dissected) (NHMW): "Jumrukschal, Blg. 1200-1600m, Mdl." (printed), "leg. C. Mandl V.-VI.1941" (printed), "Geodromicus schuberti m[ihi]." (handwritten), "ex. coll. Scheerpeltz" (blue, printed), "Geodromicus (s.str.) *puncticollis* (Weise, 1875) Shavrin A.V. det. 2021" (printed).

Syntype of *Geodromicus robusticornis* Bernhauer, 1941: 1♂ (dissected) (FMNH), "Bulgaria: Rila Musala, VIII Rambousek, 08" (printed), "puncticollis Ws [handwritten] det. Rambousek" (printed), "robusticornis (Koch i. l) Bh. Typus" (handwritten), "robusticornis Brnh. Typus Geodromicus" (handwritten), "Chicago NHMus M. Bernhauer Collection" (printed), "SYNTYPE teste D.J.Clarke2014 GDI Imaging Project" (violet, printed), "PHOTOGRAPHED Kelsey Keaton 2014 Emu Catalog" (blue, printed), "FMNHINS 2819540 FIELD MUSEUM" (printed, with barcode), "Geodromicus (s.str.) *puncticollis* (Weise, 1875) Shavrin A.V. det. 2021" (printed).

Holotype of *G. montenegrinus* Bernhauer, 1941: 1♀ (FMNH), "Ljubeten" (printed), "Sammlung Apfelbeck." (printed), "Gestalt 500 m Fl[ügel]d[ecken]. stark erweitert" (handwritten), "montenegrinus Koch" (handwritten), "det.C.Koch" (printed), "montenegrinus Brnh. Typus un. [?] Geodromicus" (red, handwritten), "Chicago NHMus M. Bernhauer Collection" (printed), "HOLOTYPE teste D.J.Clarke2014 GDI Imaging Project" (violet, printed), "PHOTOGRAPHED Kelsey Keaton 2014 Emu Catalog" (blue, printed), "FMNHINS 2819538 FIELD MUSEUM" (printed, with barcode), "Geodromicus (s.str.) *puncticollis* (Weise, 1875) Shavrin A.V. det. 2021" (printed).

Additional material. Romania. 1♀ (NMPC), Boksán Banyá (= Boksánbánya); 1♂ (NMPC), Comarnic; 1♂, 1♀ (MZHF), "Bucsecs Deubel"; "subalpine"; 3♂ (SNMB, MHNH), "Carpathus Buceci A.L. Montandon"; 1♂ (NMPC), Hohe Rinne (= Páltiniş), 31.07.1904; 1♂, 2♀ (HNHM), Braşov, P.N. Piatra Craiului, 0.5 km SW Cab. Curmătura, streamlet N of Muchia Curmăturii, 45°32'47"N / 25°15'02"E, 1400 m a.s.l. in mosses and around small cascades, flotation, 11.06.2011 (Gy. Makranczy).

Bulgaria. 1♂ (cZ), Stara Planina (F. Hieke, M. Uhlig); 2♂ (NMPC), Rila Musala, 08.1908, "Geodromicus *puncticollis* *robusticornis* Bernh. J. Mařan det." (F. Rambousek); 1♀ (NMPC), Kalofer, 06.1933 (J. Mařan); 1♂ (cZ), Pirin, Banderica, 28.06.1971 (S. Bílý).

Serbia. 1♀ (NMPC), Kodža Balkan; 1♀ (NMPC), Lyuboten, 09.1913 (E.J. Rambousek); 1♂ (NMPC), Šar Planine, 07.1930 (E.J. Rambousek); 1♂, 2♀ (HNHM), Lyuboten, 4–18.07.1935 (J. Fodor).

Albania. 1♀ (FMNH), "Alban. Exped. Korab. 1918 24.81. VII."

Redescription. Measurements ($n = 20$): HW: 0.87–1.1; HL: 0.62–0.75; OL: 0.2–0.35; TL: 0.16–0.2; AL: 2.55–3.2; PL: 0.86–1.25; PWmax: 1.08–1.45; PWmin: 0.85–1.05; ESL: 1.45–1.75; EW: 1.63–2.15; MTbL (averaged): 1.38; MTrL (averaged): 0.62 (MTrL 1–4: 0.35; MTrL 5: 0.27); AW: 1.63–2.2; AedL: 0.9–1.02; BL: 5–6.12.

