

A review of the genus *Pogonota* Zetterstedt, 1860 (Diptera: Scathophagidae) in Russia

Обзор видов рода *Pogonota* Zetterstedt, 1860 (Diptera: Scathophagidae) фауны России

A.L. Ozerov
А.Л. Озеров

¹Zoological Museum, Lomonosov Moscow State University, Bol'shaya Nikitskaya 2, Moscow 125009, Russia.

E-mail: ozerov2455@rambler.ru

¹Зоологический музей, Московский государственный университет им. М.В. Ломоносова, Большая Никитская ул., 2, Москва 125009, Россия.

KEY WORDS: Diptera, Scathophagidae, *Pogonota*, *Okeniella*, Russia, review.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Scathophagidae, *Pogonota*, *Okeniella*, Россия, обзор.

ABSTRACT. Flies of the genus *Pogonota* Zetterstedt of Russia, which includes 7 species, are reviewed. Generic and species descriptions and keys for determination of species are given, and data on distributions are summarized. *Okeniella* Hendel, 1907 is synonymized with *Pogonota* Zetterstedt, 1860.

РЕЗЮМЕ. Дан обзор двукрылых рода *Pogonota* Zetterstedt фауны России, включающего семь видов. Приведены диагнозы рода, описания видов и ключ для определения видов рода *Pogonota*, а также суммированы данные по распространению видов рода на территории России. *Okeniella* Hendel, 1907 есть новый младший синоним *Pogonota* Zetterstedt, 1860.

Introduction

Pogonota Zetterstedt, 1860 is a little genus within the family Scathophagidae. The species from the genus *Okeniella* Hendel, 1907 are included in the genus *Pogonota* in this work also. The division of species in the genera *Pogonota* and *Okeniella* was based on the differences in cercus structure: in *Pogonota* cerci are fused medially almost at the whole length (Figs 35, 45, 47) although in species of *Okeniella* cerci are widely separated and fused basally only (Figs 39, 41, 43, 49). Striking resemblance is demonstrated in species according to the morphology of fore legs (Figs 2, 3), sternites 4 (Figs 15–21) and 5 of males (Figs 22–35) as well as ovipositors of females.

Kutty et al. [2007: 79] based on DNA sequences from seven genes (12S, 16S, Cytb, COI, 28S, Efl-alfa, Pol II) showed that “*Pogonota* (seven spp. in genus) is paraphyletic with respect to *Okeniella* (three spp. in genus)” and offered to synonymize *Okeniella* with *Pogonota*.

Genus *Pogonota* consists of 10 species distributed in the Northern Hemisphere (2 Nearctic, 5–6 Palearctic, 2 Holarctic). Fauna of Russia included 7 species (excluding *Pogonota nigricans* (Loew, 1873)) [Gorodkov, 1986; Humala & Polevoi, 2009; Ozerov, 2006; Ozerov & Barkalov, 2014; Ozerov & Krivosheina, 2014].

Very little is known about the biology of *Pogonota* species. Hackman [1956: 62] wrote that adults of *P. barbata* (Zetterstedt, 1838) feed on other Diptera of smaller size and described copulative behavior of this species. None of descriptions of larvae is published.

Material and methods

The majority of specimens examined for this study are deposited in the Zoological Museum, Moscow State University, Russia (ZMUM) and Zoological Institute of Russian Academy of Sciences, St. Petersburg, Russia (ZISP). We also studied some material from the Institute of Systematics and Ecology of Animals, Russian Academy of Sciences, Siberian Branch, Novosibirsk, Russia (ISEA).

The majority of original Russian geographical names are given in transliteration, but names of some large geographical regions (e.g. Amur Oblast, Sakhalin Oblast, Khabarovsk Kray, Primorskiy Kray) follows Merriam Webster's Geographical Dictionary [1997]. Geographical coordinates are given in the Decimal Degrees format.

The data on distributions are cited as follows: Russia is in the first place, other countries of the world are given after an em dash [—]. More detailed data on the distributions of species in Europe may be found in the work by Šifner [2008], and in North America in the work by Vockeroth [1965].

The terminology used in the generic descriptions, species diagnoses, description of the new species, and



Fig. 1. *Pogonota barbata* (Zetterstedt), male head, dorsal view.
Рис. 1. *Pogonota barbata* (Zetterstedt), голова самца, сбоку.

keys follows McAlpine [1981], Cumming et al. [2009], and Stuckenberg [1999].

Dissected male genitalia were examined with a Nikon SMZ645 zoom stereomicroscope and then photographed using an eTREK DCM900 digital camera attached in place of an eyepiece of monocular microscope. Resulting batches of images were processed with CombineZP software [Hadley, 2007], editing of stacked images was performed in Adobe Photoshop.

Taxonomic part

Pogonota Zetterstedt, 1860

Okenia Zetterstedt, 1838: 734. Gender: feminine. Junior homonym, preoccupied by *Okenia* Menke, 1830. Type-species: *Cordylura caudata* Zetterstedt, 1838, by designation of Becker, 1894: 141.

Pogonota Zetterstedt, 1860: 6333 [as subgenus of *Cordylura* Fallén, 1810]. Gender: feminine. Type-species: *Cordylura hircus* Zetterstedt, 1838, by designation of Becker, 1894: 138 [= *Cordylura barbata* Zetterstedt, 1838].

Lasioscelus Becker, 1894: 143. Gender: masculine. Type-species: *Cordylura clavata* Zetterstedt, 1846, by original designation [= *Cordylura immunda* Zetterstedt, 1838].

Okeniella Hendel, 1907: 98. Gender: feminine. Type-species: *Cordylura caudata* Zetterstedt, 1838, new name for *Okenia* Zetterstedt. Type-species: *Cordylura caudata* Zetterstedt, 1838, automatic. — **syn.n.**

Pogonota species are slender, small to medium-sized flies (4–10 mm long).

Head. Frons from yellow to black. Face, parafacial and gena yellow or whitish, in male of *P. barbata* gena and postgena with long yellow hairs (beard)

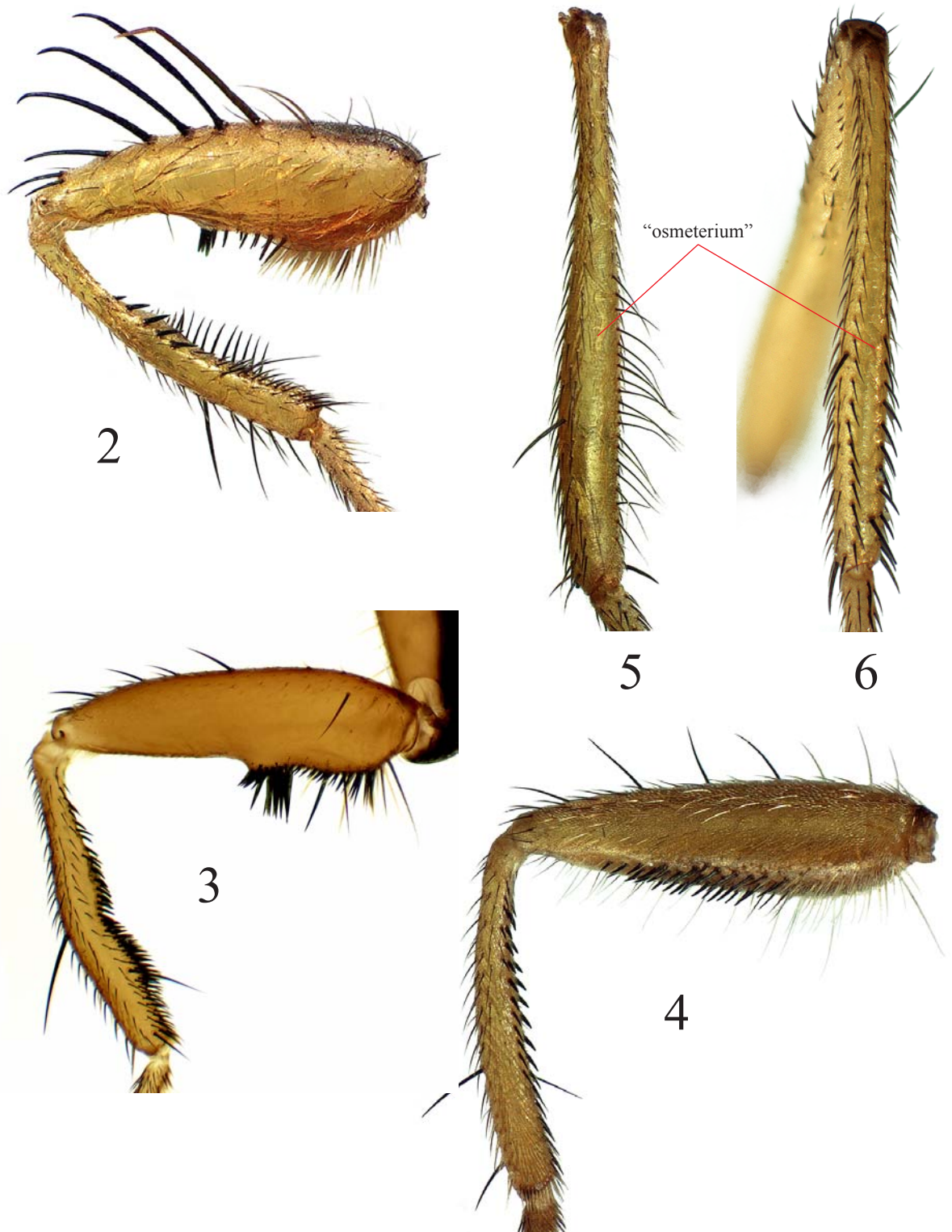
(Fig. 1). Postcranium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 2–4 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; usually in male 4–5 pairs and in female 1–2 pairs of strong vibrissae present. Antenna from yellow to black. Postpedicel with slightly acute upper apical corner, 2–4 times as long as wide. Arista black, bare. Palpus elongate and slender, or flattened and spatulate, yellow.

Thorax black, greyish dusted. Acrostichals in two rows, dorsocentrals 3+3 (rare 4+4 in *P. gorodkovi* Ozerov, 2007), intra-alars 1+(1–2) (may be absent in *P. barbata*), supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one of them usually long. Proepimeron usually with one seta or one long hair and several small hairs. Anepisternum covered with hairs in posterior half, with 1–4 black setae along posterior margin. Katepisternum covered with hairs or setae in posterior half and one strong seta in upper posterior corner. Anepimeron bare. Postmetacoxal bridge absent. Scutellum black, with pair of strong basal scutellar and pair of strong apical scutellar setae.

Legs. Coxae and fore femora yellow to black, tibiae usually always yellow, tarsi yellow. Male fore femur modified with tufts of short black setae ventrally (Fig. 2, 3), with a row of posterodorsal setae, sometimes very strong (male *P. stackelbergi* (Gorodkov, 1967), Fig. 2). Female fore femur simple with numerous short spinules ventrally and with a row of anteroventral setae (Fig. 4). Fore tibia ventrally with short black spines (Figs 2–4), with 1 dorsal, 1 posteroventral, and 1 apical posteroventral setae; usually a preapical dorsal seta present, in *P. gorodkovi* additionally with 3 anteroventral setae in apical quarter. Mid femur with several (3–6 at middle) or row of anterodorsal setae, also with 1 preapical posterior and 0–1 preapical anterodorsal setae. Mid tibia with 1 anterodorsal, 0–1 posterodorsal, and a ring of apicals; with dorsal field-like scent organ (“osmeterium”, Figs 5, 6) which usually border with setae or hairs, sometimes long as in male of *P. caudata* (Fig. 5). Hind femur with a row of anterodorsal setae, also in male with a good visible row of posteroventral setae (except *P. barbata*). Hind tibia with 1–2 dorsal, 2 anterodorsal, and a ring of apicals (posteroventral apical seta absent).

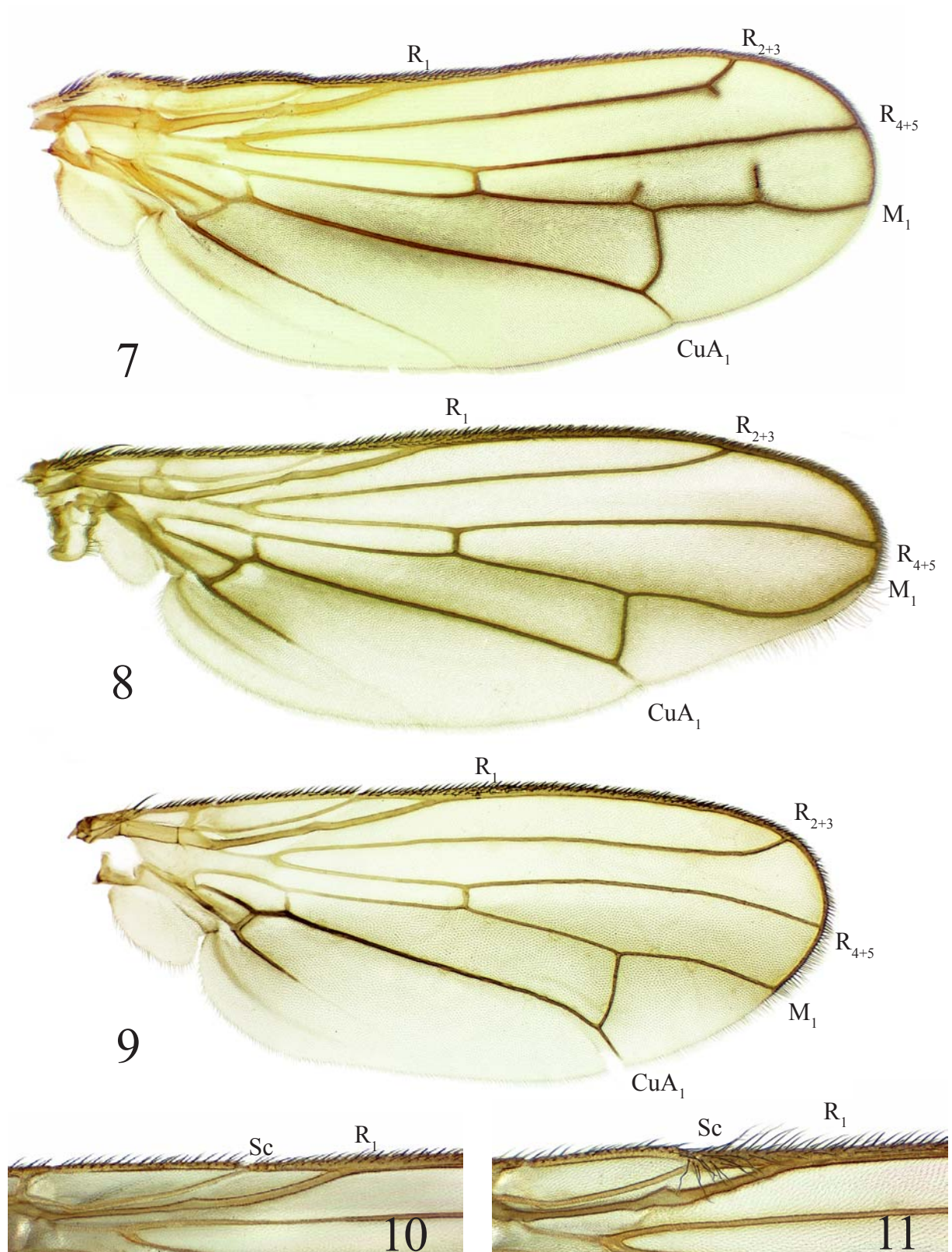
Wing clear or darkened, in male of *P. barbata* often with supernumerary crossveins between R_{4+5} and M_1 (Fig. 7); veins blackish; vein R_1 bare on apical third of dorsal surface. Tip of vein M_1 distinctly upcurved, smoothly passing into costa in *P. immunda* (Zetterstedt, 1838) and *P. sahlbergi* (Becker, 1900) (Fig. 8). Calypters, margins of calypters, and halteres yellowish or darkened.

