

## A review of the genus *Scathophaga* Meigen, 1803 (Diptera: Scathophagidae) of Russia

### Обзор видов рода *Scathophaga* Meigen, 1803 (Diptera: Scathophagidae) фауны России

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КЛЮЧЕВЫЕ СЛОВА: Diptera, Scathophagidae, *Scathophaga*, Russia, новые данные по распространению.

ABSTRACT. Flies of the genus *Scathophaga* Meigen, 1803 of Russia, which includes 29 species, are reviewed. Generic and species descriptions and key for determination of species are given, and data on distributions are summarized. *Scathophaga incompleta* Ozerov et Krivosheina, 2020 is registered in Turkmenistan for the first time.

РЕЗЮМЕ. Дан обзор двукрылых рода *Scathophaga* Meigen, 1803 фауны России, включающего 29 видов. Приведены диагноз рода, описания видов и ключ для определения видов рода *Scathophaga* России, а также суммированы данные по распространению видов рода на территории России. Вид *Scathophaga incompleta* Ozerov et Krivosheina, 2020 впервые отмечен на территории Туркмении.

#### Introduction

*Scathophaga* Meigen, 1803 is the second largest genus after *Cordilura* Fallén, 1810 within the family Scathophagidae and consists of 66 species distributed in the Northern Hemisphere: 45 species are known in Palearctic [Šifner, 2008, 2013, 2018, 2020; Ozerov, 2013, 2017; Ozerov, Krivosheina, 2019, 2020] and 10 in Nearctic [Vockeroth, 1965, 1987; Šifner, 2017], with 11 species with a Holarctic distribution; 4 species are recorded in Oriental Region [Sun, 1996], 3 species in Neotropical Region [Albuquerque, 1984]

and 5 species in Afrotropical Region [Ozerov, 2010a, 2012].

23 species were described from the territory of Russia [Holmgren, 1880, 1883; Becker, 1894, 1897, 1900, 1907, 1915; Coquillett, 1901; Szilády, 1926; Ozerov, 1996, 2010b, 2013, 2017; Ozerov, Krivosheina, 2019, 2020], from which 12 names are valid and 11 names are synonyms.

Faunistic reviews of some districts of Russia are published for the European part [Gorodkov, 1972], Arctic zone [Engelmark, 1999; Ozerov, Barkalov, 2014], Russian Far East [Ozerov, Krivosheina, 2014]; Arkhangelsk Oblast [Ovchinnikov, Makarova, 2016], Karelia [Polevoi, 1997; Humala, Polevoi, 2009], Mordovia [MacGowan *et al.*, 2021], Volga Region [Ovchinnikov, 2004], Yakutia [Sychevskaya, 1972; Veselkin, 1985; Verves *et al.*, 1990; Bagachanova *et al.*, 2016] and Kamchatka [Hendel, 1930], but no general work has been fulfilled.

Gorodkov published the distribution areas of species on the territory of the former USSR and separately on its European part for three most common in Russia species of *Scathophaga*: *S. furcata* (Say, 1823) [Gorodkov, 1978], *S. spurca* (Meigen, 1826) (as *S. suilla* (Fabricius, 1794)) [Gorodkov, 1980] and *S. stercoraria* (Linnaeus, 1758) [Gorodkov, 1981].

At the present time the fauna of Russia includes 29 species.

The limits of this genus are not clear. As investigations of Bernasconi *et al.* [2000, 2001] showed,



Figs 1–2. Males of *Scathophaga obscura* (Fallén) (1) and *Scathophaga stercoraria* (Linnaeus) (2). Photographs by D.I. Gavryushin. 2 — after Ozerov & Freidberg, 2011, fig. 24.

Рис. 1–2. Самцы *Scathophaga obscura* (Fallén) (1) и *Scathophaga stercoraria* (Linnaeus) (2). Фото Д.И. Гаврюшина. 2 — по Ozerov & Freidberg, 2011, fig. 24.

*Scathophaga* sensu Gorodkov [1986] and Vockeroth [1987] is not monophyletic. According to the classifications of Šifner [2008] and de Jong [2000] the species in Russia should be assigned to two genera: *Scathophaga* (most species) and *Conisternum* Strobl, 1894 (*buryatica* Ozerov & Krivosheina, 2019, *decipiens* (Haliday in Curtis, 1832), *incompleta* Ozerov et Krivosheina, 2020, *lapponica* (Ringdahl, 1920), *mollis* (Becker, 1894), *nigripalpis* (Becker, 1907), *obscura* (Fallén, 1819), and *tinctinervis* (Becker, 1894)). However, a consideration of all the species of *Scathophaga sensu lato* and *Conisternum* reveals that the taxonomic borders between *Scathophaga* and *Conisternum* are not clear. Therefore in the present work we follow Gorodkov's and Vockeroth's point of view and refer all Russian species to a single genus, i.e., *Scathophaga sensu lato*.

Larvae of *Scathophaga* species are carnivorous in dung and in rotten seaweed on the coast [Ferrar, 1987].

## Material and methods

The 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) and from Institute of Biology and Soil Sciences, Russian Academy of Sciences, Far Eastern Branch, Vladivostok, Russia (IBSS).

Some of the previously used material kept in ZMUM from Siberia [Ozerov, Barkalov, 2014] and Far East of Russia [Ozerov, 2010b; Ozerov, Krivosheina, 2014] was reexamined by us, but we do not duplicate the list of the specimens and give reference to these works.

The majority of original Russian geographical names are given in transliteration, but names of some large geographical regions (e.g., Altai (=Altai Krai + Altai Republic), Krasnoyarsk Krai, Primorsky Krai, Sakha Republic (=Yakutia), Zabaykalsky Krai) follow these indicated in Google Earth software. 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 and species descriptions follows Séguy [1952 (scapular seta)], McAlpine [1981], Cumming & Wood [2009], and Stuckenberg [1999 (postpedicel)].

## Taxonomic results

### *Scathophaga* Meigen, 1803

*Scathophaga* Meigen, 1803: 277. Gender: feminine. Type-species: *Musca merdaria* Fabricius, 1794, by monotypy [= *Musca stercoraria* (Linnaeus, 1758)].

*Scopeuma* Meigen, 1800: 36. Gender: feminine. Type-species: *Musca merdaria* Fabricius, 1794, by designation of Coquillett, 1901 [= *Musca stercoraria* Linnaeus]. Suppressed by I.C.Z.N., 1963, Opinion 678.

*Pyropa* Illiger, 1807: 475. Gender: feminine. Type-species: *Musca stercoraria* Linnaeus, by designation of Vockeroth, 1965.

*Amina* Robineau-Desvoidy, 1830: 629. Gender: feminine. Type-species: *Amina parisiensis* Robineau-Desvoidy, 1830, by monotypy.

*Scatina* Robineau-Desvoidy, 1830: 629. Gender: feminine. Type-species: *Scatina claripennis* Robineau-Desvoidy, 1830, by monotypy.

*Conisternum* Strobl, 1894: 79. Gender: neuter. Type-species: *Cordylura obscura* Fallén, 1819, by monotypy.

*Coniosternum* Becker, 1894: 176. Gender: neuter. Type-species: *Cordylura obscura* Fallén, 1819, by original designation.

*Scatophagella* Szilády, 1926: 596. Gender: feminine. Type-species: *Scatophagella pubescens* Szilády, 1926, by original designation; doubtful species.

*Koniosternum*, error for *Coniosternum* Becker [Becker, 1894: 85].

*Scatophaga*: unjustified emend.