Body brown to reddish-brown (base of pronotum and sometimes elytra paler); antennae, legs, sometimes paratergites and apical part of abdomen yellow-brown; tarsi and mouthparts yellow (some specimens with yellowish femora and darker apical part of femora and tibia). Latero-apical portions of head between supra-antennal prominences and apical margins of eyes with longitudinal microreticulation and dense, coarse isodiametric sculpture between ocelli and indistinct meshes in temples; neck with oval, rugose sculpture; pronotum with indistinct transverse meshes in anterior portion, without or with indistinct longitudinal or isodiametric microreticulation along midline, mediobasal third without microsculpture; scutellum with fine isodiametric meshes; abdominal tergites with dense, transverse microsculpture. Habitus as in Fig. 2.

Head weakly transverse, 1.4 times as wide as long; temples moderately long, but distinctly shorter than longitudinal length of eyes; interocellar depression wide, somewhat flattened or deep, rectangular or subtrapezoidal, separated from orbital portions by slightly or strongly convergent latero-antierid grooves in front of ocelli, reaching level of anterior third of eyes. Distance between ocelli about as long as distance between ocellus and posterior margin of eye or slightly shorter. Punctuation irregular, moderately fine and sparse, usually denser and finer in middle, sometimes with impunctated anterior part of vertex. Antennomere 2 distinctly narrower and about twice shorter than scape, 3 significantly longer

than 2, about as wide as segment 2, 4–6 slightly wider and shorter than 3, 7–10 slightly longer than 6.

Pronotum 1.1–1.2 times as wide as long, distinctly wider than head, widest in anterior third, with markedly rounded anterior angles, sharply narrowed towards base; narrowest basal part elongated, subparallel, sometimes with slightly concaved anterior margins, with straight or slightly divergent laterally subacute posterior angles; middle portion without or with indistinct longitudinal impression and transverse, moderately deep depression in mediobasal third; lateral margins with very narrow border; anterior margin moderately straight or slightly concaved, about as long as straight or widely concaved posterior margin. Punctuation regular, moderately large and deep, significantly denser than that on head, usually finer in medioapical third and sometimes with impunctated portions along midline and mediobasal third, interspaces between punctures in middle as an average diameter of one-two nearest punctures.

Elytra 1.1–1.2 times as wide as long, significantly widened posteriorly towards broadly rounded posterior portions. Punctuation about as that on pronotum, but distinctly denser and deeper, somewhat denser on prescutellar portion and along suture and finer on latero-apical portion.

Abdomen distinctly narrower than elytra, convex, with two transverse and moderately large spots in middle of abdominal tergite IV.

Male. Profemuri moderately wide. Apical margins of abdominal tergite VIII and sternite VIII slightly concaved. Aedeagus with wide basal and median portions, gradually narrowed towards elongated, moderately narrow, lancet-shaped apical part, from apical third gradually narrowed towards small, rounded or subacute apex; parameres relatively long, about as long as or slightly exceeding apex of median lobe, with narrow or slightly widened apical portions with four moderately long apical setae; median lobe with two very long, subparallel and two small, subtriangular structures in about middle, with moderately long flagellum between them; flagellum with wide basal part, gradually narrowed towards curved apex; internal sac moderately short (Figs 18, 20–23). Lateral aspect of the aedeagus as in Fig. 19.

Female. Profemuri narrow. Apical margins of abdominal tergites VIII and sternite VIII rounded.

Differential diagnosis. Based on the habitus, *G. puncticollis* is similar to *G. lobanovi* sp. n., from which it can be distinguished by the aedeagal characters: the narrower apical part of the median lobe and details of the internal sac.

Distribution. *Geodromicus puncticollis* is distributed in Carpathian and Balkan mountains, and known from Ukraine, Romania, Serbia, Montenegro, Albania and Bulgaria (Fig. 5).