Abdomen cylindrical, black, greyish dusted, covered with rare yellow or black hairs. Tergites 2–6 each with row of marginal setae. Male sternite 4 with emargination on the lower margin (Figs 15–21). Male sternite 5 modified with long lobes (Figs 22–35). Male



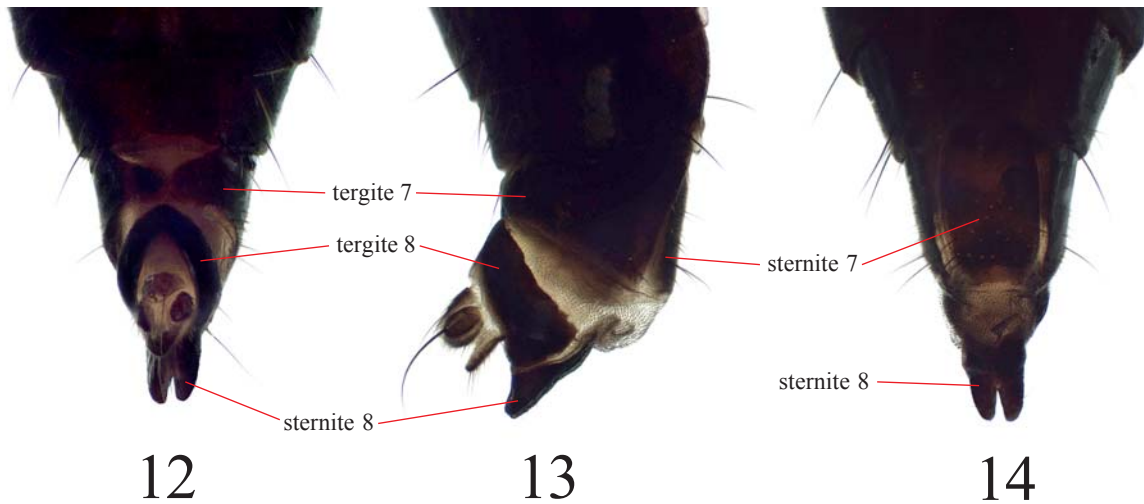
Figs 2–6. *Pogonota* spp., legs: 2 — *P. stackelbergi* (Gorodkov), male fore leg, posterior view; 3 — *P. barbata* (Zetterstedt), same; 4 — *P. dasyprocta* (Loew), female fore leg, anterior view; 5 — *P. caudata* (Zetterstedt), male mid tibia, dorsal view; 6 — *P. dasyprocta* (Loew), same.

Рис. 2–6. *Pogonota* spp., ноги: 2 — *P. stackelbergi* (Gorodkov), передняя нога самца, сзади; 3 — *P. barbata* (Zetterstedt), то же; 4 — *P. dasyprocta* (Loew), передняя нога самки, спереди; 5 — *P. caudata* (Zetterstedt), голень средней ноги самца, сверху; 6 — *P. dasyprocta* (Loew), то же.



Figs 7–11. *Pogonota* spp., wing (10, 11 — fragment): 7 — *P. barbata* (Zetterstedt); 8 — *P. immunda* (Zetterstedt); 9, 10 — *P. dasyprocta* (Loew); 11 — *P. caudata* (Zetterstedt).

Рис. 7–11. *Pogonota* spp., крыло (10, 11 — фрагмент): 7 — *P. barbata* (Zetterstedt); 8 — *P. immunda* (Zetterstedt); 9, 10 — *P. dasyprocta* (Loew); 11 — *P. caudata* (Zetterstedt).



Figs 12–14. *Pogonota dasyprocta* (Loew), end of female abdomen: 12 — dorsal view; 13 — lateral view; 14 — ventral view.
 Figs 12–14. *Pogonota dasyprocta* (Loew), конец брюшка самки: 12 — сверху; 13 — сбоку; 14 — снизу.

cerci as broad plates, medially separate or fused, apically and/or dorsally with long hairs; surstyli elongate (Figs 36–49).

Ovipositor short, cylindrical (Figs 12–14). Female tergite 7 desclerotized in middle; sternite 7 rectangular, formed by entire sclerotized plate with margins slightly curved laterally. Female sternite 8 divided medially in two plates. Female cerci with long apical seta.

Pogonota barbata (Zetterstedt, 1838)

Figs 1, 3, 7, 15, 22, 23, 36, 37, 50.

barbata Zetterstedt, 1838: 734 (*Cordylura*). Type-locality: “Lappon. borealis” (Sweden).

hircus Zetterstedt, 1838: 735 (*Cordylura*). Type-locality: “Lapponia; Westrogoth.” (Sweden).

sponsa Zetterstedt, 1838: 735 (*Cordylura*). Type-localities: “Lapponia Tornensi... Lapponia Umensi ad Lycksele et Wilhelmiana... (Lapponia Suecica; Westrogothia...)” (Sweden).

klickai Vimmer, 1937: 118 (*Amaurosoma*, as *klickai*). Type-locality: “Böhmen, Karlův Týn” (Czechoslovakia).

hirculus, error for *hircus* [Gorodkov, 1986: 21].

The species was mentioned from Buryatia [Gorodkov, 1974: 389], from NW of European part of Russia without indicating a specific locality [Gorodkov, 1986: 21], from Yaroslavl’ Oblast [Ovchinnikov, 2004: 422], from Karelia [Humala & Polevoi, 2009: 72], and from Far East [Šifner, 2008: 145; Ozerov & Krivosheina, 2014: 216].

MATERIAL EXAMINED. **Altay:** Kosh-Agach, plato Ukok, 2400 m, Lake Muzdy-Bulak env. (49.26N, 87.65E), 8.VII.2008, A. Barkalov (1 ♀, ISEA); **Amur Oblast:** town Zeya (53.7485N 127.2614E), 11 and 21.VI.1978, A. Shatalkin (1 ♂, 1 ♀, ZMUM); **Arkhangelsk Oblast:** Arkhangelsk (64.5461N 40.5677E), 4.VIII.2010, D. Gavryushin (1 ♂, 1 ♀, ZMUM); Solvychevovsk (61.3421N 46.9132E), 13.VIII.2010, D. Gavryushin (4 ♂♂, 14 ♀♀, ZMUM); Nar’yan-Mar (67.6317N 52.9857E), 7.VII.2008, A.L. Ozerov (4 ♀♀, ZMUM); lower reaches of the Pechora River, Island Kashin (68.242N 53.856E), 10.VII.2008, N.E. Vikhrev, A.L. Ozerov (6 ♂♂, 8 ♀♀, ZMUM); Nar’yan-Mar env. (67.6428N 53.1963E), 12.VII.2008, A.L. Ozerov (1 ♀, ZMUM); 35 km ESE Karpogory (ca. 64N 44.45E), the Pinega River, 11.VII.1996, Gorodkov (6 ♂♂, 5 ♀♀, ZISP); Karpogory (64N 44.45E), the

Pinega River, 10.VII.1996, Gorodkov (7 ♂♂, 5 ♀♀, ZISP); Onega (63.92N 38.08E), 22.VII.1996, Gorodkov (7 ♂♂, 10 ♀♀, ZISP); Mezen’ (65.85N 44.24E), 26.VIII.1978, Gorodkov (2 ♂♂, 1 ♀, ZISP); Belush’e env. (66.89N 47.61E), 24.VIII.1978, Gorodkov (2 ♂♂, 1 ♀, ZISP); Nizhnyaya Peshha (66.7518N 47.7605E), 22.VIII.1978, Gorodkov (4 ♂♂, 4 ♀♀, ZISP); **Bashkiria:** between Abzakovo and Murakaevo (53.7971N 58.6519E), 2–8.VIII.2008, K. Tomkovich (1 ♀, ZMUM); **Buryatia:** (ca. 54.35N 109.51E), 9–18.VII.1965, Negrobov (6 ♂♂, 12 ♀♀, ZISP); Lake Baykal, Island Bol’shoy Ushkaniy (53.8544N 108.6286E), 20.VII.1962, Gorodkov (1 ♀, ZISP); Lake Baykal, Pokoyniki env. (53.713N 109.049E), 22.VII.1962, Gorodkov (1 ♂, 1 ♀, ZISP); Davsha (ca. 54.35N 109.51E), 10.VIII.1962, Gorodkov (1 ♂, 3 ♀♀, ZISP); Lake Baykal, Ust’-Barguzin (53.4101N 109.0314E), 18.VII.2014, A.F. Medvedev (1 ♂, ZMUM); **Chelyabinsk Oblast:** south coast of Lake Turgoyak (55.1385N 60.0947E), 26–31.VIII.2008, K. Tomkovich (2 ♀♀, ZMUM); **Chukotka:** lower reaches of the Anadyr’ River (64.83N, 175.96E), 5 m., 28 and 31.VII.2013, A. Barkalov (2 ♀♀, ISEA); **Ekaterinburg** (56.85N 60.6E), 1.VIII.1929, Popov (1 ♂, ZISP); **Irkutsk Oblast:** Padun (56.2931N 101.7117E), 10.VII.1956, Monchadskiy (1 ♂, ZISP); **Kamchatka Krai:** Uzon (54.5033N 159.9900E, 54.4877N 159.9772E), floodplain of the Komarinyy Stream, 20.VII.2009, L. Lobkova (2 ♂♂, ZMUM); **Karelia:** Kartesh (66.33N 33.64E), 18 and 21.VII.1975, Gorodkov (8 ♂♂, 6 ♀♀, ZISP); Kizhi (62.084N 35.211E), 19.VI.1979, Gorodkov (1 ♀, ZISP); Petrazovodsk (61.7889N 34.3444E), 17.VI.1979, Gorodkov (1 ♀, ZISP); Segezha (63.7456N 34.3176E), 29.VII.1996, Gorodkov (2 ♂♂, 5 ♀♀, ZISP); Sumskey posad (64.2383N 35.4084E), 27.VII.1996, Gorodkov (1 ♂, 3 ♀♀, ZISP); Poyakonda (66.5898N 33.8210E), 8.VII.2010, A.L. Ozerov (1 ♂, ZMUM); Primorskiy (66.5463N 33.1036E), 3.VII.2010, A.L. Ozerov (1 ♂, ZMUM); **Komi:** 3 km N Ust-Tsilma (ca. 65.45N 52.11E), Roshchinskiy, 10.VIII.1978, Gorodkov (1 ♂, 2 ♀♀, ZISP); Shchelyayur (65.33N 53.43E), 12.VIII.1978, Gorodkov (3 ♂♂, ZISP); Ukhta (63.56N 53.69E), 14.VIII.1978, Gorodkov (1 ♂, 3 ♀♀, ZISP); Ust-Tsilma (ca. 65.45N 52.11E), 9.VIII.1978, Gorodkov (2 ♂♂, 3 ♀♀, ZISP); Blagoevo (63.41N 47.95E), 13.VII.1996, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Inta (66.04N 60.17E), 5.VIII.1985, Gorodkov (1 ♂, 1 ♀, ZISP); Karpushhevka (65.42N 52.25E), 10.VIII.1978, Gorodkov (2 ♂♂, 3 ♀♀, ZISP); Ust’-Ukhta (63.6203N 53.8786E), 4.VIII.1985, Gorodkov (2 ♂♂, 1 ♀, ZISP); Shchel’yabozh (66.29N 56.45E), 14.VIII.1978, Gorodkov (1 ♂, 3 ♀♀, ZISP); **Krasnoyarsk Krai:** Kryuchkovo station (56.096N 92.109E), 14–23.VII.2009, K. Tomkovich (1 ♀, ZMUM); Baykit (61.68N 96.38E), 23.VIII.1972, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); **Leningrad Oblast:** Jukki (ca. 60.11N 30.29E), 28.VII.1932, A. Stackelberg (1 ♂, 2 ♀♀, ZISP);