Adult *Scathophaga* can be distinguished from the other genera of Scathophagidae by the following combination of characters: 1) anepisternum covered with hairs completely or almost completely, with hairs posterior to anterior spiracle (Fig. 6), 2) postmetacoxal bridge absent, 3) katepisternum with one long seta in posterodorsal corner.

*Scathophaga* species are slender, small to medium-sized flies (about 4.2–10.0 mm long) (Figs 1–3).

*Head* subspherical; eyes moderately large, dichoptic in both sexes (Figs 1–5). Frontal vitta and fronto-orbital plate distinct. 3–5 orbitals, 2–7 frontals, 1 ocellar, 1 inner vertical, 1 outer vertical, 1 postocellar (divergent) setae, and 1–3 pairs of strong vibrissae and 3–5 pairs of subvibrissae present. Posternium greyish dusted, usually covered with black setae and setulae in upper third or half, and with pale hairs in lower part. Postpedicel with roundish apical angle, approximately twice as long as wide. Antenna with arista bare to plumose (Figs 1–4). Palpus slender, slightly broadened towards apex (Figs 4, 5).

*Thorax* greyish dusted. Scutum with following setae: acrostichals usually setulose in two rows or not differentiated from the other hairs on scutum and they don't form rows; 0–1 scapular (usually small); number of dorsocentrals varies, but 2+3 in most species; intralars (0–1)+(0–2); supra-alars (0–1)+(1–3), but 1+2 in most species; postpronotals 1–2; notopleurals 2; postalar 2. Proepisternum covered with fine hairs, with 0–1 setae near ventral margin. Proepimeron with 0–1 seta ventral to spiracle. Anepisternum covered with hairs completely or almost completely, with hairs posterior to anterior spiracle and with 2–3 well-developed setae near posterior margin. Katepisternum covered with hairs completely, with one strong seta in posterodorsal corner, and usually with long hairs posteriorly. Anepimeron bare or covered with several setae. Postmetacoxal bridge absent. Scutellum of most species with a pair of strong discal and a pair of strong apical setae (Figs 2, 3).

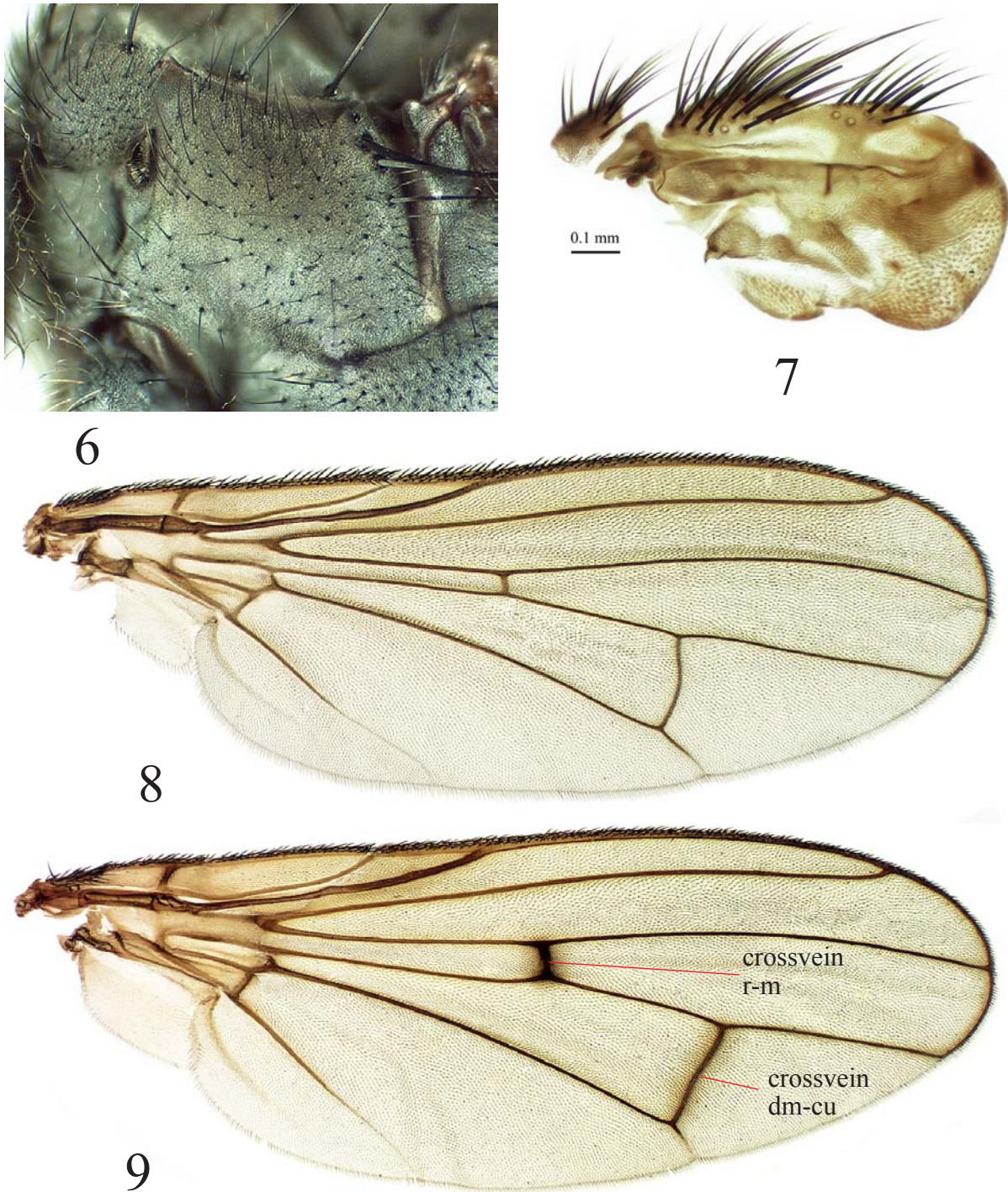
*Legs* long and slender. Male legs of some species (e.g., *S. callida* (Haliday, 1832), *S. dasythrix* (Becker, 1894)) with dense, long hairs, and legs of females much less hairy.

*Wing* well-developed (only *S. exalata* Ozerov, 1996 with reduced wings), clear or tinged with brownish. Veins blackish; vein  $R_1$  without setulae on apical third of dorsal surface; crossveins r-m and d-m often darkened



Figs 3–5. *Scathophaga furcata* (Say) (3), *S. taeniopa* (Rondani) (4) and *S. nigripalpis* (Becker) (5): 3 — female adult (Photograph by D.I. Gavryushin); 4, 5 — head.

Рис. 3–5. *Scathophaga furcata* (Say) (3), *S. taeniopa* (Rondani) (4) and *S. nigripalpis* (Becker) (5): 1 — самка (Фото Д.И. Гаврюшина); 4, 5 — голова.



Figs 6–9. *Scathophaga litorea* (Fallén) (6, 8), *S. exalata* Ozerov (7) and *S. incola* (Becker) (9): 6 — anepisternum; 7–9 — wing.  
 Рис. 6–9. *Scathophaga litorea* (Fallén) (6, 8), *S. exalata* Ozerov (7) и *S. incola* (Becker) (9): 6 — анэпистерн; 7–9 — крыло.

(Fig. 9). Calypters whitish, margins of calypters and halteres from whitish to brownish or blackish, but usually yellowish.