Bionomics. According to published and studied data, specimens were collected at elevations from 1200 to 2100 m a.s.l. and were taken from under stones and gravel near rivers, and in wet mosses.

Notes. *Anthrophagus (Geodromicus) puncticollis* Weise, 1875 was originally described from "Luhy" (Carpathians, Ukraine). Petri [1891] described *G. cordicollis* from Schässburg (now Sighişoara, Romania). Ganglbauer [1895] synonymized it with *G. puncticollis*. Scheerpeltz [1937: 199] described *G. schubertorum* Scheerpeltz, 1937 from "Massiv des Jumrukschal [= Botev Peak], Zentral-Balkan... und am Rosalito-polje, Schipka-Balkan" (Balkan Mts., Stara Planina, Bulgaria). Based on the proportions of the body and the morphology of the aedeagus, the type specimens of *G. schubertorum* are conspecific with *G. puncticollis*. Thus, *G. schubertorum* is here synonymized with the latter.

Bernhauer [1941] described *G. robusticornis* from “Rila Musala” (Bulgaria) and *G. montenegrinus* from “Ljuboten” (now Serbia). The additional material identified as *G. montenegrinus* was provided from Banderica, Bulgaria [Zanetti, 1984], and Komovi Mt., Montenegro, and Šar Mt., Serbia [Zanetti et al., 2008]. The aedeagus with fully everted internal sac of the syntype of *G. robusticornis* is identical with that of a specimen from the type locality (Fig. 21). The external morphology of *G. robusticornis* and *G. montenegrinus* are conspecific to that of *G. puncticollis*. Based on the representative material, no other species that would externally look like *G. puncticollis* but differ by aedeagus, is found in this area. Thus, both *G. robusticornis* and *G. montenegrinus* are here synonymized with *G. puncticollis*, even though the holotype of *G. montenegrinus* is a female.

As a result, the following synonymies are proposed: *G.* (s. str.) *puncticollis* = *G. schubertorum* Scheerpeltz, 1937, **syn. n.** = *G. robusticornis* Bernhauer, 1941, **syn. n.** = *G. montenegrinus* Bernhauer, 1941, **syn. n.**

The record of *G. puncticollis* from Crimea (“Крымъ, Кизиль-Коба”) by Jatzenkovsky [1913] requires confirmation. Very wide aedeagus of *G. puncticollis* with unusual shape of the apical part shown in figure 4 in Zanetti [1984] from “Hungaria: Vromarns [?]” appears to be the result of the confusion (wrong specimen and the geographic label; A. Zanetti, personal communication). *Geodromicus puncticollis* is here recorded from Albania for the first time.

Acknowledgements

I wish to express my gratitude to all colleagues listed in the Material section for providing specimens for my study, and two anonymous reviewers for suggestions.