Luga (ca. 58.73N 29.84E), 10 and 24.VII.1952, A. Stackelberg (2 ♂♂, 2 ♀♀, ZISP); same place, 17.VII.1954, A. Stackelberg (2 ♀♀, ZISP); same place, 5–13.VIII.1955, A. Stackelberg (1 ♂, 2 ♀♀, ZISP); same place, 1869, Sol'skiy (2 ♂♂, ZISP); Kavgolovo (60.17N 30.52E), 12.VI.1966, Gorodkov (1 ♀, ZISP); Lebyazh'ya (59.9638N 29.4211E), 17.VII.1900, Bianki (1 ♂, 1 ♀, ZISP); Islands on the Neva River (59.806N 30.8284E), 3.VI.1896 and 1.VIII.1906, G. Yakobson (2 ♂♂, ZISP); station "Fan-der-Flit" (58.6415N 29.6935E), 28–29.VI., 8–9.VII.1925, A. Stackelberg (5 ♂♂, 5 ♀♀, ZISP); Sablino (ca. 59.63N 30.76E), 23 and 30.VII.1923, A. Stackelberg (4 ♂♂, 8 ♀♀, ZISP); same place, 23.VII. and 3.VIII.1924, A. Stackelberg (1 ♂, 2 ♀♀, ZISP); station Tokari (61.099N 34.3914E), 7.VIII.1923, Fridolin (7 ♂♂, 1 ♀, ZISP); Yashchera (ca. 59.16N 29.85E), 8 and 17.VII. and 5.VIII.1959, A. Stackelberg (4 ♂♂, 5 ♀♀, ZISP); same place, 18.VI. and 14.VIII.1960, A. Stackelberg (2 ♂♂, 2 ♀♀, ZISP); same place, 26.VI., 11 and 18.VII.1963, A. Stackelberg (6 ♂♂, 3 ♀♀, ZISP); cape Dubovskoy (59.7915N 28.7904E), 24.VII.1984, M. Krivosheina (1 ♂, ZMUM); **Moscow and Moscow Oblast:** Bittsa (55.6417N 37.5707E), 24.VI.1936, B. Rodendorf (1 ♂, ZMUM); Kosino (55.7214N 37.8476E), 12.VI.1921 B. Dodonov (2 ♂♂, 4 ♀♀, ZMUM); Abramtsevo (56.2304N 37.9564E), 7.VI.1953, E.S. Smirnov (1 ♀, ZMUM); Andreevskoe (55.9748N 35.6035E), 16–21.VII.2006, 27.VI.2006, A.L. Ozerov (4 ♂♂, 3 ♀♀, ZMUM); Burtsevo (55.9817N 35.5982E), 5.VII.2006, A.L. Ozerov (1 ♀, ZMUM); Dmitrov env. (56.3163N 37.7258E), 21.VII.2006 and 2007, N. Vikhrev (4 ♂♂, 5 ♀♀, ZMUM); Zelenogradskiy (56.1008N 37.9094E), 17.VI.1953, E.S. Smirnov (2 ♀♀, ZMUM); Stepan'kovo (56.0045N 35.6247E), 6–20.VII.2006, A.L. Ozerov (2 ♂♂, 4 ♀♀, ZMUM); **Murmansk and Murmansk Oblast:** Alexandrovsk (ca. 69.25N 33.31E), 6.IX.1923, V. Kuznetsov (1 ♂, 1 ♀, ZISP); Kolvitsa (67.0824N 33.1837E), 9.VIII.1985, Gorodkov (1 ♀, ZISP); Murmansk (68.9666N 33.0833E), 5.VIII.1924, Kapustin (1 ♀, ZISP); Murmansk env. (68.9798N 33.1148E), 18.VII.2011, D. Gavryushin, A. Ozerov (2 ♂♂, 3 ♀♀, ZMUM); **Novosibirsk and Novosibirsk Oblast:** (54.8547N 83.1071E), 9–10.IX.2008, O. Kosterin (1 ♂, ZMUM); Orlovka env. (59.93N 76.33E), 16.VII.2015, O. Kosterin (1 ♀, in ZMUM); **Omsk and Omsk Oblast:** the Irtysh River (54.99N 73.32E), 22.VII.2011, O. Kosterin (1 ♂, ZMUM); Omsk (54.8833N 73.3333E), 22.VII.2011, O. Kosterin (1 ♂, ZMUM); **Sakhalin Oblast:** Starodubskoe (47.4114N 142.8046E), 1.VIII.1972, I. Sukacheva (1 ♀, ZMUM); **Sverdlov Oblast:** Polevskoy env. (56.45N 60.1833E), 24.VI.1970, Zinov'ev (1 ♂, 1 ♀, ZISP); station Uktus (56.7803N 60.6288E), 12.VI.–9.VII.1910, G. Yakobson (9 ♂♂, 5 ♀♀, ZISP); **Tuva:** Mondy env. (51.6758N 100.9925E), 26 and 28.VII.1965, Gorodkov (2 ♂♂, ZISP); **Tyumen' and Tyumen' Oblast:** (57.15N 65.53E), 30.VI.1972, Veselkin (1 ♂, ZISP); Muzhi (65.3976N 64.7003E), 23.VIII.1976, Gorodkov (1 ♀, ZISP); Neroyka (ca. 64.57N 59.67E), 600 m, 5.VIII.1990, Malozemov (1 ♂, 1 ♀, ZISP); Saranpaul' (64.2598N 60.915E), 30.VII.1990, Malozemov (1 ♀, ZISP); Labytnangi env. (66.6611N 66.3945E), 23.VII.1971, Ol'shvang (1 ♀, ZISP); Lake Varchaty (64.8618N 68.87681E), 29.VIII.1925, Fridolin (3 ♂♂, 2 ♀♀, ZISP); Kharp (66.8038N 65.8091E), 25.VIII.1971, Ol'shvang (1 ♂, ZISP); **Yakutia:** 60 km NE of Amga (61.214N 132.6815E), 20.VII.1986, Bagachanova (1 ♀, ZISP); Mt. Chochur-Muran (62.02N 129.60E), 1.VII.2008, A. Ovchinnikov (2 ♂♂, 4 ♀♀, ZISP); Abaga (61.0496N 132.2808E), 19.VII.2008, A. Ovchinnikov (2 ♂♂, in ZISP); Oktemtsy env. (ca. 61.67N 129.42E), 6.VII.2008, A. Ovchinnikov (3 ♂♂, 7 ♀♀, ZISP); the Biryuk River, 4 km below the mouth of the Melichan River (ca. 60.4349N 119.4955E), 11–15.VII.2008, A. Ovchinnikov (12 ♂♂, 18 ♀♀, ZISP); the River Yana, Stolby env. (67.531N 134.0871E), 26–28.VII.2008, A. Ovchinnikov (2 ♂♂, 11 ♀♀, ZISP); the mouth of the Vityuy-ust River, Bakhanyay River (66.0147N 123.6542E), 14.VI.1875, Chek-anovskiy (1 ♀, ZISP); Yuryakh terde (71.603N 144.9367E), 9.VIII.1926, Ivanov (1 ♂, 1 ♀, ZISP); **Yaroslavl' Oblast:** Berditsino (57.45N 40.10E), 3.VI.1896 and 17.VI.1906, A.I. Yakovlev (2 ♂♂, 5 ♀♀, ZISP); **Zabaikal'skiy kray:** tract Ulan-Maylo, upper reaches of the Uda River (52.3878N 111.3680E), 22.VI.2010, A. Medvedev (1 ♂, 1 ♀, ZMUM); stantion Lesnaya (51.7640T 112.9991E), 1.VII.2012, A. Medvedev (1 ♂, ZMUM).

DESCRIPTION. Male, female. Slender, medium-sized flies (6.5–10.2 mm long). Head. Frontal vitta matt, yellow; fronto-orbital plate black in upper half and yellow in lower part, greyish dusted. Face, parafacial and gena yellow or whitish; in male gena and postgena with long yellow hairs (beard) (Fig. 1). Postcranium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 3–4 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; usually 2 pairs of strong vibrissae present. Antenna black in ground colour, pedicel and base of postpedicel usually yellowish. Postpedicel 2 (in female) or 3 (in male) times as long as wide. Arista black, bare. Palpus elongate and flattened, yellow.

Thorax black, greyish or greenish dusted. Acrostichals very small, in two rows, dorsocentrals 3+3, intra-alars very small (0–1)+(0–2), supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one of them usually long. Proepimeron with one long hair and several small hairs. Anepisternum covered with pale hairs in posterior half, with 1–2 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish or greenish dusted, with pair of strong basal scutellar setae and a pair of strong apical scutellar setae.

Legs yellow, only mid and hind coxae black. Male fore femur modified (Fig. 3) with tufts of short black setae ventrally and with a row of posterodorsal setae. Female fore femur simple with numerous short spinules ventrally and with a row of posteroventral setae. Fore tibia modified in male (Fig. 3), and simple in female, with short black spines in two rows ventrally and with 1 dorsal, 1 posteroventral, and 1 apical posteroventral setae. Mid femur with 5–6 anterodorsal setae at middle, also with 1 black ventral seta at base, 1 preapical posterior and 1 preapical anterodorsal setae and with numerous short spinules ventrally. Mid tibia with 1 anterodorsal, 1 posterodorsal, and a ring of apicals. Hind femur with a row of anterodorsal setae, with several anteroventral setae in apical third, and with numerous short spinules ventrally. Hind tibia with 1–2 dorsal, 2 anterodorsal, apical anterodorsal and apical anteroventral setae.

Wing slightly darkened, in male often with supernumerary crossveins between R_{4+5} and M_1 and strong darkened along veins (Fig. 7); vein R_1 bare on apical third of dorsal surface. Calypters, margins of calypters, and halteres yellowish.

Abdomen cylindrical, black, greyish dusted, covered with rare yellow or black hairs. Tergites 2–6 in female and 4–6 in male each with row of marginal setae. Sternite 4 of butterfly-like form (Fig. 15). Sternite 5 as in Figs 22, 23. Cerci as broad plate, medially fused, dorsally with long hairs (Fig. 36, 37). Ovipositor was fully described and illustrated by Ovchinnikov [2009: 319].

DISTRIBUTION. Russia (Fig. 50): Altay, Amur Oblast, Arkhangelsk Oblast, Bashkiria, Buryatia, Chelyabinsk Oblast, Chukotka, Ekaterinburg, Irkutsk Oblast,



Figs 15–21. *Pogonota* spp., male sternite 4: 15 — *P. barbata* (Zetterstedt); 16 — *P. caudata* (Zetterstedt); 17 — *P. dasyprocta* (Loew); 18 — *P. gorodkovi* (Ozerov); 19 — *P. immunda* (Zetterstedt); 20 — *P. sahlbergi* (Becker); 21 — *P. stackelbergi* (Gorodkov).

Рис. 15–21. *Pogonota* spp., стернит 4 самца: 15 — *P. barbata* (Zetterstedt); 16 — *P. caudata* (Zetterstedt); 17 — *P. dasyprocta* (Loew); 18 — *P. gorodkovi* (Ozerov); 19 — *P. immunda* (Zetterstedt); 20 — *P. sahlbergi* (Becker); 21 — *P. stackelbergi* (Gorodkov).

Kamchatka Krai, Karelia, Komi, Krasnoyarsk Krai, Leningrad Oblast, Moscow and Moscow Oblast, Murmansk Oblast, Novosibirsk and Novosibirsk Oblast, Omsk and Omsk Oblast, Sakhalin Oblast, Sverdlov Oblast, Tuva, Tyumen' and Tyumen' Oblast, Yakutia, Yaroslavl' Oblast, Zabaikal'skiy kray. — Europe, North America.

Pogonota caudata (Zetterstedt, 1838)

Figs 5, 11, 16, 24, 25, 38, 39, 51.

caudata Zetterstedt, 1838: 734 (*Cordylura*). Type-locality: "Laponia ... ad Kengis, Karesuando et Palojoensuu, Lapponiae Tomensis ... ad lacum Stor-Uman et ad Wilhelmina, Lapponiae Umensis ... in Dowre ... (Lapponia-Delacaria)" (Sweden).

Recorded in Russia from north of European part and Siberia [Gorodkov, 1984 (map), 1986: 22].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** 70 km N of Nar'yan-Mar (ca. 68.2045N 53.6278E), 18.VIII.1978, Gorodkov (8 ♂♂, 4 ♀♀, ZISP); 73 km NW of Nar'yan-Mar (ca. 67.9814N 51.6083E), 3.VIII.1978, Gorodkov (18 ♂♂, 1 ♀, ZISP); Belush'e env. (66.89N 47.61E), 24.VIII.1978, Gorodkov (4 ♂♂, ZISP); Velikovoischnoe (67.255N 52.0328E), 18.VIII.1978, Gorodkov (2 ♂♂, ZISP); Mezen' (65.85N 44.24E), 26.VIII.1978, Gorodkov (3 ♂♂, 1 ♀, ZISP); Nizhnaya Pesh (66.7527N 47.7592E), 22.VIII.1978, Gorodkov (11 ♂♂, 1 ♀, ZISP); lower reaches of the Pechora River, Island Kashin (68.242N 53.856E), 10.VII.2008, N.E. Vikhrev, A.L. Ozerov (5 ♂♂, ZMUM); **Chukotka:** Chaunskaya guba, the mouth of the Ichun' River (68.8541N 170.5476E), 3.VII.1940, Semenov (2 ♀♀, ZISP); **Kamchatka:** Valley of Geysers (ca. 54.43N 160.15E), 12.VIII.1985, V. Zlobin (1 ♂, ZISP); **Karelia:** Poyakonda (66.5898N 33.8210E), 8.VII.2010, A.L. Ozerov (2 ♂♂, ZMUM); **Komi:** Ust-Tsilma (ca. 65.45N 52.11E), 11.VIII.1978, Gorodkov (3 ♂♂, 1 ♀, ZISP); Seyda (67.0512N 63.0812E), the Usy River, 26.VII.1961, Gorodkov (2 ♂♂, ZISP); station Sivaya Maska (66.6756N 62.5699E), 5 km NW, 14.VII.1961, Gorodkov (18 ♂♂, 12 ♀♀, ZISP); Shchel'yabozh (66.29N 56.45E), 15.VIII.1978, Gorodkov (9 ♂♂, 7 ♀♀, ZISP); Shchel'yayur (65.33N 53.43E), 12.VIII.1978, Gorodkov (1 ♂, ZISP); Vorkuta (67.5N 64.0E), 19–25.VII.2010, N. Vikhrev (2 ♂♂, ZMUM); Seida (67.064N 63.086E), 2–4.VIII.2011, K. Tomkovich (1 ♂, ZMUM); **Krasnoyarsk Krai:** Igarka (67.457N 86.598E), Enisey, 30.VI.1967, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Lake Glubokoe, 60 km O of Noril'sk (ca. 69.373N 89.799E), 4 and 8.VII.1967, Gorodkov (3 ♂♂, ZISP); Noril'sk (69.3396N 88.2147E), 4.VII.1967, Gorodkov (1 ♂, ZISP); **Magadan Oblast:** the mouth of the Tauy River (59.659N 149.0714E), 10.VII.1930, Semenov-Tyan'-Shanskiy (1 ♂, ZISP); **Murmansk and Murmansk Oblast:** Alexandrovsk (ca. 69.25N 33.31E), 9.VI.1908, L. Bianki (1 ♂, ZISP); Lake Vud'yavr (ca. 67.6464N 33.6449E), 25.VI.1935, Cheburova (1 ♂, 1 ♀, ZISP); Verkhnetulomskiy (68.6072N 31.7934E), 17.VII.1974, Kasparyan (1 ♂, ZISP); Dal'nie Zelentsy (69.1171N 36.0625E), 6.VIII.1981, Gorodkov (8 ♂♂, 2 ♀♀, ZISP); Krasnoshchel'e (67.351N 37.0453E), 18.VIII.1981, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); Lovozero (68.0057N 35.0161E), 14–17.VIII.1981, Gorodkov (4 ♂♂, 1 ♀, ZISP); the Tuloma River (68.7383N 32.2881E), Gremakha-Padun, 18–19.VII.1905, Soldatov (1 ♀, ZISP); station Khibiny (67.6736N 33.2126E), 27.VIII.1928, Cheburova (1 ♂, 1 ♀, ZISP); Tumannyy (68.8836N 35.6932E), 3–5.VIII.1981, Gorodkov (2 ♂♂, 4 ♀♀, ZISP); Murmansk env. (68.9798N 33.1148E, 68.9799N 33.1510E, 68.9767N 33.1199E), 18–21.VII.2011, A. Ozerov (5 ♂♂, 1 ♀, ZMUM); the Kola River (68.8763N 33.0333E), 19.VII.2011, A. Ozerov (1 ♀, ZMUM); **Tuva:** Mondy env. (51.6758N 100.9925E), 28.VII.1965, Gorodkov (1 ♂, ZISP); **Tyumen' Oblast:** 130 km SE of Nadym (ca. 64.7183N 74.5323E), 2.VIII.1977, Gorodkov (3 ♂♂, ZISP); 75 km WSW of Samburg (ca. 67.0357N 76.5411E), 7–9.VIII.1976, Gorodkov (3 ♂♂, 1 ♀, ZISP); 87 km NW of Tazovskiy (ca. 67.5222N 77.8079E), floodplain of the Khariyanog River, 29.VII.1977, Gorodkov (1 ♂, ZISP); 90 km W of Samburg (ca.