*Abdomen* long, subcylindrical, usually greyish dusted. Female tergites 2–6 often with a row of marginal setae or setulae. Male sternite 4 varies in form (Figs 14–42). Form of male sternite 5 also varies greatly

(e.g., Figs 43, 52, 61, 67, 79, 91). Surstyli symmetrical, simple (e.g., Figs 51, 78) or bifurcate (e.g., Figs 45, 57); cerci fused usually medially forming cercal plate (e.g., Figs 69, 75). Ovipositor short and compact (Figs 10–13). Tergite 6 forming narrow semiring, partly situated under large tergite 5. Sternite 6 in form of pentagonal or ovoid plate. Tergite 7 sclerotized completely

or sclerotized laterally only and membranous dorsally. Sternite 7 simple and usually has the form of ovoid plate (most species) or divided into three sclerites (e.g., *S. apicalis* (Curtis in Ross, 1835), *S. dasytrix*, *S. furcata*, *S. litorea* (Fallén, 1819) (Fig. 13), *S. stercoraria* (Linnaeus, 1758)). Tergite 8 in form of heavily sclerotized sclerite completely, or sclerotized sclerite with deep membranous dorsal emargination in distal part, or two separated lateral sclerites. Sternite 8 simple, as flat dorsoventrally triangular plate, or with deep median notch, compressed in distal part and flattened dorsoventrally in basal part, or divided medially into two sclerites and looking like triangular, spatulate or lanceolate plate laterally, or two simple small oval sclerites. Proctiger shifted dorsally and represented by small entire epiproct, a pair of small cerci, and hypoproct.

*Scathophaga apicalis* (Curtis in Ross, 1835)  
Figs 14, 43–45, 140.

*apicalis* Curtis in Ross, 1835: LXXX (*Scathophaga*). Type-locality: not given (Boothia Pen. to Greenland).

*arctica* Becker, 1897: 398 (*Scathophaga*). Type-locality: Malye Karmakuly (Russia: Novaya Zemlya).

*lanata* Lundbeck, 1901: 294 (*Scathophaga*). Type-locality: “Grønland... Østkysten ved Hekla Havn og Gaaselandet” (Greenland: Scorsby Sund nr Hekla Havn and Gaaseland).

*perfecta* Becker, 1907: 3 (*Scathophaga*). Type-locality: “Lena-Mündung, Charanlach-gebirge, Cap Elijdep” [arctic coast of Yakutia] (Russia).

*vulpinum* Ringdahl, 1936: 173 (*Scopeuma*). Junior primary homonym of *Scopeuma vulpina* Coquillett, 1898. Type-locality: “Lappland bei Torneträsk in der Regio Alpina” (Sweden).

*villosiventre* Ringdahl, 1937: 38 (new name for *Scopeuma vulpinum* Ringdahl, 1936).

REMARK. This species was recorded in Russia on arctic coast from European part (Yugorsky Peninsula, Novaya Zemlya) [Becker, 1897: 398, as *S. arctica*; Gorodkov, 1986: 29], Siberia (Taimyr Peninsula) [Ozerov, Barkalov, 2014: 563], Yakutia [Becker, 1907: 3, as *S. perfecta*; Verves *et al.*, 1990: 141; Bagachanova *et al.*, 2016: 781], Chukotka [Gorodkov, 1986: 29; Ozerov, Krivosheina, 2014: 218, as *S. multisetosa*].

MATERIAL EXAMINED. **Chukotka**: 5 km N of Egvekinot (66.395°N 179.132°W), 26.VII.1963, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); Iul'tin (67.866°N 178.733°W), 20.VII.1963, Gorodkov (2 ♂♂, ZISP); Vrangl I. (71.223°N 179.439°W), surrounding area of Mt. Aternon, 24.VII.1939, Portenko (8 ♂♂, 4 ♀♀, ZISP); Vrangl I. (71.223°N 179.439°W), Tundrovaya env., 18.VII.1972, Gorodkov (8 ♂♂, 12 ♀♀, ZISP); Vrangl I., Somnitel'naya Bay (70.894°N 179.542°W), 5 km N, 23.VII.1971, Gorodkov (32 ♂♂, 18 ♀♀, ZISP); Vrangl I., Somnitel'naya Bay (70.95°N 179.633°W), 8–17.VI.2015, O.A. Khruleva (1 ♂, ZMUM); Vrangl I., average flow of the River Mamontovaya (71.166°N 179.75°W), 1–2, 23.VII.2015, O.A. Khruleva (13 ♂♂, 13 ♀♀, ZMUM); Vrangl I., Mt Mineev (71.00°N 179.516°W), 18–19.VII.2015, O.A. Khruleva (2 ♂♂, ZMUM); Vrangl I., Rodzhers Bay (70.979°N 178.416°W), 18.VII.1971, Gorodkov (5 ♂♂, 1 ♀, ZISP); Vrangl I., spurs of Mt Pervaya (71.15°N 179.45°W), 13.VII.2015, O.A. Khruleva (1 ♂, ZMUM); Vrangl I., upper course of the River Neizvestnaya (71.216°N 179.316°W), 22–24.VI., 8–10.VII.2015, O.A. Khruleva (9 ♂♂, 5 ♀♀, ZMUM); **Krasnoyarsk Krai**: 13.5 km SSE of Dikson (73.39°N 80.66°E), 18.VII.2012, V.K. Zinchenko (1 ♂, ZISP); Dikson (73.508°N 80.529°E), 8.VIII.1967, Gorodkov (7

♂♂, 14 ♀♀, ZISP); Taymyr, the lower reaches of the River Lenivaya (74.966°N 89.916°E), on flowers of *Sieversia glacialis*, 4.VII.1980, Yu.I. Chernov (2 ♂♂, ZMUM); **Yakutia**: Tiksi env., Lake Sevast'yan (71.543°N 128.852°E), 9.VII. and 10.VIII.1957, Gorodkov (8 ♂♂, 5 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 218, as *S. multisetosa*] and Ozerov & Barkalov [2014: 563].

DESCRIPTION. Male. Female. Body-length 4.3–8.6 mm.

Male thorax, abdomen and legs covered with dense, furry, blackish or brownish hairs. Female much less hairy, especially abdomen and legs.

*Head*. Frontal vitta reddish-orange, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena reddish-orange, with delicate whitish reflection. Postcranium black. 3 orbital and 4–5 frontal setae present. Scapus and pedicel reddish-orange. Postpedicel black, approximately 2 times as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely greyish dusted. Acrostichals not differentiated from the other long hairs on scutum, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron bare. Scutellum black, greyish dusted, covered with dense hairs, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

*Legs* greyish dusted. Femora and coxae from yellow completely to blackish. Tibiae and tarsi yellowish. All femora covered with hairs, but without conspicuous seta, only mid femur with 1 preapical posterior seta. Fore tibia with 2–3 dorsal, 1–2 posterior, 1 preapical anterodorsal, and 1 posterior apical setae. Mid tibia with 2–3 posterodorsal, 1–2 anterodorsal, 1–2 posterior ventral setae and a ring of apicals in both sexes, additionally with 1 ventral seta in female. Hind tibia with 2–3 posterodorsal, 3 anterodorsal, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae (Fig. 140).

*Wing* tinged with brownish; crossveins r-m and dm-cu usually darkened.

*Abdomen* black, greyish dusted. Male sternite 4 approximately 1.5 times as long as wide (Fig. 14), Male sternite 5, epandrium, cercal plate and surstyli as in Figs 43–45.

DISTRIBUTION. Russia: north (arctic coast) from Kola Peninsula to Chukotka. — Europe (Sweden); North America.