References

- Bernhauer M. 1941. Neuheiten der palaearktischen Staphylinidenfauna (Staphylinid.). *Entomologische Blätter*. 37: 209–211.
- Bordoni A. 1984. Appunti per una revisione dei *Geodromicus* Redt. della regione Palearctica occidentale (Coleoptera, Staphylinidae). *Redia*. 67: 19–59.
- Coiffait H. 1989. Liste des exemplaires typiques de la collection Coiffait déposée au Muséum d’Histoire Naturelle de Paris. *Bulletin de la Société d’Histoire Naturelle de Toulouse*. 125: 127–142.
- Csiki E. 1911. A bogarak elterjedése a Kárpátokban. *Rovartani Lapok*. 18(10–11): 145–157.
- Csiki E. 1940. XVI. Coleopteren. In: Explorations zoologicae ab E. Csiki in Albania peractae. Budapest: A Magyar Tudományos Akadémia Balkán-kutatásainak Tudományos Eredményei: 208–288.
- Eppelsheim E. 1887. Synonymische Bemerkungen über europäische Staphylinen. *Deutsche Entomologische Zeitschrift*. 31: 430–432.
- Ganglbauer L. 1895. Die Käfer von Mitteleuropa. 2. Familienreihe Staphylinidea. Teil I. Staphylinidae, Pselaphidae. Wien: Carl Gerold’s Sohn. 881 p.
- Herman L.H. 2001. Catalog of the Staphylinidae (Insecta: Coleoptera). 1758 to the end of the second millenium. I. Introduction, history, biographical sketches, and Omaliine group. *Bulletin of the American Museum of Natural History*. 265: 1–650. DOI: 10.1206/0003-0090.265.1.1
- Iablokoff-Khnzorian S.M. 1989. Two new Caucasian representatives of the genus *Geodromicus* (Coleoptera Staphylinidae). *Doklady Akademii Armjanskoy SSR*. 1988. 87: 134–139 (in Russian).
- Jatzenkovsky E. 1913. Notes about rove beetles of the Russian fauna (Coleoptera, Staphylinidae). *Revue Russe d’Entomologie*. 12(3): 452–467 (in Russian).
- Khachikov E.A. 1998. Materialy k faune zhukov (Coleoptera) Nizhnego Dona i Severnogo Kavkaza. Zhuki-stafiliny. (Staphylinidae). Chast’ II. Triba Staphylinini [Materials to the fauna of beetles (Coleoptera) of Lower Don and the North Caucasus. Rove beetles (Staphylinidae). Part II. The tribe Staphylinini]. Rostov-on-Don: Rostov Institute of Advanced Training and Retraining of Educators. 49 p. (in Russian).
- Khachikov E.A., Nikitsky N.B., Bibin A.R. 2010. Family Staphylinidae – staphylinids, rove beetles. In: Zhestkokrylye nasekomye (Insecta, Coleoptera) Respubliki Adygheya (annotirovanny katalog vidov) (Konspekty fauny Adyghei. № 1) [Coleopterous insects (Insecta, Coleoptera) of Republic of Adygheya (annotated catalogue of species) (Fauna conspecta of Adygheya. No. 1)]. Maykop: Adyghei State University Publishers: 82–105 (in Russian).
- Kuthy D. 1897. Ordo. Coleoptera. In: A Magyar Birodalom Állatvilága (Fauna Regni Hungariae). III. Arthropoda. (Insecta. Coleoptera). Budapest: Királyi Magyar Természettudományi Társulat. 213 p.
- Lindroth K., Holdhaus C.H. 1939. Die europäischen Koleopteren mit borealpiner Verbreitung. *Annales des Naturhistorischen Museums in Wien*. 50: 123–293.
- Lomnicki A.M. 1884. Catalogus Coleopterorum Haliciae. Leopoli: Sumptibus L. Zontaki, Custodis Musaei Dziedusszyckiani. [4] + 43 p.
- Luze G. 1903. Revision der paläarktischen Arten der Staphyliniden-gattung *Geodromicus* Redtenb. *Verhandlungen der Kaiserlich-Königlichen Zoologisch-Botanischen Gesellschaft in Wien*. 53: 103–117.
- Miroshnikov A.I. 2018. Review of protected beetles (Insecta, Coleoptera) of the Sochi National Park and neighbouring territories with notes on some aspects of their monitoring. In: Sochinskomu natsional’nomu parku – 35 let. Trudy Sochinskogo natsional’nogo parka. Vypusk 12 [The Sochi National Park is 35 years. Proceeding of the Sochi National Park. Issue 12]. Sochi: Optima: 338–391 (in Russian).