67.0357N 76.5411E), 28.VII.1977, Gorodkov (1 ♂, ZISP); Voykar River Basin (ca. 65.7206N 64.3244E), 9.VIII.1925, Fridolin (1 ♂, 1 ♀, ZISP); Sob' River Basin (ca. 66.9376N 65.6706E), 15–26.VII.1925, Fridolin (2 ♂♂, 2 ♀♀, ZISP); Sob' River Basin (ca. 66.9376N 65.6706E), the mouth of the Bol. Pay-Pudyna River 28.VII.1961, Gorodkov (1 ♂, ZISP); Valley of the Khadutte River (ca. 67.376N 76.1046E), 83 km Z Tazovskoe 31.VII.1977, Gorodkov (1 ♂, 1 ♀, ZISP); Labytnangi env. (66.6611N 66.3945E), 23.VII.1971, Ol'shvang (4 ♂♂, ZISP); Kharp (66.8038N 65.8091E), 20.VIII.1976, Gorodkov (3 ♂♂, ZISP); Yar-Sale (66.8633N 70.8300E), 28.VII.1986, Veselkin (1 ♂, ZMUM).

DESCRIPTION. Male, female. Slender, small-sized flies (4.2–5.2 mm long). Head. Frontal vitta matt, usually yellow completely or blackish in upper part; fronto-orbital plate black in upper part and yellow in lower part, greyish dusted. Face, parafacial and gena yellow. Postcranium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 2 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; 3–4 pairs yellow in male and 2 pairs black in female of vibrissae present. Antenna yellow completely in male, scapus and pedicel usually yellow, but postpedicel black in female. Postpedicel about 3 times as long as wide in male and 2 times as long as wide in female. Arista black, bare. Palpus elongate, yellow.

Thorax black, greyish dusted. Acrostichals small in two rows, dorsocentrals 3+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one or two of them usually long. Proepimeron with one long hair and several small hairs. Anepisternum covered with pale hairs in posterior half, with 3–4 as a rule pale setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong pale seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with pair of strong basal scutellar setae and pair of strong apical scutellar setae.

Legs yellow, only mid and hind coxae black. Male fore femur thickened in basal half, with yellow and black short setae in basal half and tuft of short black setae at middle ventrally, also with a row of yellow posterodorsal setae. Female fore femur simple with numerous short spinules ventrally and with a row of black posteroventral setae. Fore tibia with short black spines in two rows ventrally, with 1 dorsal, 1 posteroventral, 5–6 in male and 2–3 in female posterodorsal setae, additionally in female with 1 apical anterodorsal and 1 apical posteroventral setae. Mid femur with a row of anterodorsal setae in basal half, also with 1 preapical posterior and 1 preapical anterodorsal setae. Mid tibia with 1 anterodorsal and a ring of apicals; in male scent organ ("osmeterium") surrounded by long hairs (Fig. 5). Hind femur with a row of anterodorsal setae, additionally in male with rows of anteroventral setae and ventral spinules. Hind tibia with 1–2 dorsal, 2 anterodorsal, 1 apical anterodorsal and 1 apical anteroventral setae.

Wing tinged with brownish, veins blackish; vein R_1 bare on apical third of dorsal surface. Costa ventrally between veins Sc and R_1 with long hairs (Fig. 11). Tip of vein M_1 gradually sloping downwards as in *P. dasy-*



Figs 22–27. *Pogonota* spp., male sternite 5: 22 — *P. barbata* (Zetterstedt), lateral view; 23 — same, dorsal view; 24 — *P. caudata* (Zetterstedt), lateral view; 25 — same, dorsal view; 26 — *P. dasyprocta* (Loew), lateral view; 27 — same, dorsal view.
 Рис. 22–27. *Pogonota* spp., стернит 5 самца: 22 — *P. barbata* (Zetterstedt), сбоку; 23 — то же, сверху; 24 — *P. caudata* (Zetterstedt), сбоку; 25 — то же, сверху; 26 — *P. dasyprocta* (Loew), сбоку; 27 — то же, сверху.



28



29



30



31



32



33

Figs 28–33. *Pogonota* spp., male sternite 5: 28 — *P. gorodkovi* (Ozerov), lateral view; 29 — same, dorsal view; 30 — *P. immunda* (Zetterstedt), lateral view; 31 — same, dorsal view; 32 — *P. sahlbergi* (Becker), lateral view; 33 — same, dorsal view.

Рис. 28–33. *Pogonota* spp., стернит 5 самца: 28 — *P. gorodkovi* (Ozerov), сбоку; 29 — то же, сверху; 30 — *P. immunda* (Zetterstedt), сбоку; 31 — то же, сверху; 32 — *P. sahlbergi* (Becker), сбоку; 33 — то же, сверху.



Figs 34–35. *Pogonota stackelbergi* (Gorodkov), male sternite 5: 34 — lateral view; 35 — same, dorsal view.
Рис. 34–35. *Pogonota stackelbergi* (Gorodkov), стернит 5 самца: 34 — сбоку; 35 — сверху.

procta (Fig. 9). Calypters, margins of calypters, and halteres yellowish.

Abdomen cylindrical, black, greyish dusted, covered with rare yellow or black hairs. Male tergites 4–6 each with long median marginal setae. Sternites 4 and 5 as in Figs 16, 24, 25. Cerci as medially separate plates, apically with long hairs (Fig. 39). Surstyli bifurcate apically (Fig. 38).

DISTRIBUTION. Russia (Fig. 51): Arkhangelsk Oblast, Chukotka, Kamchatka, Karelia, Komi, Krasnoyarsk Krai, Magadan Oblast, Murmansk and Murmansk Oblast, Tuva, Tyumen' Oblast. — Europe (Scandinavia).

Pogonota dasyprocta (Loew, 1864)

Figs 4, 6, 9, 10, 17, 26, 27, 40, 41, 52.

dasyprocta Loew, 1864: 25 (*Cordylura*). Type-locality: "Sweden".

The species was recorded for Russia from north of European part [Gorodkov, 1984 (map), 1986: 22], Siberia [Gorodkov, 1974: 389, 1984 (map), 1986: 23] and Far East [Gorodkov, 1984 (map), 1986: 23; Ozerov & Krivosheina, 2014: 215].

MATERIAL EXAMINED. **Altay:** Kosh-Agach, plato Ukok, 2400 m, Lake Muzdy-Bulak (49.26N, 87.65E), 10–11.VII.2008, A. Barkalov (14 ♂♂, 10 ♀♀, ISEA and ZMUM); "Rodonovyy istochnik", 2412 m, Lake Muzdy-Bulak (49.46N, 88.05E), 5.VII.2008, A. Barkalov (1 ♂, ISEA); the source of the Naryn-Gol River from Lake Kinkytkyul', 2477 m, (49.83N, 89.44E), 19.VII.2009, A. Barkalov (1 ♂, 1 ♀, ISEA); ridge Chikhachev, the source of the Naryn-Gol River, 2600 m, (49.81N, 88.55E), 15–18.VII.2009, A. Barkalov (3 ♂♂, 2 ♀♀, ISEA); the upper reaches of the Naryn-Gol River, 2520 m, (49.49N, 89.32E), 16–19.VII.2009, V. Sorokina (2 ♂♂, 1 ♀, ISEA); **Arkhangelsk Oblast:** Kanin Nos (68.6563N 43.2796E), 17.VII.1970, Gorodkov (1 ♂, 1 ♀, ZISP); the Silova-Yakha River (ca. 68.5583N 64.817E), 80 km N Khal'mer'yu, 19.VII.1961, Gorodkov (4 ♂♂, ZISP); the Tuloma River (68.8017N 32.687E), 23 and 28.VI.1906, Soldatov (1 ♂, 1 ♀, ZISP); Ust'-Kara (69.2415N 64.9319E), 10.VIII.1961, Gorodkov (1 ♂, 1 ♀, ZISP); 70 km N of Nar'yan-Mar (ca. 68.2045N 53.6278E), 18.VIII.1978, Gorodkov (1 ♂, 3 ♀♀, ZISP); Belush'e env. (66.89N 47.61E), 24.VIII.1978, Gorodkov (2 ♂♂, ZISP); Nar'yan-Mar (67.6369N 53.0316E), 2.VIII.1978, Gorodkov (2 ♂♂, ZISP); Nizhnyaya Pesha (66.7527N 47.7592E), 22.VIII.1978, Gorodkov (1 ♂, ZISP); **Buryatia:** the upper reaches of the Irkut

River near Lake Il'chir (51.9611N 100.9527E), 7.VIII.2012, A. Medvedev (1 ♂, 1 ♀, ZMUM); **Chukotka:** Anadyr' (64.7311N 177.5049E), 13.VIII.1966, Gorodkov (2 ♂♂, ZISP); Apapel'khin (ca. 69.7644N 170.6176E), 14–15.VII.1963, 7.VII.1971, 1.VII.1972, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Iul'tin (67.8669N 178.7333W), 21.VII.1963, Gorodkov (1 ♂, ZISP); Komsomol'skiy (69.1309N 172.7358E), 4–7.VII.1963, Gorodkov (10 ♂♂, 3 ♀♀, ZISP); cape Tur'yryv (69.1652N 170.8909E), 21.VI.1940, Semenov (1 ♂, ZISP); Pevek (69.7022N 170.2982E), 1 and 3.VII.1963, 4.VIII.1972, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Ugol'nyy env. (64.7335N 177.7335E), 15.VIII.1966, Gorodkov (1 ♂, ZISP); 55 km N of Egvekinot (66.7956N 181.0005E), 26 and 29.VII.1963, Gorodkov (1 ♂, 2 ♀♀, ZISP); the Apapel'gin River (68.8N, 170.65E), 5.VII.2011, O.A. Khruleva (8 ♂♂, 7 ♀♀, ZMUM); Meynypil'gyno env. (62.5385N 177.0519E, 62.567N 177.033E), 14–21.VI.2010, 23–27.VI.2011, 26–29.VI. and 3–13.VII.2012, 9, 19 and 20.VII.2013, P.C. Tomkovich (14 ♂♂, 7 ♀♀, ZMUM); the lower reaches of the Anadyr' River (64.83N, 175.96E), 5 m., 18–28.VII.2013, A. Barkalov (4 ♂♂, ISEA); Meynypil'gyno env. (62.555N 177.0633E), 29.VII.2015, P.S. Tomkovich (1 ♂, in ZMUM); a mine Polyarnyy (69.1433N 178.7238E), 3.VIII.1972, Gorodkov (4 ♂♂, 2 ♀♀, in ZISP); **Kamchatka Krai:** Uzon (54.4877N 159.9772E, 54.5033N, 159.9900E), 9 and 11.VII.1987, L. Lobkova (4 ♂♂, ZMUM); Lake Neprich'e, cape Tonkiy (56.3399N 162.7433E), 26.VI.1908, Derzhavin (1 ♂, ZISP); Valley of Geysers (ca. 54.43N 160.15E), 12.VIII.1985, V. Zlobin (3 ♂♂, 1 ♀, ZISP); Apuka (60.4441N 169.6012E), 7.VIII.1959, Gorodkov (1 ♂, ZISP); Kora (60.3768N 166.0233E), 29.VI.1959, Gorodkov (1 ♂, ZISP); Petropavlovsk-Kamchatskiy (53.013N 158.6576E), 31.VIII.1969, Gorodkov (1 ♂, ZISP); Ust'-Kamchatsk (56.2295N 162.4692E), 10.IX.1908, A. Derzhavin (1 ♂, ZISP); Ust'-Kamchatsk (56.2295N 162.4692E), 10.VIII.1930, E. Gur'eva (1 ♂, ZISP); **Khabarovsk Krai:** Ochotsk env. (59.3664N 143.2293E), 29.VIII.1987, Gorodkov (2 ♀♀, ZISP); Bulgino env. (59.3718N 143.1475E), 29.VIII.1987, Gorodkov (2 ♀♀, in ZISP); **Komi:** station Sivaya Maska (66.6756N 62.5699E), 5 km NW, 13.VII.1961, Gorodkov (1 ♀, ZISP); Khal'mer'yu (68.9452N 64.7383E), 18–21.VII.1961 and 1962, Gorodkov (5 ♂♂, 2 ♀♀, ZISP); Shchel'yayur (65.33N 53.43E), 12.VIII.1978, Gorodkov (1 ♂, ZISP); **Krasnoyarsk Krai:** 104 km NNW of Noril'sk, the Nizhnyaya Agapa River (ca. 70.0972N 86.6883E), 26–27.VII.1973, Sukacheva, Zherikhin (4 ♂♂, 3 ♀♀, ZISP); Agapa (ca. 71.412N 89.2689E), Pyasina River, 15–18.VII.1967, Gorodkov (9 ♂♂, 4 ♀♀, ZISP); the Pyasina River (ca. 73.2732N 90.6402E), 90 km S of Tareya, 23.VII.1967, Gorodkov (2 ♂♂, ZISP); Dikson (73.508N 80.5297E), 8.VIII.1967, Gorodkov (2 ♂♂, 1 ♀, ZISP); Dudinka (69.4042N 86.1822E), 2–3.VII.1967, Gorodkov (23 ♂♂, 9 ♀♀, ZISP); Medvezhiy (69.2845N 88.1488E), Noril'sk env., 6.VII.1967, Gorodkov (3 ♂♂, ZISP); Lake Glubokoe, 60 km O of Noril'sk (ca. 69.373N 89.799E), 8.VII.1967, Gorodkov (4 ♂♂, ZISP); Lake Essey (68.4818N 102.1869E), 18.VI.1905, I. Tolmachev (1 ♂,