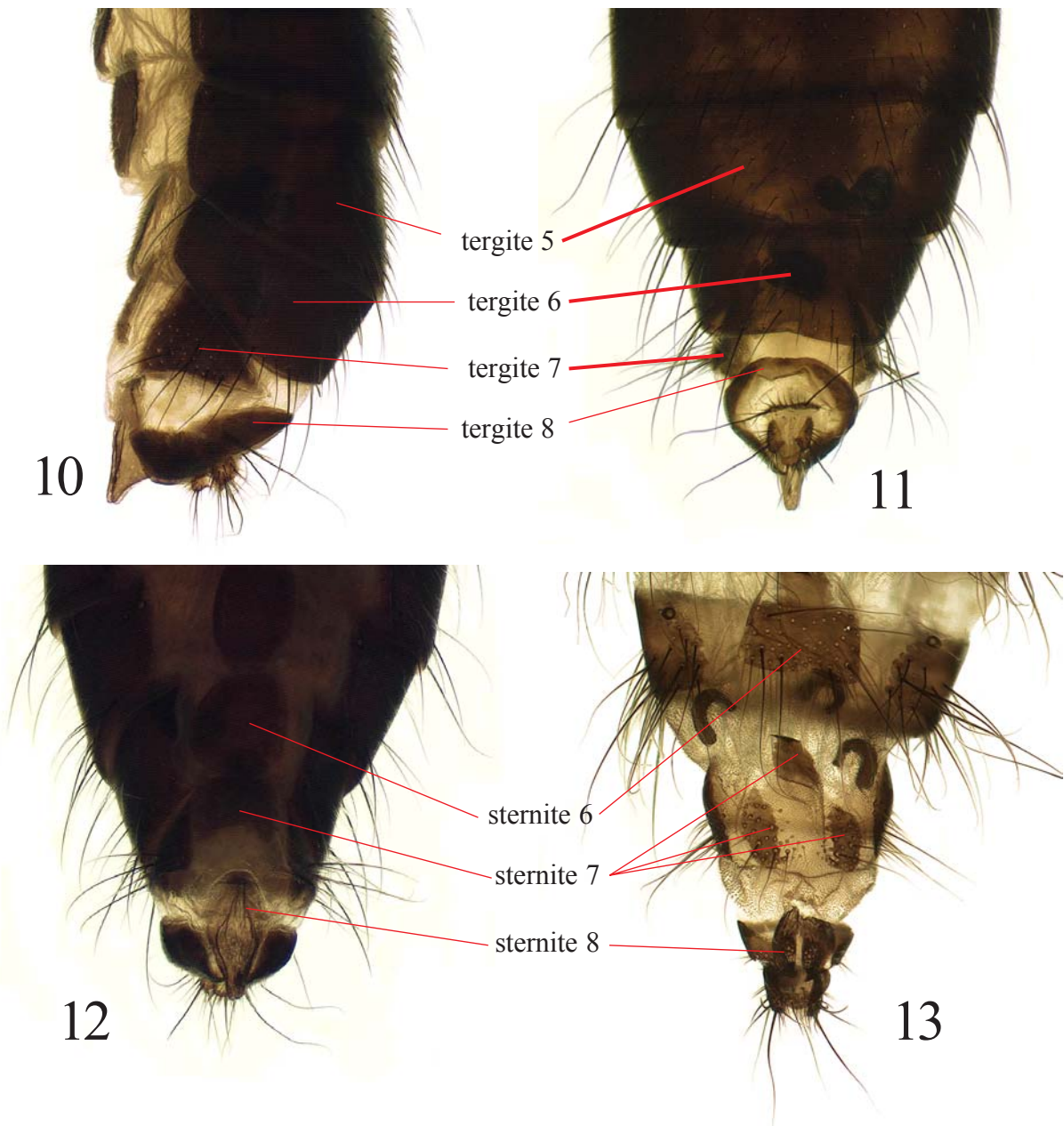
*Scathophaga buryatica* Ozerov et Krivosheina, 2019  
Figs 15, 46–48, 130.

*buryatica* Ozerov, Krivosheina, 2019: 102 (*Scathophaga*). Type-locality: Samarta (52.094°N 101.137°E), 40 km NO of Mondy (Russia: Buryatia).

REMARK. This species known from two males from Buryatia only [Ozerov, Krivosheina, 2019: 102].

DESCRIPTION. Male. Length of body 5.2–6.2 mm.

*Head*. Frontal vitta yellow, with delicate whitish reflection; face and gena yellow, with whitish reflection; fronto-orbital plate greyish dusted. Postcranium blackish. 3 orbital and 4–5 frontal setae present. Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus yellow.



Figs 10–13. *Scathophaga lapponica* (Ringdahl) (10–12) and *Scathophaga litorea* (Fallén) (13): 10 — end of female abdomen, lateral view; 11 — same, dorsal view; 12, 13 — same, ventral view.

Рис 10–13. *Scathophaga lapponica* (Ringdahl) (10–12) и *Scathophaga litorea* (Fallén) (13): 10 — конец брюшка самки, сбоку; 11 — то же, сверху; 12, 13 — то же, снизу.

**Thorax.** Completely black, dense pale grey dusted. Acrostichals setulose in two rows, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron bare. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs.** All coxae black, greyish dusted. All femora black, except 1/4 or 1/5 of yellow apex, greyish dusted. All tibiae and tarsi yellow. Fore femur covered with whitish and blackish hairs, without conspicuous setae. Fore tibia with a row of posterodorsal setae, with 1–2

dorsal, 1–2 posterior, 1 preapical anterodorsal, 1 apical posterodorsal, 1 apical posterior setae. Mid femur with a row of anterodorsal setae, with 1 preapical posterodorsal and 1 preapical posterior setae. Mid tibia with 2 anterodorsal, 2 posterodorsal, 0–1 anteroventral setae, also with a ring of apicals. Hind femur with a row of dorsal/ anterodorsal setae. Hind tibia with 2–3 posterodorsal, 2–3 anterodorsal, 1 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal, and 2 apical anteroventral setae.

**Wing** clear; crossveins r-m and d-m not darkened.

*Abdomen* black, greyish dusted, covered with whitish hairs. Male sternite 4 about 1.5 times as long as wide (Fig. 15). Male sternite 5 with little curved internally conical lateral lobes, each with external long setae (Fig. 46). Epandrium, cercal plate and surstyli as in Figs 47, 48. Aedeagus with curved apical part, with acrophallus and paraphallus forming ring (Fig. 130).

Female unknown.

DISTRIBUTION. Russia: Buryatia.

*Scathophaga calida* (Haliday in Curtis, 1832)

Figs 16, 49–51.

*calida* Haliday in Curtis, 1832: 405 (*Scatophaga*). Type-locality: "Ireland".

*rudis* Haliday in Curtis, 1832: 405 (*Scatophaga*). Type-locality: "Ireland".

*villipes* Zetterstedt, 1846: 1977 (*Scatomyza*). Type-localities: "inferalpinis maritimis Finmarkiae occidentalis Norwegiae ... ad Bossekop." (Finland, Norway).

REMARK. The species was registered for Russia from coasts of Kola Peninsula and White Sea [Gorodkov, 1970: 451, 1986: 30].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** Solovetskie Islands, Bol'shoy Solovetsky I. (65.090°N 35.639°E), 17.VIII.1963 (1 ♀, ZISP); **Murmansk Oblast:** Aleksandrovsk [= Polyarny] (69.198°N 33.456°E), 14.VI.1921, Zhelokhovtsev (3 ♂♂, 3 ♀♀, ZMUM); same place, 14–15.IX.1928, Cheburova (11 ♂♂, 8 ♀♀, ZISP); Dal'nie Zelentsy (69.117°N 36.065°E), 6.VIII.1981, Gorodkov (1 ♂, ZMUM); Kil'din I. (69.347°N 34.168°E), 27.IX.1928, Cheburova (5 ♂♂, 3 ♀♀, ZISP); Porchnikha (69.078°N 36.291°E), 7–8.VIII.1928, Rezvov (8 ♂♂, 4 ♀♀, ZISP); Ryazhkov I. (67.017°N 32.556°E), 19.VII.1981, Komarova (1 ♀, ZMUM); same place, 5.VII.1981, Oskol'sky (1 ♀, ZMUM); same place, 12.VI.1992, E.V. Shutova (2 ♂♂, 1 ♀, ZMUM); Sosnovka (66.507°N 40.583°E), 23.VIII.1981, Gorodkov (10 ♂♂, ZISP); Teriberka (69.164°N 35.14°E), 3.VII.2008, V. Semenov (2 ♂♂, ZMUM); Yagodny I. (66.769°N 32.069°E), 12.VI.1992, E.V. Shutova (16 ♂♂, 1 ♀, ZMUM).