- Montandon A.L. 1908. Notes sur le faune entomologique de la Roumanie. Additions au catalogue des coléoptères. *Bulletin de la Société des Sciences de Bucarest, Roumanie*. 17: 67–118.
- Petri K. 1891. Ueber den Stand der Coleopterenfauna der Umgebung Schässburgs. *Verhandlungen und Mittheilungen des Siebenbürgischen Vereins für Naturwissenschaften in Hermannstadt*. 41: 1–26.
- Rambousek F.J. 1909. O bulharských Staphylinidech. *Věstniku Královské České Společnosti Náuk v Praze*. 1909: 1–23.
- Roubal J. 1930. Katalog coleopter (Brouků) Slovenska a Podkarpatska, na základě bionomického a zoogeografického a spolu systematického doplněk Ganglbauerových “Die Käfer von Mitteleuropa” a Reitterovy “Fauna germanica”. Svazek 3. Praha: Učené Společnosti Šarfaříkovy v Bratislavě. 527 p.
- Scheerpeltz O. 1937. Wissenschaftliche Ergebnisse einer von Herrn Hofrat F. Schubert, seinem Sohne Herrn cand. Phil. F. Schubert und Herrn Prof. Ing. K. Mandl im Sommer 1935 (1936) nach Bulgarien unternommenen Studienreise. Coleoptera: I. Staphylinidae. *Mitteilungen aus den Königlichen Naturwissenschaftlichen Instituten*. 10: 185–246.
- Schülke M., Smetana A. 2015. Staphylinidae. In: Catalogue of Palaearctic Coleoptera. Vol. 2. Hydrophiloidea – Staphyloidea. Revised and Updated Edition. Leiden: Brill: 304–1134.
- Smetana A. 1959. Die tschechoslowakischen Arten der Gattung *Geodromicus* Redt. (Col., Staphylinidae). *Československé druhy rodu Geodromicus Redt. (Col., Staphylinidae). Časopis Československé Společnosti Entomologické*. 56: 355–363.
- Soldodovnikov A.Yu., Khachikov E.A., Khomitskiy E.E. 2017. *Geodromicus Rusa Geodromicus rousi* Bordoni, 1984. In: Krasnaya kniga Krasnodarskogo kraja. Zhivotnye. III izdanie. Chast’ pervaya. Bespozvonochnye zhivotnye (Invertebrata) [Red Data Book of Krasnodar Territory. Animals. Third edition. First part. Invertebrates (Invertebrata)]. Krasnodar: Administration of Krasnodar Region: 213 (in Russian).
- Székesy V. 1939. Die Staphyliniden des historischen Ungarn. III. *Fragmenta Faunistica Hungarica*. 2(1): 1–4.
- Szujecki A. 2008. Klucze do oznaczania owadów Polski. Cz. 1. Chrząszcze – Coleoptera. Zesz. 24a. Kusakowate – Staphylinidae: Micropeplinae, Piestinae, Osoriinae, Pseudopsiinae, Phloeocharinae, Olisthaerinae, Proteiniinae, Omaliinae, Oxyletinae, Oxyporinae. Toruń: Polskie Towarzystwo Entomologiczne. 229 p.
- The Field Museum. 2021. Available at: <https://collections-zoology.fieldmuseum.org/> (last updated 12 April 2021).
- Tóth L. 1982. Magyarország Állatvilága – Fauna Hungariae, Holyvák II. Staphylinidae II. Budapest: Akadémiai Kiadó. 110 p.
- Weise J. 1875. [New species]. In: Putzeys J., Reitter E., de Saulcy F., Weise J. Neue Käferarten aus Ungarn. *Deutsche Entomologische Zeitschrift*. 19(2): 355–364.

- Zanetti A. 1984. Contribution to the knowledge of the Omaliinae from Bulgaria (Col. Staphylinidae). *Deutsche Entomologische Zeitschrift* (N. F.) 31: 75–82.
- Zanetti A., Pavićević D., Zerche L. 2008. Contribution to the knowledge of Omaliinae of the Balkans (Coleoptera, Staphylinidae). *In: Advances in the studies of the fauna of the Balkan Peninsula, Papers dedicated to the memory of Guido Nonveiller*. Belgrade: Institute for Nature Conservation of Serbia: 397–416.
- Zerche L. 1988. Die Typen der von Julius Weise (1844–1925) beschriebenen Staphylinidae-Arten (Coleoptera). *Beiträge zur Entomologie*. 38(2): 361–364.
- Zerche L. 1992. Zur Taxonomie, Phylogenie und Verbreitung der *Hygrogeus*-Gruppe Mittel- und Zentralasiens (Coleoptera: Staphylinidae: Omaliinae). *Annalen des Naturhistorischen Museums in Wien*. 93(B): 105–142.

Received / Поступила: 16.03.2021

Accepted / Принята: 1.05.2021

Published online / Опубликована онлайн: 13.07.2021