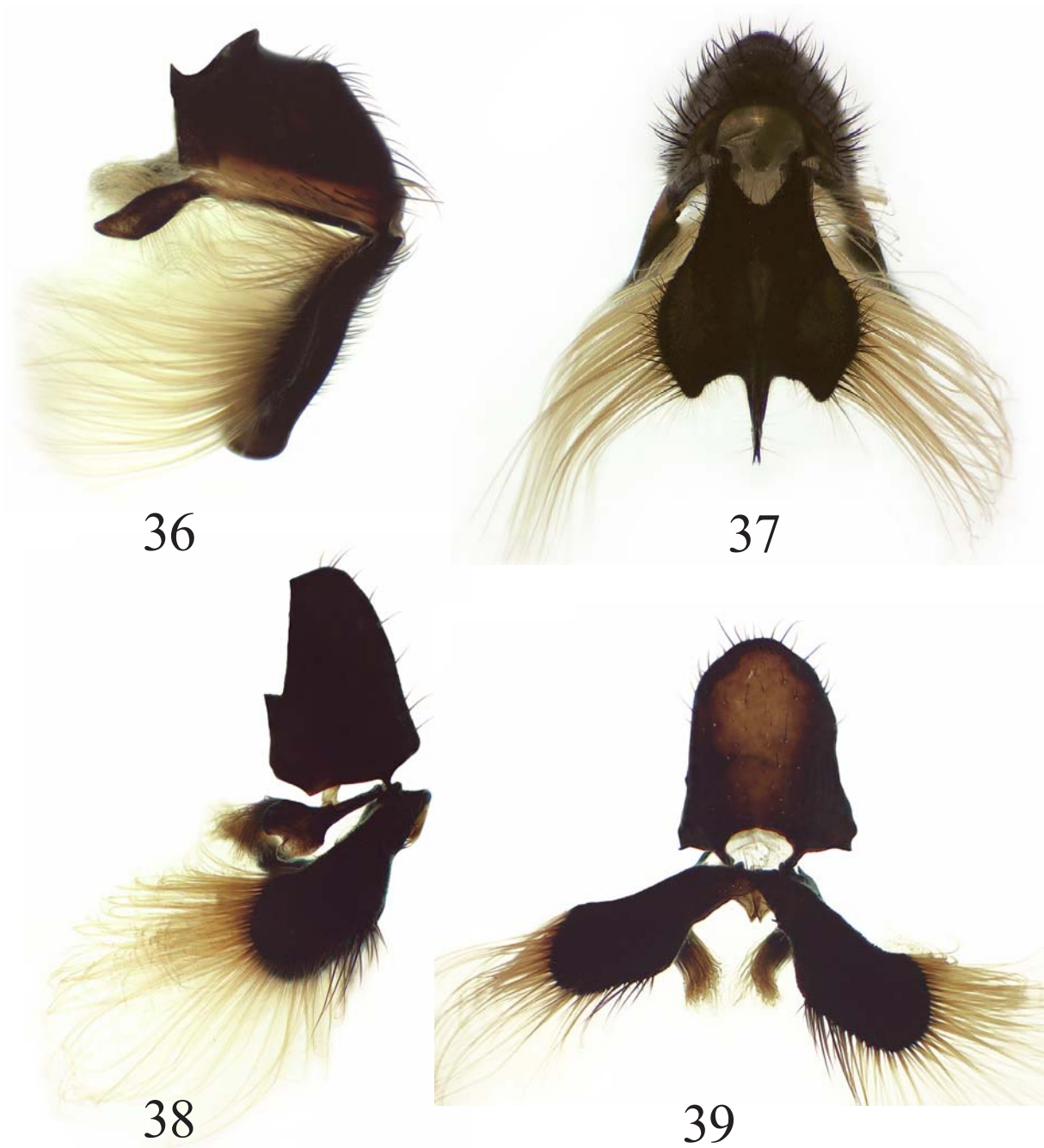
ZISP); Noril'sk env. (69.3396N 88.2147E), 11.VII.1967, Gorodkov (1 ♂, ZISP); Tareya (ca. 73.9785N 92.1492E), 24.VII.1967, Gorodkov (3 ♂♂, 1 ♀, ZISP); Khatanga (71.9815N 102.4832E), 25.VII.1971, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); Dudinka (69.4N 86.2E), 26–29.VII.2011, N. Vikhrev (8 ♂♂, 5 ♀♀, ZMUM); N.–W. Taymyr penn., 12.5 km S. Dixon settl. (73.4N 80.65E), bank of the Lemberova River, 9 and 26.VII.2012, Coll. A. Barkalov (12 ♂♂, ISEA); Kresty (71.9158N 102.1238E), 11.VII.1976, A. Rasnitsyn and I. Sukacheva (1 ♂, ZMUM); Taymyr, 114 km from Khatangi along the Kotuy River (71.4N, 103E), 14 m, 25.VI.2010, A. Barkalov (1 ♂, ISEA); Taymyr, Taymyrskiy zapovednik, cordon Ary-Mas (72.5N 101.94E), 14 m, 9–22.VII.2010, A. Barkalov (2 ♀♀, ISEA and ZMUM); **Leningrad Oblast:** Gatshina (59.56N 30.13E), 11.VI.1940, A. Stackelberg (1 ♀, ZISP); same place (59.56N 30.13E), 24.V.1940, A. Stackelberg (1 ♀, ZISP); same place (59.56N 30.13E), 26.V.1951 and 25.V.1952, A. Stackelberg (2 ♀♀, ZISP); Gobzhitsy (ca. 58.83N 30.13E), 10.VIII.1931, A. Stackelberg (1 ♀, ZISP); Jukki (ca. 60.11N 30.29E), 5.VI.1931, A. Stackelberg (1 ♂, ZISP); Kartashevskaya (ca. 59.40N 30.07E), 8.VII.1952, A. Stackelberg (1 ♀, ZISP); Luga (ca. 58.73N 29.84E), 19.VII.1935, A. Stackelberg (1 ♂, ZISP); stantion Peri (ca. 60.24N 30.46E), 15.VI.1952, A. Stackelberg (2 ♀♀, ZISP); **Magadan Oblast:** Ust'-Omchug (61.1318N 149.6331E), 1.VIII.1971, Gorodkov (1 ♂, in ZISP); Gizhiga (61.9487N 160.3772E), 5.IX.1987, Gorodkov (1 ♀, in ZISP); **Murmansk Oblast:** Vud'yavr Lake Basin (ca. 67.6464N 33.6449E), 13.VIII.1931, Fridolin (1 ♀, ZISP); same place, 14.VII.1931, Fridolin (1 ♀, ZISP); stantion Khibiny (67.6736N 33.2126E), 18.IX.1928, Cheburova (1 ♀, ZISP); Tumanny (68.8836N 35.6932E), 3.VIII.1981, Gorodkov (1 ♂, 1 ♀, ZISP); Verkhnetulomskiy (68.6072N 31.7934E), 17.VII.1974, Kasparyan (1 ♂, ZISP); **St.-Petersburg:** Komarovo (60.18N 29.81E), 13.V.1951, A. Stackelberg (1 ♀, ZISP); cemetery Smolenskoe (59.94N 30.24E), 19.V.1922, A. Stackelberg (1 ♂, ZISP); N. Bronnaya (ca. 60.19N 29.64E), 8.VI.1918, A. Stackelberg (1 ♀, ZISP); Udel'naya (ca. 60.01N 30.29E), 13.V.1952, A. Stackelberg (3 ♂♂, ZISP); **Tuva:** Lake Inchir (51.9556N 100.9582E), 31.VIII.1965, Gorodkov (2 ♂♂, ZISP); Mondy env. (51.6758N 100.9925E), 18.VIII.1962, 15–28.VII.1965, Gorodkov (14 ♂♂, 4 ♀♀, ZISP); **Tyumen' Oblast:** Antipayuta (69.0973N 76.8739E), 31.VII.1977, Gorodkov (3 ♂♂, 1 ♀, ZISP); "Karskaya tundra" (ca. 69.033N 64.583E), 6–21.VII.1909, F. Zaytsev (4 ♂♂, 2 ♀♀, ZISP); 30 km SE of Nadyem (ca. 64.7183N 74.5323E), 2.VIII.1977, Gorodkov (4 ♂♂, 1 ♀, ZISP); 55 km W of Samburg (ca. 67.0357N 76.5411E), 12.VIII.1976, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); 75 km WSW of Samburg (ca. 67.0357N 76.5411E), 7–9.VIII.1976, Gorodkov (8 ♂♂, 7 ♀♀, ZISP); 80 km W of Samburg (ca. 67.0357N 76.5411E), 7–9.VIII.1976, Gorodkov (3 ♂♂, ZISP); 87 km NW of Tazovskiy (ca. 67.5222N 77.8079E), floodplain of the Khariyanog River, 29.VII.1977, Gorodkov (4 ♂♂, 1 ♀, ZISP); 90 km W of Samburg (ca. 67.0357N 76.5411E), 28.VII.1977, Gorodkov (1 ♂, ZISP); Neroyka (ca. 64.57N 59.67E), 700 m, 6–9.VII.1990, Malozemov (1 ♂, ZISP); Voykar River Basin (ca. 65.7206N 64.3244E), 14–18.VIII.1925, Fridolin (2 ♂♂, 1 ♀, ZISP); Sob' River Basin (ca. 66.9376N 65.6706E), 15.VII.1925, Fridolin (1 ♀, ZISP); same place (ca. 66.9376N 65.6706E), the mouth of the Bol. Pay-Pudyna River, 28.VII.1961, Gorodkov (1 ♂, ZISP); the upper reaches of the Pura River (ca. 66.3202N 77.989E), 10 km NW of Lake Barasmu, 21–24.VII.1967, Gorodkov (4 ♂♂, 4 ♀♀, ZISP); Gaz-sale (67.3645N 78.9987E), 18 km SE of Tazovskoe, 31.VII.1977, Gorodkov (2 ♂♂, ZISP); Valley of the Khadutte River, 83 km W of Tazovskoe (ca. 67.4551N 76.6904E), 31.VII.1977, Gorodkov (6 ♂♂, 10 ♀♀, ZISP); Labytnangi (66.6611N 66.3945E), 8–14.VII.1974, Sychevskaya (18 ♂♂, 4 ♀♀, ZISP); Muzhi (65.3976N 64.7003E), 22.VIII.1976, Gorodkov (1 ♀, ZISP); Nyda (66.6282N 72.9196E), 3–5.VIII.1977, Gorodkov (4 ♂♂, 1 ♀, ZISP); Salekhard (66.53N 66.6135E), 5.VIII.1976, Gorodkov (6 ♂♂, 3 ♀♀, ZISP); Tab'yakha, 90 km SW of Samburg (ca. 66.3865N 77.1529E), 7.VIII.1976, Gorodkov (2 ♀♀, ZISP); the mouth of the Arkayakha River, 85 km SW of Antipayut (ca. 69.4401N 74.8555E), 31.VII.1977, Gorodkov (5 ♂♂, 7 ♀♀, ZISP); Kharp (66.8038N 65.8091E), 20.VIII.1976, Gorodkov (2 ♂♂, 1 ♀, ZISP); Yamal, cape Kamenny (66.7439N 69.1726E), 9.VIII.1967 and 20.VIII.1985, Gorodkov (17 ♂♂, 12 ♀♀, ZISP); Labytnangi

(66.6579N 66.3919E), 24.VII.1973, L. Zimina and R. Kamenskaya (2 ♂♂, 1 ♀, ZMUM); (63.818N 59.562E), 1–4.VII.2010, K. Tomkovich (1 ♂, ZMUM); **Yakutia:** the River Alazeya (70.8175N 153.6891E), 6.VI.1905, Rozhnovskiy (1 ♂, ZISP); Verchoyansk (67.55N 133.3942E), 12.VIII.1972 and 11.VIII.1974, Gorodkov (3 ♂♂, 6 ♀♀, ZISP); airport Saskylakh (71.9345N 114.083E), 24.VII.1988, Gorodkov (6 ♂♂, 1 ♀, ZISP); Batagay (67.6539N 134.6352E), 9.VIII.1972 and 21.VII.1974, Gorodkov (5 ♂♂, 1 ♀, ZISP); Vilyuysk env. (63.7503N 121.637E), 25.VIII.1988, Gorodkov (1 ♀, ZISP); Zhigansk (66.7665N 123.3721E), 15.VIII.1973, Gorodkov (1 ♀, ZISP); Kyusyur (70.6874N 127.366E), 13–18.VII.1957, Gorodkov (9 ♂♂, 12 ♀♀, ZISP); Island Stolb (72.3956N 126.658E), delta of the Lena River, 25.VII.1957, Gorodkov (3 ♀♀, ZISP); Island Tit-Ary, the Lena River (71.9764N 127.0541E), 29.VII.1957, Gorodkov (1 ♀, ZISP); channel Oleneskaya (72.6622N 124.3405E), 28.VIII.1957, Gorodkov (1 ♂, 1 ♀, ZISP); Tiksi (71.6351N 128.8579E), 9.VII. and 10.VIII.1957, Gorodkov (20 ♂♂, 7 ♀♀, ZISP); Udachnyy (66.4057N 112.2994E), 20–21.VII.1988, Gorodkov (7 ♂♂, 3 ♀♀, ZISP); Chekurovka (71.0469N 127.5255E), 24.VII.1957, Gorodkov (12 ♂♂, 2 ♀♀, ZISP); Chokurdakh (70.6187N 147.8958E), 11–12.VII.1957, Gorodkov (6 ♂♂, ZISP); Belyakh, Anabar (70.8849N 113.5704E), 23.VII.1988, Gorodkov (6 ♂♂, 6 ♀♀, ZISP); Pokhodsk (69.079N 160.9615E), 18.VII.1973, Gorodkov (7 ♂♂, 3 ♀♀, in ZISP); Nizhneyansk (71.441N 136.1355E), 31.VII.1974, Gorodkov (1 ♀, in ZISP).

DESCRIPTION. Male, female. Slender, small-sized flies (3.8–5.2 mm long). Head. Frontal vitta matt, yellow completely or blackish in upper part; fronto-orbital plate black in upper part and yellow in lower part, greyish dusted. Face, parafacial and gena yellow. Postcranium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 2–3 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; 3–4 pairs in male and 1–2 pairs in female of yellow vibrissae present. Antenna yellow completely in male, scapus and pedicel yellow, but postpedicel black in female. Postpedicel about 3 times as long as wide in male and about 2 times as long as wide in female. Arista black, bare. Palpus elongate, yellow.

Thorax black, greyish dusted. Acrostichals small in two rows, dorsocentrals 3+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalaris 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one or two of them usually long. Proepimeron with one long hair and several small hairs. Anepisternum covered with pale hairs in posterior half, with 3–4 setae along posterior margin, one of them black. Katepisternum covered with pale hairs in posterior half and 1 strong pale or black seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar setae and a pair of strong apical scutellar setae.

Legs yellow, only mid and hind coxae black. Male fore femur thickened in basal half, with yellow short setae in basal half and tuft of short black setae at middle ventrally, also with a row of yellow in basal half and black in apical part posterodorsal setae. Female fore femur simple with numerous short spinules ventrally and with a row of black posteroventral setae (Fig. 4). Fore tibia with short black spines in two rows ventrally (Fig. 4), with 1 dorsal, 1 posteroventral, 4–5 in male and usually 1 in female posterodorsal setae, additionally in female with 1 apical anterodorsal and 1 apical posteroventral setae. Mid femur with a row of



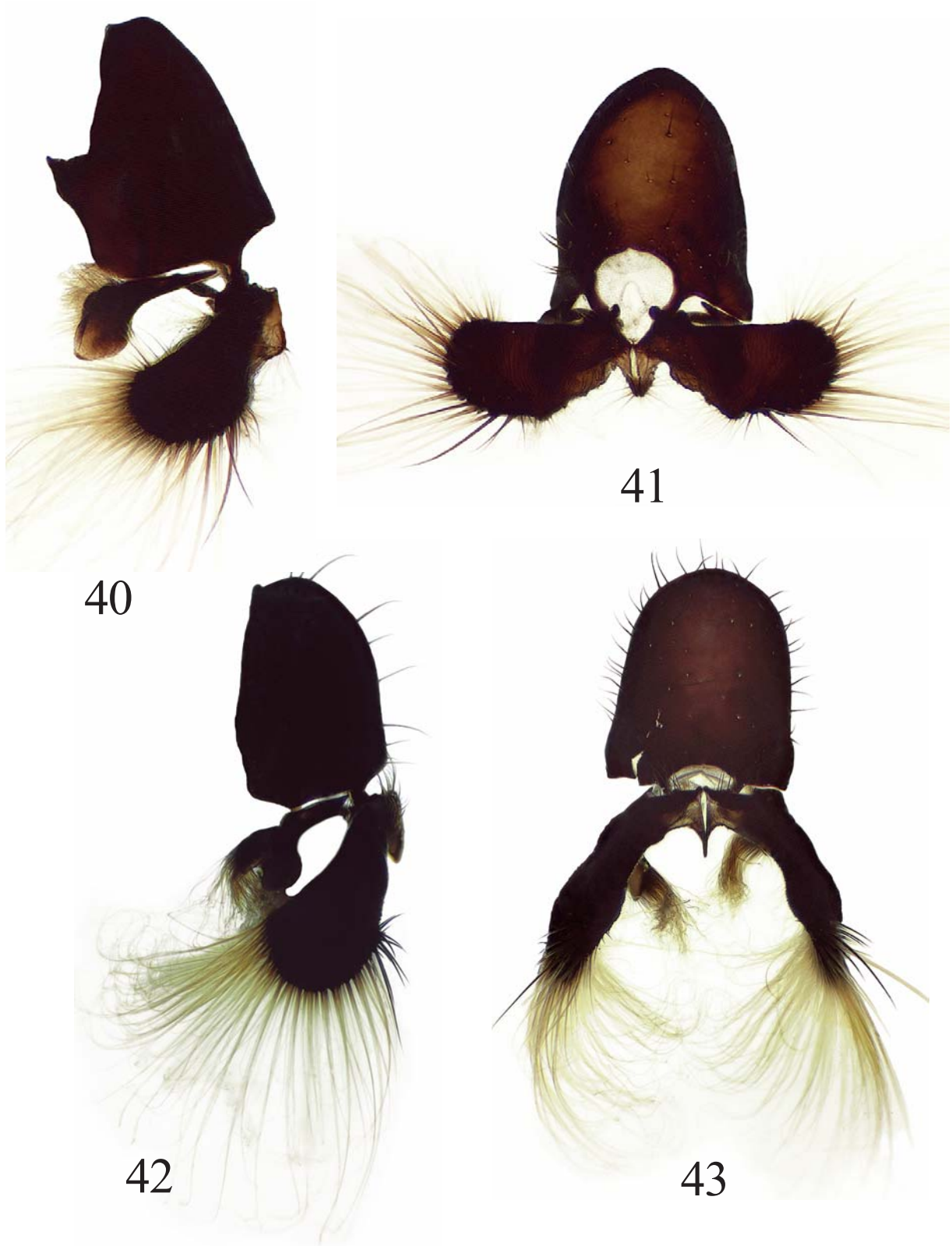
Figs 36–39. *Pogonota* spp., epandrium, cerci and surstyli: 36 — *P. barbata* (Zetterstedt), lateral view; 37 — same, dorsal view; 38 — *P. caudata* (Zetterstedt), lateral view; 39 — same, dorsal view.