DESCRIPTION. Male. Female. Body-length 4.8–8.2 mm.

*Head.* Frontal vitta reddish-orange, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Ocellar triangle black. Face, parafacial and gena reddish-orange, with whitish reflection. Postcranium black. 3–5 orbital and 5–7 frontal setae present. Scapus and pedicel dark reddish-orange. Postpedicel black, approximately 2 times as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely greyish dusted, with dark stripes and fuzzy spots on scutum and scutellum. Acrostichals in two rows, dorsocentrals (3–4)+4, intra-alars 1+3, supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae, also with a pair of discal setulae.

*Legs* densely greyish dusted. All coxae black; all femora usually black, except yellow apex and base or black completely; all tibiae and tarsi yellow. Male legs covered with dense, long hairs, as a rule, without conspicuous setae, except one posteroventral seta on mid tibia and apical setae on mid and hind tibiae. Female: fore femur also without conspicuous setae; fore tibia with 1 anterodorsal, 1 dorsal, 1 posterior, 1 preapical dorsal, and 1

posterior apical setae; mid femur with irregular row of anterodorsal setae, also with 1 preapical posterior and 1 preapical posterodorsal setae; mid tibia with 2 posterodorsal, 2 anterodorsal, 2 anteroventral, 1 posteroventral, 1 ventral, 1 posterior setae and a ring of apicals; hind femur with rows of anterodorsal and anteroventral setae; hind tibia with 2–4 anterodorsal, 2–4 posterodorsal, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral and 1 apical ventral setae.

*Wing* tinged with brownish; crossveins r-m and d-m not darkened.

*Abdomen* black, densely greyish dusted, covered with dense hairs in male; in female tergites 2–6 with black marginal setulae. Male sternite 4 about twice as long as wide (Fig. 16); sternite 5 with moderate long and wide lateral lobes (Fig. 49). Epandrium, cercal plate and surstyli as in Figs 50, 51.

DISTRIBUTION. Russia: coasts of Kola Peninsula and White Sea. — Europe (Finland, Great Britain, Iceland, Ireland, Norway, Sweden).

*Scathophaga cordylurina* (Holmgren, 1883)

Figs 17, 52–54.

*cordylurina* Holmgren, 1883: 173 (*Scatomyza*). Type-locality: Waigatsch. Schabarowa (Russia: Vaigach Peninsula, Khabarovo).

*longinqua* Becker, 1915: 66 (*Scopeuma*). Type-locality: "Tundra des Fl. Kara" (Russia: Tyumen' Oblast).

REMARK. The species was recorded in Russia from north of European part (Yugorsky Peninsula, Kolguev I., Vaygach I.) [Holmgren, 1883: 173; Gorodkov, 1970: 451, 1986: 30], Siberia (Tyumen' Oblast, Taimyr Peninsula) [Becker, 1915: 66 (as *S. longinqua*); Ozerov, Barkalov, 2014: 563], Yakutia [Engelmark, 1999: 159], Far East [Gorodkov, 1986: 30 (without specifying the place of collecting); Ozerov & Krivosheina, 2014: 216].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** Amderma (69.756°N 61.661°E), 10–12.VIII.1961, Gorodkov (5 ♂♂, 2 ♀♀, ZISP); Kara [= Ust'-Kara (69.246°N 64.923°E)], 10–11.VIII.1961, Gorodkov (6 ♂♂, 2 ♀♀, ZISP); Kolguev I., Bugrino (68.782°N 49.309°E), 20–21.VIII.1980, Gorodkov (1 ♂, 2 ♀♀, ZISP); **Chukotka:** Iul'tin (67.866°N 178.733°W), 21.VII.1963, Gorodkov (1 ♂, 2 ♀♀, ZISP); Pevek (69.702°N 170.298°E), 3.VII.1963, Gorodkov (6 ♂♂, 3 ♀♀, ZISP); Vranghel I., Mts Sommitel'nye (71.0°N, 179.533°E), 14.VII.–15.VIII.2006, O. Khruleva (1 ♂, 1 ♀, ZMUM); **Krasnoyarsk Krai:** Agapa (71.421°N 89.2512°E), River Pyasina, 15–19.VII.1967, Gorodkov (12 ♂♂, 7 ♀♀, ZISP); Dikson (73.508°N 80.5297°E), 8.VIII.1967, Gorodkov (2 ♂♂, 1 ♀, ZISP); Dikson I. (73.505°N 80.352°E), 27.VII.1948, Korotkevich (22 ♂♂, 17 ♀♀, ZISP); Dudinka (69.404°N 86.182°E), 2.VII.1967, Gorodkov (8 ♂♂, 4 ♀♀, ZISP); same place, 26–29.VII.2011, N. Vikhrev (1 ♂, ZMUM); Igarka (67.467°N 86.603°E), 26.VII.1966, V. Sychevskaya (2 ♀♀, ZMUM); **Yakutia:** env. of Ystannakh-Khocho Vill. (ca. 72.58°N, 121.42°E), 20.VIII.2010, A. Yadrenkin (3 ♂♂, 1 ♀, ZMUM); Nizhneyansk (71.441°N 136.1355°E), 31.VII.1974, Gorodkov (3 ♂♂, ZISP); Saskylakh env. (71.966°N 114.094°E), 9.VIII.1988, Gorodkov (12 ♂♂, 6 ♀♀, ZISP); Tiksi env. (71.635°N 128.857°E), 9.VII. and 11.VIII.1957, Gorodkov (20 ♂♂, 8 ♀♀, ZISP); Uryung-Khaya (72.811°N 113.232°E), 115 km ENE, 8.VIII.1988, Gorodkov (26 ♂♂, 19 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 218] and Ozerov & Barkalov [2014: 563].

DESCRIPTION. Male. Female. Body-length 5.6–7.8 mm.



*Head.* Frontal vitta reddish-orange, with delicate whitish reflection; fronto-orbital plate black, delicate greyish dusted. Face, parafacial and gena reddish-orange or blackish, with whitish reflection. Postcranium black. 3 orbital and 5–7 frontal setae present. Antenna black. Postpedicel approximately 2 times as long as wide. Arista pubescent, the longest hairs approximately equal to 1/3–1/2 width of postpedicel. Palpus yellow.

*Thorax* black, densely greyish dusted, with dark stripes and fuzzy spots on scutum and scutellum. Acrostichals not differentiated from the other hairs on scutum, 2+3 hair-like dorsocentrals, intra-alars 1+2, supra-alars 1+2, postpronotals 1–2. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae, also with 1–3 pairs of lateral scutellar setae.

*Legs* greyish dusted or shiny (rarely). All coxae black; all femora from almost completely yellow to black completely; all tibiae and tarsi brownish or dark brown. Male femora covered with dense, long hairs, without conspicuous setae. Female fore femur without conspicuous setae. Fore tibia with 2–3 dorsal, 0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with a row of anterodorsal setae in female, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 1 posterodorsal, 1 anterodorsal setae and a ring of apicals. Female hind femur with a row of anterodorsal setae or setulae. Hind tibia with 2 anterodorsal, 2 posterodorsal, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anteroventral setae.

*Wing* tinged with brownish; crossveins r-m and d-m not darkened.

*Abdomen* black, densely greyish dusted, covered with dense hairs in male, less dense and shorter in female; female tergites 2–6 without strong marginal setae. Male sternite 4 wider than long (Fig. 17); sternite 5 wide, without lateral lobes, but with small apical median processes (Fig. 52). Epandrium, cercal plate and surstyli as in Figs 53, 54.

**DISTRIBUTION.** Russia: north from Kola Peninsula to Chukotka.

*Scathophaga crinita* (Coquillett, 1901)

Figs 18, 55–57.

*crinita* Coquillett, 1901: 612 (*Scatophaga*). Type-locality: “Bering Island” (Russia: Commander Islands).

**REMARK.** This species was recorded in Russia for Far East (coasts of Chukotka and Kamchatka, Commander Islands) [Coquillett, 1901: 612; Gorodkov, 1986: 30; Ozerov, Krivosheina, 2014: 216].

**MATERIAL EXAMINED.** **Chukotka:** 5 km N of Egvekinot (66.395°N 179.132°W), 26.VII.1963, Gorodkov (6 ♂♂, 5 ♀♀, ZISP); Goryachie klyuchi [? Lorino: 65.503°N 171.704°W], 10.VIII.1960, Kononov (5 ♂♂, 5 ♀♀, ZISP); same place, 7.VIII.1963, Gorodkov (4 ♂♂, 7 ♀♀, ZISP); Pevek (69.702°N 170.298°E), 25.VIII.1970, B. Petrova (1 ♂, 1 ♀, ZISP); Tkachen Bay (64.417°N 172.818°W), 25–26.VIII.1938, Rozanov (5 ♂♂, 1 ♀, ZISP); Ureliki (64.402°N 173.210°W), 3–6.VIII.1963, Gorodkov (1 ♂, 4 ♀♀, ZISP); **Kamchatka Krai:** Apuka env. (60.443°N 169.602°E), 1–2. and 30.VII.1959, Gorodkov (2 ♂♂, 6 ♀♀, ZISP);

Commander Islands, Mednyy I. (54.709°N 167.709°E), 1.VII.1958, Violovich (6 ♂♂, 2 ♀♀, ZISP); Commander Islands, Nikol’skoe (55.1961°N 165.998°E), 4, 6 and 14.IX.1959, Gorodkov (13 ♂♂, 2 ♀♀, ZISP); Commander Islands, Preobrazhenskoe (54.790°N 167.578°E), 6.VII.1911, Suvorov (1 ♂, ZISP); same place, 5 and 6.IX.1959, Gorodkov (4 ♂♂, 1 ♀, ZISP). See also Ozerov & Krivosheina [2014: 216].

**DESCRIPTION.** Male. Female. Body-length 5.8–10.0 mm.

Male thorax, abdomen and legs covered with dense, furry, crinkly, yellow hairs. Female has yellow hairs shorter; abdomen covered with yellow hairs on ventral surface only.

*Head.* Frontal vitta reddish-yellow, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena reddish, with delicate whitish reflection. Postcranium black. 3 orbital and 5–6 frontal setae present. Antenna black. Postpedicel approximately 1.5 times as long as wide. Arista bare. Palpus yellow.

*Thorax* black, greyish dusted. Acrostichals in two rows, dorsocentrals (4–5)+(5–6), intra-alars 1+(2–4), supra-alars (1–2)+(2–4), postpronotals 2. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

*Legs* black, shiny or subshiny. All femora covered with hairs, but without conspicuous setae. Fore tibia with rows of dorsal and posterodorsal setae. Mid tibia with 2–3 posterodorsal, 1–2 anterodorsal setae and a ring of apicals in both sexes, additionally with 1 ventral seta in female. Hind tibia with a comb of short stong apical setae on anterior surface in both sexes, additionally with rows of thin posterodorsal and anterodorsal setae in female.

*Wing* tinged with brownish; crossveins r-m and dm-cu not darkened.

*Abdomen* black, delicately greyish dusted. Male sternite 4 approximately 2 times as long as wide (Fig. 18); sternite 5 with short lateral lobes, without median processes (Fig. 55). Epandrium, cercal plate and surstyli as in Figs 56, 57.

**DISTRIBUTION.** Russia: coasts along of Chukchi Sea (Pevek) to Bering Sea before Olutorsky Bay, Commander Islands. — North America.

*Scathophaga dasythrix* (Becker, 1894)

Figs 19, 58–60.

*dasythrix* Becker, 1894: 173 (*Scatophaga*). Type-locality: Mednyy I., Commander Islands (Russia).

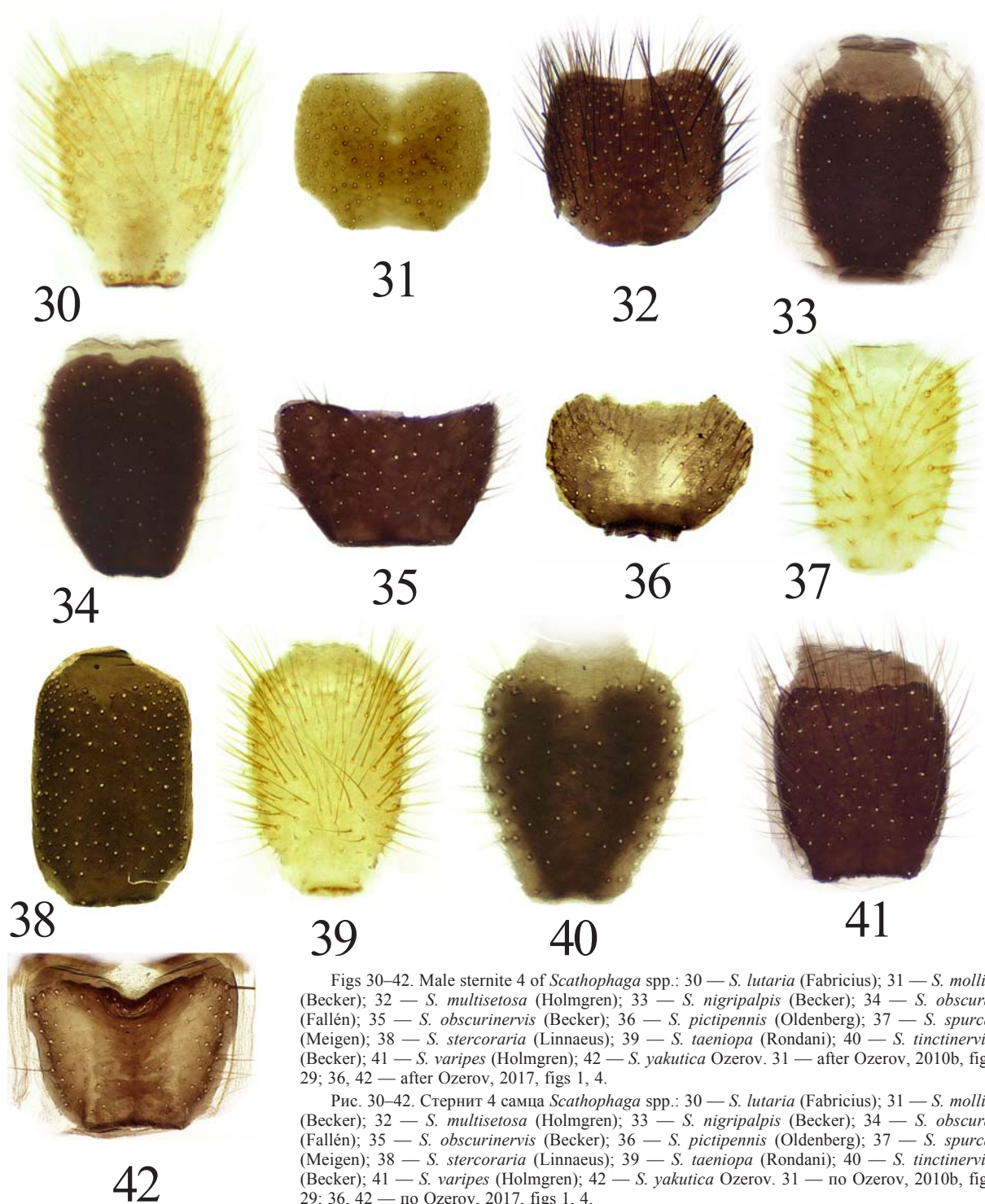
**REMARK.** This species was recorded in Russia from Far East (including Chukotka, Kamchatka, and Kuril Islands) [Becker, 1894: 173; Gorodkov, 1986: 30 (without specifying the place of collecting); Ozerov, Krivosheina, 2014: 217].