Рис. 36–39. *Pogonota* spp., эпандрий, церки и сурстили: 36 — *P. barbata* (Zetterstedt), сбоку; 37 — то же, сверху; 38 — *P. caudata* (Zetterstedt), сбоку; 39 — то же, сверху.

anterodorsal setae in basal half, also with 1 preapical posterior and 1 preapical anterodorsal (anterior) setae. Male mid tibia with 1 anterodorsal and a ring of apicals, dorsal field-like scent organ (“osmeterium”) surrounded by a row of black setae (Fig. 6). Female mid tibia with 1 anterodorsal and 1 posterodorsal setae, also with a ring of apicals. Male hind femur with rows of anterodorsal and anteroventral setae, also ventrally

with rows of setae curved anteriorly; female hind femur with a row of anterodorsal setae and thin anteroventral setae only. Hind tibia with 1–2 dorsal, 1–2 anterodorsal, 1 apical anterodorsal and 1 apical anteroventral setae.

Wing tinged with brownish, veins blackish; vein R_1 bare on apical third of dorsal surface. Costa ventrally between veins Sc and R_1 without long hairs (Fig. 10).



Figs 40–43. *Pogonota* spp., epandrium, cerci and surstyli: 40 — *P. dasyprocta* (Loew), lateral view; 41 — same, dorsal view; 42 — *P. gorodkovi* (Ozerov), lateral view; 43 — same, dorsal view.

Рис. 40–43. *Pogonota* spp., эпандрий, церки и сурстили: 40 — *P. dasyprocta* (Loew), сбоку; 41 — то же, сверху; 42 — *P. gorodkovi* (Ozerov), сбоку; 43 — то же, сверху.



44



45



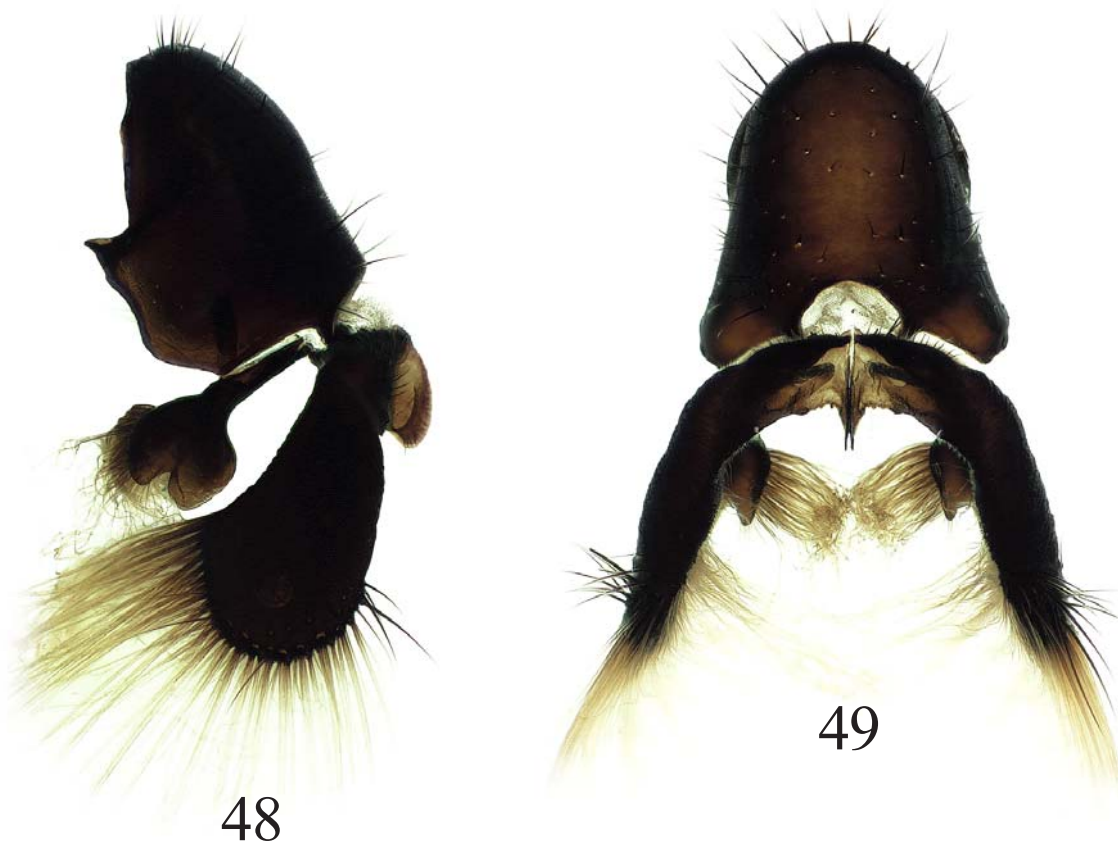
46



47

Figs 44–47. *Pogonota* spp., epandrium, cerci and surstyli: 44 — *P. immunda* (Zetterstedt), lateral view; 45 — same, dorsal view; 46 — *P. sahlbergi* (Becker), lateral view; 47 — same, dorsal view.

Рис. 44–47. *Pogonota* spp., эпандрий, церки и сурстели: 44 — *P. immunda* (Zetterstedt), сбоку; 45 — то же, сверху; 46 — *P. sahlbergi* (Becker), сбоку; 46 — то же, сверху.



Figs 48–49. *Pogonota stackelbergi* (Gorodkov), epandrium, cerci and surstyli: 48— lateral view; 49— same, dorsal view.
Рис. 48–49. *Pogonota stackelbergi* (Gorodkov), эпандрий, церки и сурстили: 48— сбоку; 49— то же, сверху.

Tip of vein M_1 gradually sloping downwards (Fig. 9). Calypters, margins of calypters, and halteres yellowish.

Abdomen cylindrical, black, greyish dusted, covered with rare yellow or black hairs. Male tergites 4–6 each with long median marginal setae. Sternites 4 and 5 as Figs 17, 26, 27. Cerci as medially separate plates, apically with long yellow hairs (Fig. 41). Surstyli not bifurcate apically (Fig. 40).

DISTRIBUTION. Russia (Fig. 52): Altay, Arkhangel'sk Oblast, Buryatia, Chukotka, Kamchatka Krai, Khabarovsk Krai, Komi, Krasnoyarsk Krai, Leningrad Oblast, Murmansk Oblast, St.-Petersburg, Tyumen' Oblast, Yakutia. — Europe, Mongolia, North America.

Pogonota gorodkovi (Ozerov, 2006)
Figs 18, 28, 29, 42, 43, 53.

gorodkovi Ozerov, 2006: 336 (*Okeniella*). Type-locality: Altai, plateau Ukok, lakes Kal'dzin-Kul' and Kal'dzin-Kul' Bas, ~2400m (49.3166N 87.4333E) (Russia).

This species was known only from the type-locality [Ozerov, 2006: 336].

MATERIAL EXAMINED. Altay: the source of the Naryn-Gol River from Lake Kindykykul', 2477 m, (49.83N, 89.44E), 19.VII.2009, A. Barkalov (1 ♂, ISEA); ridge Kurayskiy, 2500–2700 m (50.33N, 87.75E), tundra, 29–30.VI.2008 and 3.VII.2008, A. Barkalov (11 ♂♂, 1 ♀, ISEA and ZMUM); "Rodonovyy istochnik",

2412 m, Lake Muzdy-Bulak (49.46N, 88.05E), 5.VII.2008, A. Barkalov (1 ♂, ISEA); the southern slope of the ridge Chuyskiy, 2185–2600 m, (49.65N, 88.22E), 12–13.VII.2009, A. Barkalov (1 ♂, ISEA); ridge Chikhachev, the source of the Naryn-Gol River, 2600 m, (49.81N, 88.55E), 15–18.VII.2009, A. Barkalov (2 ♂♂, ISEA).

DESCRIPTION. Male, female. Slender, small-sized flies (4.0–4.6 mm long). Head. Frontal vitta matt, in male yellow in lower third or half and black in upper part, in female black, yellowish in lower margin only; fronto-orbital plate black completely or yellow in lower quarter, greyish dusted. Face, parafacial and gena yellow. Postanium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 2–3 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; 4–5 pairs yellow in male and 2 pairs black in female of vibrissae present. Antenna yellow completely in male, and black in female (sometimes pedicel yellowish apically). Postpedicel about 2.5–3 times as long as wide. Arista black, bare. Palpus elongate, yellow.

Thorax black, greyish dusted. Acrostichals small in two rows, dorsocentrals (3–4)+(3–4), intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalar 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one or two of them usually long. Proepimeron with one long hair and several small hairs. Anepisternum covered with pale hairs in posterior half, with 3–4 black or pale setae

along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong pale or black seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar setae and a pair of strong apical scutellar setae.

Legs. Coxae of all legs black. Tibiae and tarsi of all legs yellow. Male fore and mid femora yellow, only fore femur in base dorsally and mid femur basally blackish. Male hind femur black, except yellow apex. Female femora of all legs black, except yellow apex. Male fore femur thickened in basal half, with yellow and black short setae in basal half and tuft of short black setae at middle ventrally, also with a row of usually yellow in basal half and black in apical part posterodorsal setae. Female fore femur simple with numerous short spinules ventrally and with a row of black posteroventral setae. Fore tibia with short black spines in two rows ventrally, with 1 dorsal, 1 posteroventral, 4–5 in male and usually 1 in female posterodorsal setae, additionally in female with 1 apical anterodorsal and 1 apical posteroventral setae. Mid femur with rows of anterodorsal and anteroventral setae in basal half, also with 1 preapical posterior and 1 preapical anterior setae. Male mid tibia with 1 anterodorsal and a ring of apicals, dorsal field-like scent organ (“osmeterium”) surrounded by a row of black setae. Female mid tibia with 1 anterodorsal and 1 posterodorsal setae, also with a ring of apicals. Male hind femur with rows of anterodorsal and anteroventral setae, also ventrally with rows of setae curved anteriorly; female hind femur with a row of anterodorsal setae and thin anteroventral setae only. Hind tibia with 1–2 dorsal, 1–2 anterodorsal, 1 apical anterodorsal and 1 apical anteroventral setae.

Wing clear or tinged with brownish, veins blackish; vein R_1 bare on apical third of dorsal surface. Costa ventrally between veins Sc and R_1 with long hairs as in *P. caudata* (Fig. 11). Tip of vein M_1 gradually sloping downwards. Upper calypter and margin of upper calypter yellowish, lower calypter and margin of lower calypter blackish; halteres dark yellowish or brown.

Abdomen cylindrical, black, greyish dusted, covered with yellow or black hairs. Male tergites 4–6 each with long black median marginal setae. Sternites 4 and 5 as in Figs 18, 28, 29. Cerci as two separate plates, fused basally, apically with long yellow hairs (Fig. 43). Surstyli bifurcate apically (Fig. 42).

DISTRIBUTION. Russia (Fig. 53): Altay.

Pogonota immunda (Zetterstedt, 1838)

Figs 8, 19, 30, 31, 44, 45, 54.

immunda Zetterstedt, 1838: 733 (*Cordylura*). Type-locality: “alpe Dowre... (Lappon, Norveg.)” (Norway).

clavata Zetterstedt, 1846: 2041 (*Cordylura*). Type-locality: “Lapponia Lulensis alpius Snjerrak & Wallifjellet prope Qvickjock” (Sweden).

Noted from European part of Russia without indicating specific locality [Gorodkov, 1986: 22], from Siberia (in particular Buryatia) [Gorodkov, 1974: 389, 1986: 22; Ozerov & Barkalov, 2014: 563] and from

Far East [Gorodkov, 1986: 22; Ozerov & Krivosheina, 2014: 216].

MATERIAL EXAMINED. **Altay**: Kosh-Agach, plato Ukok, 2400 m, Lake Muzdy-Bulak env. (49.26N, 87.65E), 8.VII.2008, A. Barkalov (1 ♂, ISEA); **Arkhangelsk Oblast**: the Silova-Yakha River (ca. 68.5583N 64.817E), 80 km N of Khal'mer'yu, 19.VII.1961, Gorodkov (1 ♂, 1 ♀, ZISP); 70 km N of Nar'yan-Mar (ca. 68.2045N 53.6278E), 18.VIII.1978, Gorodkov (1 ♂, ZISP); sopka Teni-Seda (68.1488N 51.8238E), 3.VIII.1978, Gorodkov (8 ♂♂, 2 ♀♀, ZISP); the lower reaches of the Pechora River (68.3348N 53.3046E), 11.VII.2008, A.L. Ozerov (5 ♂♂, ZMUM); **Chukotka**: Iul'tin (67.8669N 178.7333W), 21.VII.1963, Gorodkov (1 ♀, in ZISP); “Shmidt” [=cape Shmidt] (68.893N 179.4132W), 18.VII.1963 and 11.VII.1971, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); 35 km N of Egvekinot (ca. 66.6431N 179.1243W), 29.VII.1963, Gorodkov (2 ♂♂, 1 ♀, ZISP); 5 km N of Egvekinot (66.323N 179.1216W), 27.VII.1963, Gorodkov (1 ♀, ZISP); Apapel'khin (ca. 69.7644N 170.6176E), 1.VII.1972, Gorodkov (1 ♂, ZISP); Komsomol'skiy (69.1309N 172.7358E), 5.VII.1963, Gorodkov (1 ♂, ZISP); Pevek (69.7022N 170.2982E), 1.VII.1963, Gorodkov (1 ♀, ZISP); Chaunskaya bay, the mouth of the Ichun' River (68.8541N 170.5476E), 3.VII.1940, Semenov (1 ♂, 1 ♀, ZISP); Meynypil'gyno env. (62.5385N 177.0519E), 26–29.VI. and 3–13.VII.2012, P.C. Tomkovich (17 ♂♂, 8 ♀♀, ZMUM); Meynypil'gyno env. (62.555N 177.0633E), 29.VII.2015, P.S. Tomkovich (1 ♂, in ZMUM); Meynypil'gyno env. (62.5533N 177.0383E), 13.VII.2015, P.S. Tomkovich (1 ♂, in ZMUM); **Komi**: Khal'mer'yu (68.9452N 64.7383E), 18–21.VII.1961 and 1962, Gorodkov (3 ♂♂, ZISP); **Krasnoyarsk Krai**: 104 km NNW of Noril'sk, the Nizhnyaya Agapa River (ca. 70.0972N 86.6883E), 26.VII.1973, Sukacheva, Zherikhin (12 ♂♂, 14 ♀♀, ZISP); Agapa (ca. 71.412N 89.2689E), Pyasina River, 14–21.VII.1967, Gorodkov (22 ♂♂, 11 ♀♀, ZISP); Lake Essey (68.4818N 102.1869E), 18.VI.1905, I. Tolmachev (3 ♂♂, ZISP); the Pyasina River, 90 km N of Tareya (ca. 72.3591N 90.5822E), 23.VII.1967, K. Gorodkov (1 ♀, ZISP); Tareya (ca. 73.9785N 92.1492E), 25.VII.1967, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Ust'-Tareya (73.2527N 90.5962E), 4.VIII.1967, K. Gorodkov (1 ♀, ZISP); Taymyr, Taymyrskiy reserve, cordon Ary-Mas (72.5N 101.94E), 14 m, 9–22.VII.2010, A. Barkalov, O. Khruleva (4 ♂♂, 2 ♀♀, ISEA and ZMUM); the Nizhnyaya Agapa River, 40 km below of the source (~ 70.0972N 86.6883E), 12–14.VII.1973, V. Zherikhin and I. Sukacheva (3 ♂♂, 2 ♀♀, ZMUM); **Murmansk Oblast**: Tumannyi (68.8836N 35.6932E), 5.VIII.1981, Gorodkov (1 ♂, in ZISP); **Tuva**: Mondy env. (51.6758N 100.9925E), 15 and 28.VII.1965, Gorodkov (28 ♂♂, 14 ♀♀, ZISP); **Tyumen' Oblast**: 55 km W of Samburg (ca. 67.0357N 76.5411E), 12.VIII.1976, Gorodkov (1 ♂, ZISP); 75 km WSW of Samburg (ca. 67.0357N 76.5411E), 7.VIII.1976, Gorodkov (1 ♂, ZISP); the Voykar River Basin (ca. 65.7206N 64.3244E), 18.VIII.1925, Fridolin (1 ♂, ZISP); Labytangi env. (66.6611N 66.3945E), 23.VII.1971, Ol'shvang (3 ♂♂, ZISP); “protochnye yurty”, VI.1908, B.M. Zhitkov (Expedition of Imperat. Russian geograph. Society to Yamal [69.5867N 70.5430E] in 1908) (1 ♂, ZMUM); Neroyka (ca. 64.57N 59.67E), 700 m, 21.VI.1990, Malozemov (1 ♂, 1 ♀, ZISP); **Yakutia**: airport Saskylakh (71.9345N 114.083E), 24.VII.1988, Gorodkov (8 ♂♂, 6 ♀♀, ZISP); channel Olenekskaya (72.6622N 124.3405E), 28.VIII.1957, Gorodkov (1 ♂, 5 ♀♀, ZISP); Tiksi (71.6351N 128.8579E), 7 and 9.VII.1957, Gorodkov (2 ♀♀, ZISP); Chokurdakh (70.6187N 147.8958E), 21.VIII.1971, Gorodkov (1 ♀, in ZISP); Nizhneyansk (71.441N 136.1355E), 31.VII.1974, Gorodkov (1 ♀, in ZISP).

DESCRIPTION. Male, female. Slender, small or moderate small-sized flies (4.2–6.2 mm long).

Head. Frontal vitta matt, usually yellow, but sometimes blackish in upper part; fronto-orbital plate black, greyish dusted. Face and parafacial white or yellow; gena yellow or blackish. Postcranium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 2–4 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; 4–6 pairs of vibrissae present. Antenna black in ground colour, but pedicel usually



Figs 50–51. Distribution maps of *Pogonota* spp.: 50 — *P. barbata* (Zetterstedt); 51 — *P. caudata* (Zetterstedt).

Рис. 50–51. Распространение видов рода *Pogonota*: 50 — *P. barbata* (Zetterstedt); 51 — *P. caudata* (Zetterstedt).

yellowish. Postpedicel about 3 times as long as wide. Arista black, bare. Palpus elongate and flattened, yellow and usually with blackish tip in female and whitish in male.

Thorax black, greyish dusted. Acrostichals in two rows, dorsocentrals 3+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one or two of them usually long. Proepimeron with one long hair and several small hairs. Anepisternum covered with black hairs in posterior half, with 3 black setae along posteri-

or margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar setae and a pair of strong apical scutellar setae.

Legs. Coxae of all legs black. Fore femora yellow in apical part and black basally, black and yellow parts vary; mid tibia black in basal third and yellow in apical part; hind femur black, but yellow in apical third or quarter. Tibiae and tarsi of all legs yellow. Male fore femur ventrally with black short setae in basal half and tuft of short black setae at middle, with a row of postero-

dorsal setae. Female fore femur simple with numerous short spinules ventrally and with a row of thin posteroventral setae. Fore tibia with short black spines in two rows ventrally, with 1 dorsal, 1 posteroventral, additionally in female with 1 preapical dorsal and 1 apical posteroventral setae. Mid femur with a row of anterodorsal setae in basal half (male) or in 2/3 (female) and a row of ventral setae, also with 1 preapical posterior and 1 preapical anterodorsal setae. Mid tibia with 1 anterodorsal seta and a ring of apicals; additionally in female with 1 posterodorsal seta. Hind femur with a row of anterodorsal and anteroventral setae, with 1 preapical posterior seta, additionally in male with a row of ventral spinules. Hind tibia with 1–2 dorsal, 2 anterodorsal, 1 apical anterodorsal and 1 apical anteroventral setae.

Wing tinged with brownish, veins blackish; vein R_1 bare on apical third of dorsal surface. Male wing margin more or less distinctly emarginate between M_1 and CuA_1 , margin in this section is provided with a fringe of long hairs (Fig. 8). Tip of vein M_1 distinctly up-curved, smoothly passing into costa (Fig. 8). Calypters, margins of calypters, and halteres dark yellowish.

Abdomen cylindrical, black, greyish dusted, covered with rare yellow or black hairs. Tergites 2–6 each with a row of thin marginal setae. Sternites 4 and 5 as in Figs 19, 30, 31. Cerci as broad plates, medially fused, dorsally with long hairs (Fig. 45). Surstyli elongate (Fig. 44).

DISTRIBUTION. Russia (Fig. 54): Altay, Arkhangelsk Oblast, Buryatia, Chukotka, Komi, Krasnoyarsk Krai, Tuva, Tyumen' Oblast, Yakutia. — Europe, Mongolia, North America.

Pogonota nigricans (Loew, 1873).

nigricans Loew, 1873: 251 (*Cordylura*). Type-locality: "Am Baikalsee" (Baikal Lake, Russia).

The species was described from an unspecified number of males taken in the Baikal Lake by Maak. Types of this species could not be found in collections of Zoological Institute (S.-Petersburg) and Zoological Museum (Berlin), and are presumed destroyed. The determination of this species from description is problematic. Registration of this species in Finland, Norway and Sweden by Šifner [2008: 143] is incorrect.

DISTRIBUTION. Russia: Baikal Lake.

Pogonota sahlbergi (Becker, 1900)

Figs 20, 32, 33, 46, 47, 55.

sahlbergi Becker, 1900: 51 (*Lasioscelus*). Type-locality: "aus Kantaika u. Dudinka" [=Khanayka] (Russia, Krasnoyarsk Krai).

This species was recorded from north of European part of Russia, Siberia and Far East [Gorodkov, 1986: 22; Ozerov & Barkalov, 2014: 563; Ozerov & Krivosheina, 2014: 216].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** 70 km N of Nar'yan-Mar (ca. 68.2045N 53.6278E), 18.VIII.1978, Gorodkov (11 ♂♂, 2 ♀♀, ZISP); Amderma (69.7563N 61.6614E), 12.VIII.1961, Gorodkov (1 ♂, ZISP); Ust'-Kara (69.2415N 64.9319E), 10.VIII.1961, Gorodkov (1 ♂, ZISP); **Chukotka:** Apapel'khin (ca. 69.7644N 170.6176E), 15.VII.1963, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Pevek (69.7022N 170.2982E), 3.VII.1963,

Gorodkov (1 ♀, ZISP); Chaunskaya bay, the mouth of the Ichun' River (68.8541N 170.5476E), 3.VII.1940, Semenov (1 ♂, ZISP); Meynypil'gyno env. (62.5385N 177.0519E, 62.567N 177.033E), 14–21.VI.2010, 23–27.VI.2011, 26–29.VI. and 3–13.VII.2012, 9 and 19.VII.2013, P.C. Tomkovich (26 ♂♂, 10 ♀♀, ZMUM); Meynypil'gyno env. (62.6333N 176.8966E), 14.VII.2015, P.S. Tomkovich (1 ♂, ZMUM); **Krasnoyarsk Krai:** 104 km NNW of Noril'sk, the Nizhnyaya Agapa River (ca. 70.0972N 86.6883E), 26–27.VII.1973, Sukacheva, Zherikhin (6 ♂♂, ZISP); Agapa (ca. 71.412N 89.2689E), the Pyasina River, 21.VII.1967, Gorodkov (3 ♂♂, ZISP); Medvezhiy (69.2845N 88.1488E), Noril'sk env., 6.VII.1967, Gorodkov (1 ♀, ZISP); the Verkhnyaya Taymyra River, the mouth of the Logata River (ca. 73.1902N 95.8941E), 30.VII.1967, K. Gorodkov (2 ♂♂, 3 ♀♀, ZISP); the Pyasina River, 90 km N of Tareya (ca. 72.3591N 90.5822E), 23.VII.1967, K. Gorodkov (4 ♂♂, 1 ♀, ZISP); Ust'-Tareya (73.2527N 90.5962E), 4.VIII.1967, K. Gorodkov (15 ♂♂, 12 ♀♀, ZISP); Taymyr, Taymyrskiy Reserve, cordon Ary-Mas (72.5N 101.94E), 14 m, 9–10.VII.2010, A. Barkalov (4 ♂♂, ISEA and ZMUM); Taymyr, the Zakharova Rassokha River (72.7N 101.08E), 7 and 11.VII.2011, A. Barkalov (2 ♂♂, ISEA and ZMUM); **Tyumen' Oblast:** 55 km W of Samburg (ca. 67.0357N 76.5411E), 12.VIII.1976, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); 75 km WSW of Samburg (ca. 67.0357N 76.5411E), 7–9.VIII.1976, Gorodkov (6 ♂♂, 2 ♀♀, ZISP); 83 km WNW of Tazovskiy (ca. 68.0494N 77.7028E), 29.VII.1977, Gorodkov (2 ♀♀, ZISP); 85 km WSW of Antipayuta (ca. 68.8208N 75.3442E), 31.VII.1977, Gorodkov (1 ♂, 1 ♀, ZISP); Yamal, cape Kamenny (66.7439N 69.1726E), 21.VIII.1985, Gorodkov (1 ♂, 4 ♀♀, ZISP); **Yakutia:** airport Saskylakh (71.9345N 114.083E), 24.VII.1988, Gorodkov (1 ♀, ZISP); Kamenny ostrov (ca. 69.4175N 161.2532E), the Kolyma delta, 4.VII.1905, Buturlin (3 ♂♂, ZISP); Uryung-Khaya (72.8124N 113.2316E), 4.VIII.1988, Gorodkov (2 ♂♂, ZISP); Ebelyakh, Anabar (70.8849N 113.5704E), 23.VII.1988, Gorodkov (1 ♂, 1 ♀, ZISP); Chokurdakh (70.6187N 147.8958E), 12.VII.1966, Gorodkov (1 ♀, in ZISP); **Tyumen' Oblast:** 83 km W of Tazovskiy (ca. 67.4666N 76.7628E), valley of the Khaddute River, 30.VIII.1977, Gorodkov (1 ♂, ZISP); 80 km W of Samburg (ca. 67.0357N 76.5411E), 28.VII.1977, Gorodkov (1 ♂, 1 ♀, ZISP); 130 km SE of Nadym (ca. 64.7183N 74.5323E), 2.VIII.1977, Gorodkov (2 ♀♀, ZISP).

DESCRIPTION. Male, female. Slender, small or moderate small-sized flies (3.8–6.2 mm long). Head. Frontal vitta matt, reddish-yellow; fronto-orbital plate black, greyish dusted. Face and parafacial white or yellow, gena yellow. Postcranium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 2–3 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; 2–5 pairs of vibrissae present. Antenna black in ground colour, but pedicel and postpedicel near base usually yellowish. Postpedicel about 2.5 times as long as wide. Arista black, bare. Palpus elongate and flattened, yellow or whitish.

Thorax black, greyish dusted. Acrostichals in two rows, dorsocentrals 3+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one or two of them usually long. Proepimeron usually with one long hair and several small hairs. Anepisternum covered with hairs in posterior half (usually pale in male and black in female), with 3 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with pair of strong basal scutellar setae and a pair of strong apical scutellar setae.



Figs 52–53. Distribution maps of *Pogonota* spp.: 52 — *P. dasyprocta* (Loew); 53 — *P. gorodkovi* (Ozerov) [●] and *P. stackelbergi* (Gorodkov) [■].

Рис. 52–53. Распространение видов рода *Pogonota*: 52 — *P. dasyprocta* (Loew); 53 — *P. gorodkovi* (Ozerov) [●] and *P. stackelbergi* (Gorodkov) [■].

Legs. Coxae of all legs black. Femora, tibia and tarsi yellow, but often fore and hind femora darkened basally. Male fore femur ventrally with black short setae in basal half, with hairs and thin setae on posterodorsal surface. Female fore femur simple with numerous short spinules ventrally and with a row of thin posteroventral setae. Fore tibia with short black spines in two rows ventrally, with 1 dorsal, 1 posteroventral, additionally in female with 1 preapical dorsal (anterodorsal) and 1 apical posteroventral setae. Mid femur with a row of anterodorsal

setae in basal half (male) or in 2/3 (female) and a row of ventral setae, also with 1 strong preapical posterior and 1 strong preapical anterodorsal setae. Mid tibia with 1 anterodorsal and 1 posterodorsal setae, also with a ring of apicals. Hind femur with a row of anterodorsal, anteroventral and posteroventral (thin) setae, with 1 preapical posterior seta, additionally in male with a row of ventral spinules. Hind tibia with 1–2 dorsal, 1–2 anterodorsal, 0–1 preapical anteroventral, 1 apical anterodorsal and 1 apical anteroventral setae.