**MATERIAL EXAMINED.** **Chukotka:** Provideniya (64.427°N 173.225°W), 2.VIII.1963, Gorodkov (1 ♂, ZISP); Ureliki (64.400°N 173.214°W), 6.VIII.1963, Gorodkov (1 ♂, ZISP); **Kamchatka Krai:** Apuka (60.444°N 169.601°E), 10 and 31.VII., 2 and 4.VIII.1959, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Commander Islands, Bering I. (55.065°N 166.225°E), 5–7.VIII.1931, I. Iogansen (5 ♂♂, 6 ♀♀, ZISP); Commander Islands, Mednyy I. (54.709°N 167.709°E), 1.VII.1958, Violovich (1 ♀, ZISP); Commander Islands, Nikol’skoe



Figs 14–29. Male sternite 4 of *Scathophaga* spp.: 14 — *S. apicalis* (Curtis); 15 — *S. buryatica* Ozerov et Krivosheina; 16 — *S. calida* (Haliday); 17 — *S. cordylurina* (Holmgren); 18 — *S. crinita* (Coquillett); 19 — *S. dasythrix* (Becker); 20 — *S. decipiens* (Haliday); 21 — *S. exalata* Ozerov; 22 — *S. furcata* (Say); 23 — *S. incola* (Becker); 24 — *S. incompleta* Ozerov et Krivosheina; 25 — *S. inquinata* (Meigen); 26 — *S. intermedia* (Walker); 27 — *S. karelica* Ozerov; 28 — *S. lapponica* (Ringdahl); 29 — *S. litorea* (Fallén). 15 — after Ozerov & Krivosheina, 2019, fig. 1; 20, 24 — after Ozerov & Krivosheina, 2020, figs 3, 9; 27 — after Ozerov, 2013, fig. 13.

Рис. 14–29. Стернит 4 самца *Scathophaga* spp.: 14 — *S. apicalis* (Curtis); 15 — *S. buryatica* Ozerov et Krivosheina; 16 — *S. calida* (Haliday); 17 — *S. cordylurina* (Holmgren); 18 — *S. crinita* (Coquillett); 19 — *S. dasythrix* (Becker); 20 — *S. decipiens* (Haliday); 21 — *S. exalata* Ozerov; 22 — *S. furcata* (Say); 23 — *S. incola* (Becker); 24 — *S. incompleta* Ozerov et Krivosheina; 25 — *S. inquinata* (Meigen); 26 — *S. intermedia* (Walker); 27 — *S. karelica* Ozerov; 28 — *S. lapponica* (Ringdahl); 29 — *S. litorea* (Fallén). 15 — по Ozerov & Krivosheina, 2019, fig. 1; 20, 24 — по Ozerov & Krivosheina, 2020, figs 3, 9; 27 — по Ozerov, 2013, fig. 13.



Figs 30–42. Male sternite 4 of *Scathophaga* spp.: 30 — *S. lutaria* (Fabricius); 31 — *S. mollis* (Becker); 32 — *S. multisetosa* (Holmgren); 33 — *S. nigripalpis* (Becker); 34 — *S. obscura* (Fallén); 35 — *S. obscurinervis* (Becker); 36 — *S. pictipennis* (Oldenberg); 37 — *S. spurca* (Meigen); 38 — *S. stercoraria* (Linnaeus); 39 — *S. taeniopa* (Rondani); 40 — *S. tinctinervis* (Becker); 41 — *S. varipes* (Holmgren); 42 — *S. yakutica* Ozerov. 31 — after Ozerov, 2010b, fig. 29; 36, 42 — after Ozerov, 2017, figs 1, 4.

Рис. 30–42. Стернит 4 самца *Scathophaga* spp.: 30 — *S. lutaria* (Fabricius); 31 — *S. mollis* (Becker); 32 — *S. multisetosa* (Holmgren); 33 — *S. nigripalpis* (Becker); 34 — *S. obscura* (Fallén); 35 — *S. obscurinervis* (Becker); 36 — *S. pictipennis* (Oldenberg); 37 — *S. spurca* (Meigen); 38 — *S. stercoraria* (Linnaeus); 39 — *S. taeniopa* (Rondani); 40 — *S. tinctinervis* (Becker); 41 — *S. varipes* (Holmgren); 42 — *S. yakutica* Ozerov. 31 — no Ozerov, 2010b, fig. 29; 36, 42 — no Ozerov, 2017, figs 1, 4.

env. (55.196°N 165.998°E), 4.IX.1959, Gorodkov (3 ♂♂, 1 ♀, ZISP); Commander Isands, Preobrazhenskoe (54.790°N 167.578°E), 1.VI.1910, 4 and 5.VII.1911, Suvorov (6 ♂♂, 10 ♀♀, ZISP); same place, 6 and 7.IX.1959, Gorodkov (3 ♂♂, 1 ♀, ZISP); Korf (60.376°N 166.023°E), 22.VI.1959, Gorodkov (1 ♀, ZISP); Utashud I. (51.507°N 157.696°E), 9.VII.1958, Violovich (1 ♂, ZISP). See also Ozerov & Krivosheina [2014: 217].

DESCRIPTION. Male. Female. Body-length 6.2–9.8 mm. Male thorax, abdomen and legs covered with

dense, furry, crinkly, blackish or yellowish hairs. Female has hairs shorter; abdomen covered with hairs on ventral surface only.

*Head.* Frontal vitta blackish, only anteriorly dark reddish, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena reddish, with delicate whitish reflection. Postcranium black. 3 orbital and 6–7 frontal setae present. Antenna

black. Postpedicel approximately 1.5 times as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely greyish dusted. Scutum with setae only slightly differentiated from the other long hairs on scutum. Anepimeron with several hairs. Scutellum black, greyish dusted, with 4–6 pairs of setae along margin.

*Legs* black, densely greyish dusted. Male legs covered with long hairs, well visible apical setae on mid and hind tibiae only. Female: all femora covered with hairs, but without conspicuous setae; fore tibia with rows of dorsal and posterodorsal setae; mid tibia with 2–3 posterodorsal, 2–3 anterodorsal, 1 ventral setae and a ring of apicals; hind tibia with rows of thin posterodorsal and anterodorsal setae and a comb of short strong apical setae on anterior surface.