Wing tinged with brownish, veins blackish; vein R_1 bare on apical third of dorsal surface. Male wing margin more or less distinctly emarginate between M_1 and CuA_1 , margin in this section provided with a fringe of long hairs as in *P. immunda* (Fig. 8). Tip of vein M_1 distinctly upcurved, smoothly passing into costa. Calypters, margins of calypters, and halteres dark yellowish or brownish.

Abdomen cylindrical, black, greyish dusted, covered with rare yellow and black hairs. Tergites 2–6 each with a row of thin marginal setae. Sternites 4 and 5 as in Figs 20, 32, 33. Cerci as broad plates, medially fused, dorsally with long hairs (Fig. 47). Surstyli elongate (Fig. 46).

DISTRIBUTION. Russia (Fig. 55): Arkhangelsk Oblast, Chukotka, Krasnoyarsk Krai, Tyumen' Oblast, Yakutia, Tyumen' Oblast. — Europe, North America.

Pogonota stackelbergi (Gorodkov, 1967)
Figs 2, 21, 34, 35, 48, 49, 53.

stackelbergi Gorodkov, 1967: 448 (*Okeniella*). Type-locality: “[North of Mondy, Tunkinskii Mountains (2500 m), East Sayan]” (Russia).

This species was known only from the type-locality [Gorodkov, 1967: 448].

MATERIAL EXAMINED. Tuva: Mondy env. (51.6758N 100.9925E), 22.VII.1965, Gorodkov (1 paratype ♂, 1 paratype ♀, ZISP); Irkutsk Oblast: peak Cherskiy (about 51.5159N 103.6265E), 14.VII.1984, Zlobin (1 ♂, ZISP).

DESCRIPTION. Male, female. Slender, small-sized flies (3.23–5.0 mm long). Head. Frontal vitta matt, black in upper part and yellow in lower half or quarter (usually in female); fronto-orbital plate black in upper part and yellow in lower quarter, greyish dusted. Face, parafacial and gena yellow. Postcranium black, greyish dusted, covered with pale hairs and black setae. 3 orbitals, 2 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar; 4–5 pairs yellow in male and 2 pairs black in female of vibrissae present. Antenna yellow completely in male, and black in female (only pedicel yellowish apically). Postpedicel about 2.5–3 times as long as wide. Arista black, bare. Palpus elongate, yellow.

Thorax black, greyish dusted. Acrostichals small in two rows, dorsocentrals (3–4)+(3–4), intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, without strong setae near lower margin, only with hairs, one or two of them usually long. Proepimeron with one long hair and several small hairs. Anepisternum covered with pale hairs in posterior half, with 3–4 black or pale setae along posterior margin (upper black, the rest pale). Katepisternum covered with pale hairs in posterior half and 1 strong pale or black seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar setae and a pair of strong apical scutellar setae.

Legs. Coxae of all legs black. Tibiae and tarsi of all legs yellow. Male fore and mid femora yellow, only

fore femur in base dorsally and mid femora basally blackish. Male hind femur black, except yellow apex. Female femora of all legs black, except yellow apex. Male fore femur thickened in basal half, with yellow short setae in basal half and a tuft of short black setae at middle ventrally, also with a row of very strong black posterodorsal setae (Fig. 2). Female fore femur simple with numerous short spinules ventrally and with rows of black posterodorsal and thin pale posteroventral setae. Fore tibia with short black spines in two rows ventrally, with 1 dorsal, 1 posteroventral, additionally in female with 0–1 posterodorsal, 1 apical anterodorsal and 1 apical posteroventral setae. Male mid femur with 0–1 anterior seta at middle, also with 1 preapical posterior and 1 preapical anterior setae. Female mid femur with rows of anterodorsal and anteroventral setae in basal half, also with 1 preapical posterior and 0–1 preapical anterior setae. Male mid tibia with 1 anterodorsal and a ring of apicals. Female mid tibia with 1 anterodorsal and 1 posterodorsal setae, also with a ring of apicals. Male hind femur with rows of anterodorsal and anteroventral setae, also ventrally with rows of setae curved anteriorly; female hind femur with a row of anterodorsal setae and thin anteroventral setae only. Hind tibia with 1–2 dorsal, 1–2 anterodorsal, 1 apical anterodorsal and 1 apical anteroventral setae.

Wing clear or tinged with brownish, veins blackish; vein R_1 bare on apical third of dorsal surface. Costa ventrally between veins Sc and R_1 without long hairs dorsally. Tip of vein M_1 gradually sloping downwards. Calypters, margins of calypters, and halteres dark yellowish or brownish.

Abdomen cylindrical, black, greyish dusted, covered with yellow or black hairs. Male tergites 4–6 each with long black median marginal setae. Sternites 4 and 5 as in Figs 21, 34, 35. Cerci as two separate plates, fused basally, apically with long yellow hairs (Fig. 49). Surstyli bifurcate apically (Fig. 48).

DISTRIBUTION. Russia (Fig. 53): Irkutsk Oblast, Tuva.

KEY TO THE SPECIES OF *POGONOTA* OF RUSSIA

1. Larger: 6.0–8.5 mm. Male: gena and postgena with long yellow hairs (beard) (Fig. 1); wing often with supernumerary crossveins between R_{4+5} and M_1 and strongly darkened along veins (Fig. 7); sternites 4 and 5 as in Figs 15, 22, 23; epandrium, cerci and surstyli as in Figs 36, 37. Female: fore coxa yellow anteriorly, mid femur with long black basal ventral seta *P. barbata* (Zetterstedt)
- Smaller: 4.0–6.0 mm. Male: gena and postgena without long yellow hairs; wing without supernumerary crossveins. Female: fore coxa black, if yellow, then mid femur with yellow basal ventral seta 2
2. Tip of vein M_1 distinctly upcurved, smoothly passing into costa (Fig. 8). Male wing margin more or less distinctly emarginate between veins M_1 and CuA_1 , margin in this section provided with a fringe of long hairs (Fig. 8) 3
- Tip of vein M_1 gradually sloping downwards (Fig. 9). Male wing margin is normal (Fig. 9) 4



Figs 54–55. Distribution maps of *Pogonota* spp.: 54 — *P. immunda* (Zetterstedt); 55 — *P. sahlbergi* (Becker).
 Рис. 54–55. Распространение видов рода *Pogonota*: 54 — *P. immunda* (Zetterstedt); 55 — *P. sahlbergi* (Becker).

3. Postgena with pale hairs and setae. Hind femur as a rule yellow completely or darkened in basal third. Male: mid tibia with posterodorsal seta at middle; sternites 4 and 5 as in Figs 20, 32, 33; epandrium, cerci and surstyli as in Figs 46, 47. Female: palpus yellow completely *P. sahlbergi* (Becker)
- Postgena with black setae. Hind femur as a rule darkened completely, or yellow in apical third or quarter. Male: mid tibia without posterodorsal seta at middle; sternites 4 and 5 as in Fig. 19, 30, 31; epandrium, cerci and surstyli as in Figs 44, 45. Female: palpus darkened apically *P. immunda* (Zetterstedt)
4. Costa ventrally between veins Sc and R_1 with curved hairs (longer in male (Fig. 11), shorter in female) 5
- Costa ventrally between veins Sc and R_1 without such hairs (Fig. 10) 6
5. Fore coxa and hind femur yellow. Male sternites 4 and 5 as in Figs 16, 24, 25; epandrium, cerci and surstyli as in Figs 38, 39. Female pedicel yellow *P. caudata* (Zetterstedt)
- Fore coxa and hind femur black. Male sternites 4 and 5 as in Figs 18, 28, 29; epandrium, cerci and surstyli as in Figs 42, 43. Female pedicel blackish .. *P. gorodkovi* (Ozerov)
6. Fore coxa black. Male fore femur with a row of very strong black posterodorsal setae (Fig. 2); male sternites 4 and 5 as in Figs 21, 34, 35; epandrium, cerci and surstyli as in Figs 48, 49. Female pedicel blackish *P. stackelbergi* (Gorodkov)

— Fore coxa yellow. Male fore femur without such strong posterodorsal setae; male sternites 4 and 5 as in Figs 17, 26, 27; epandrium, cerci and surstyli as in Figs 40, 41. Female pedicel yellow *P. dasyprocta* (Loew)

ACKNOWLEDGEMENTS. The work was conducted within the state project No AAAA-A16-116021660077-3. Research trip to the Zoological Institute (St. Petersburg), morphological studies and illustrations for this work were made on equipment purchased with the support of RSF, research project No.14-50-00029. We are very grateful to Dr. Olga Ovchinnikova and Mrs. Galina Suleymanova for the help with the collection during our work in ZISP.

References

- Becker T. 1894. Dipterologische Studien. I. Scatomyzidae // Berliner Entomologische Zeitschrift. Bd.39. Heft 1. S.77–196.
- Becker Th. 1900. Beiträge zur Dipteren-Fauna Sibiriens. Nord-west-Sibirische Dipteren gesammelt vom Prof. John Sahlberg aus Helsingfors im Jahre 1876 und vom Dr. E. Bergroth aus Tammerfors im Jahre 1877 // Acta Societatis Scientiarum Fennicae. T.26. No.9. S.1–66.
- Cumming J.M., Wood D.M. 2009. Adult morphology and terminology // Brown B.V., Borkent A., Cumming J.M., Wood D.M., Woodley N.E., Zumbado M. (eds.). Manual of Central American Diptera. Vol.1. Ottawa: National Research Council Press. P.9–50.
- Gorodkov K.B. 1967. [New data on high altitude Scathophagidae (Diptera) from the Asiatic part of the USSR] // Entomologicheskoe Obozrenie. Vol.46. No.2. P.445–449 [in Russian].
- Gorodkov K.B. 1974. [Scathophagidae (Diptera) of Mongolian People's Republic] // Nasekomye Mongolii. Leningrad. T.2. P.380–395 [in Russian].
- Gorodkov K.B. 1984. [Genus *Okeniella* Hendel, 1907. *Okeniella dasyprocta* (Loew, 1864), *Okeniella caudata* (Zetterstedt, 1838), *Okeniella stackelbergi* Gorodkov, 1967. Diptera, Scathophagidae] // Arealny nasekomykh Evropeiskoy chasti SSSR. Atlas. Maps 179–221. Leningrad: Nauka Publ. Map 217–218. P.57 [in Russian].
- Gorodkov K.B. 1986. Family Scathophagidae // Soós Á., Papp L. (eds.). Catalogue of Palaearctic Diptera. Vol.11. Scathophagidae-Hypodermatidae. Budapest: Akadémiai Kiadó. P.11–41.
- Hackman W. 1956. The Scathophagidae (Dipt.) of Eastern Fennoscandia // Societas pro Fauna et Flora Fennica. Fauna fennica II. Helsingforsiae. 67 pp.
- Hadley A. 2007. CombineZM. Open source image processing software package for creating extended depth of field images. Available from: <http://www.hadleyweb.pwp.blueyonder.co.uk/> (accessed 17 January 2011)
- Hendel F. 1907. Nomina nova für mehrere Gattungen der acalyptraten Musciden // Wiener Entomologische Zeitung. Jahrg.26. S.98.
- Humala A.E., Polevoi A.V. 2009. On the Insect fauna of south-east Karelia // Trudy Karelskogo nauchnogo centra RAN. Vol.4. P.53–75.
- Kutty S.N., Bernasconi M.V., Šifner F., Meier R. 2007. Sensitivity analysis, molecular systematics and natural history evolution of Scathophagidae (Diptera: Cyclorhapha: Calyptratae) // Cladistics. Vol.23. P.64–83.
- Loew H. 1864. Acht neue Cordylura-Arten // Wiener Entomologische Monatschrift. Bd.8. S.17–26.
- Loew H. 1873. Beschreibungen europäischen Dipteren. Dritter Band. Systematische Beschreibung der bekannten europäischen zweiflügeligen Insecten. Von Johann Wilhelm Meigen. Zehnter Theil oder vierter Supplementband. Halle: Schmidt. viii + 320 S.
- McAlpine J.F. 1981. Morphology and terminology-adults // McAlpine J.F., Peterson B.V., Shewell G.E., Teskey H.J., Vockeroth J.R., Wood D.M. (coordinators). Manual of Nearctic Diptera. Vol.2. Ottawa: Research Branch. Agriculture Canada. Monograph 27. P.9–63.
- Merriam Webster's Geographical Dictionary. 1997. Third Edition. Springfield. 1361 pp.
- Ovchinnikov A.N. 2004. Data on the fauna of Scathophagidae (Diptera) of the Volga Region // Russian Entomological Journal. Vol.12 (for 2003). No.4. P.421–423.
- Ovchinnikov A.N. 2009. The Ovipositor Morphology in the Members of the Family Scathophagidae (Diptera) with Reference to Their Biology // Entomological Review. Vol.88. No.2. P.314–328.
- Ozerov A.L. 2006. [New species of the family Scathophagidae from Altai and Far East of Russia] // Euroasian Entomological Journal. Vol.5. No.4. P.333–336 [in Russian].
- Ozerov A.L., Barkalov A.V. 2014. On the fauna of Scathophagidae (Diptera) of Taimyr Peninsular (Russia: Krasnoyarskiy Krai) // Euroasian Entomological Journal. Vol.13. No.6. P.560–565.
- Ozerov A.L., Krivosheina M.G. 2014. To the fauna of dung flies (Diptera: Scathophagidae) of Russian Far East // Russian Entomological Journal. Vol.23. No.3. P.203–222.
- Šifner F. 2008. A catalogue of the Scathophagidae (Diptera) of the Palaearctic region, with notes on their taxonomy and faunistics // Acta Entomologica Musei Nationalis Pragae. Vol.48. No.1. P.111–196.
- Stuckenberg B.R. 1999. Antennal evolution in the Brachycera (Diptera), with a reassessment of terminology relating to the flagellum // Studia Dipterologica. Vol.6. P.33–48.
- Vimmer A. 1937. Nový drah rodu *Amaurosoma* Beck. (Scatoph. Dipt.). // Čas. Čs. spol. ent. Vol.34. P.118.
- Vockeroth J.R. 1965. Subfamily Scatophaginae // Stone A. et al. (eds.). A catalog of the Diptera of America north of Mexico. United States Department of Agriculture, Agriculture Handbook. No.276. P.826–842.
- Zetterstedt J.W. [1838]. Sectio tertia. Diptera // Insecta Lapponica. '1840'. Lipsiae [= Leipzig]: Leopold Voss. P. 477–868.
- Zetterstedt J.W. 1846. Diptera Scandinaviae disposita et descripta. Tomus quintus. Lundae [= Lund]: Ex officina lundbergiana. P.1739–2162.
- Zetterstedt J.W. 1860. Diptera Scandinaviae disposita et descripta. Tomus decimus quartus seu ultimus, continens addenda, corrigenda & emendanda tomis prioribus, una cum indice alphabetico novarum specierum hujus & precedentis tomis, atque generico omnium tomorum. [14]. Lundae [= Lund]: Ex officina lundbergiana. P.6191–6609.