*Wing* tinged with brownish; crossveins r-m and dm-cu not darkened.

*Abdomen* black, densely greyish dusted. Male sternite 4 approximately 2 times as long as wide (Fig. 19), Male sternite 5, epandrium, cercal plate and surstyli as in Figs 58–60.

DISTRIBUTION. Russia: Pacific coast of Bering Strait south to Olutorsky Bay, Commander Islands; north Kuril Islands. — North America.

*Scathophaga decipiens* (Haliday in Curtis, 1832)  
Figs 20, 61–63, 131.

*decipiens* Haliday in Curtis, 1832: 266 (*Scatophaga*). Type-localities: “Ireland,... England”.

*fluvialis* Rondani, 1866: 28, 29; 1867: 113 (*Scatina*). Type-locality: not given [Italia: Parma].

REMARKS. This species was recorded in Russia from Crimea and Rostov Oblast by Ozerov & Krivosheina [2020: 228]. Noted from south of European part by Gorodkov [1970: 453, 1986: 31] without specifying the place of collecting.

MATERIAL EXAMINED. **Crimea:** Kerch env. (45.353°N 36.445°E), 10 and 30.VI.1901, 14.V.1903, Kirichenko (1 ♂, 2 ♀, ZMUM). See also Ozerov & Krivosheina [2020: 228].

DESCRIPTION. Male. Female. Body-length 5.8–6.3 mm.

*Head.* Frontal vitta yellow or yellow-reddish, with delicate whitish reflection; fronto-orbital plate blackish, densely greyish dusted. Face, parafacial and gena yellow, with whitish reflection. Postcranium blackish. 3 orbital and 3–4 frontal setae present. Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely greyish dusted. Acrostichals not differentiated from the other hairs on scutum, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron bare. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

*Legs.* All coxae black, greyish dusted. All femora greyish dusted, black, except yellow apex. All tibiae and tarsi yellow. Fore femur covered with whitish hairs, with 3–4 dorsal setae or setulae in apical third. Fore tibia with 2 dorsal, 2 posterior, 2–4 posterodorsal, 1 preapical

anterodorsal, and 1 posterior apical setae. Mid femur with a row of anterior setae, 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1–2 anterodorsal, 1–2 posterodorsal, 0–1 anteroventral, 0–1 ventral setae, also with a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2 posterodorsal, 3 anterodorsal, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae.

*Wing* clear; crossveins r-m and d-m not darkened.

*Abdomen* black, densely pale grey dusted, covered with short whitish hairs. Tergites 2–5 in male and tergites 2–6 in female each with a row of marginal setae. Male sternite 4 about twice as long as wide (Fig. 20). Male sternite 5 with long narrow lobes (Fig. 61). Cercal plate longer than surstyli (Figs 62, 63). Aedeagus as in Fig. 131.

DISTRIBUTION. Russia: Crimea and Rostov Oblast. — Europe, North Africa [Šifner, 2008: 157, 158].

*Scathophaga exalata* Ozerov, 1996  
Figs 7, 21, 64–66.

*exalata* Ozerov, 1996: 2 (*Scathophaga*). Type-locality: Raikoke I. (48°17'86"N, 153°15'64"E) (Russia: Kuril Islands).

REMARK. This species known from Kuril Islands only (Raikoke I., Chirinkotan I., Ekarma I., Yankicha I.) [Ozerov, 1996: 2].

MATERIAL EXAMINED. **Sakhalin Oblast:** Yankicha I. (47.517°N 152.811°E), 16.VII.1958, Violovich (1 ♂, 1 ♀, ZISP). See also Ozerov [1996: 2].

DESCRIPTION. Male. Female. Length of body 6.5–12.0 mm.

*Thorax*, abdomen and legs of males covered with dense, long, brown hairs. Females has hairs less dense and shorter.

*Head.* Frontal vitta reddish-orange, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face and gena reddish-orange, with whitish reflection. Postcranium black. 3 orbital and 5–7 frontal setae present. Scapus and pedicel from dark reddish to black. Postpedicel black, about twice as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely grey dusted. Scutum chaetotaxy better seen in females: acrostichals setulose in two rows, dorsocentrals 2+2, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron bare. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of apical scutellar setulae.

*Legs* brownish or blackish. Legs of male covered with dense, long hairs; female legs with less dense and shorter hairs. Femora of all legs of both sexes without conspicuous setae. Male fore tibia with 2 very strong posteroventral setae in apical quarter. Female fore tibia with 2–3 dorsal, 2 posterior, 3–4 posteroventral setae (including apical seta). Male mid tibia with 1 anterodorsal, 2 anterior, 1 ventral setae, also with a ring of apicals. Female mid tibia with 3–4 anterior, 3 anterodorsal, 3 anteroventral, 2–3 posterodorsal, 2 posterior, 1 ventral setae, also with a ring of apicals. Male hind tibia with 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral, 1 apical ventral setae. Female hind tibia with 3 posterodorsal, 4 anterodorsal, 1 preapical

dorsal, 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral, 1 apical ventral setae.

*Wing* strongly reduced (Fig. 7).

*Abdomen* black, delicately greyish dusted, covered with long brownish hairs in male; female tergites 2–6 each with a row of marginal setae. Male sternite 4 about 2 times as long as wide (Fig. 21). Male sternite 5 with broad in base lateral lobes, covered with long hairs (Fig. 64). Epandrium, cercal plate and surstyli as in Figs 65, 66.

**DISTRIBUTION.** Russia: Kuril Islands.

*Scathophaga furcata* (Say, 1823)

Figs 3, 22, 67–69.

*furcata* Say, 1823: 98 (*Pyropa*). Type-locality: “Missouri” (USA).

*qualida* Meigen, 1826: 252 (*Scatophaga*). Type-locality: not given (“hiesiger Gegend”, ?Aachen).

*fuscineris* Zetterstedt, 1838: 722 (*Scatomyza*). Type-localities: “Lapponia Tornensi... Wittangi... Juckasjervi... Tornetrask... Dowre... Kloeffjoefjellet in Herjeådalen...” (Sweden, Norway).

*fuscineris* Zetterstedt, 1838: 733 (*Cordylura*). Type-locality: “ad Umenaes... (Lappon.)” (Sweden).

*semiatra* de Meijere, 1907: 181 (*Scathophaga*). Type-locality: Hilversum (Netherlands).

**REMARKS.** The data on distribution of this species for Russia was given by Hendel [1930: 2] (Kamchatka), by Gorodkov [1970: 453, 1986: 31] (European part, incl. Kolguev I., Commander and Kuril Islands), by Polevoi [1997: 309] (Karelia), by Engelmark [1999: 158, 159] (arctic zone of European part), by Ovchinnikov [2004: 422] (Yaroslavl’ Oblast), by Ozerov & Barkalov [2014: 563] (Taimyr Peninsula), by Ozerov & Krivosheina [2014: 217] (Far East), by Bagachanova *et al.* [2016: 782] (Yakutia), by Ovchinnikov & Makarova [2016: 217] (Barents Sea, Dolgii I.) and by [MacGowan *et al.*, [2021: 17] (Mordovia).

Gorodkov published a map with the distribution area of this species on the territory of the former USSR and separately on its European part [Gorodkov, 1978: map 20], but without names of the points.

**MATERIAL EXAMINED.** **Altai:** “Rodonovy istochnik”, 2412 m, Lake Muzdy-Bulak (49.46°N 88.05°E), 5.VII.2008, A. Barkalov (1 ♀, ISEA); 20 km W of Beltir (49.95°N 87.86°E), 2100 m, 24–25.VI.2014, I. Shamshev (1 ♀, ZISP); Chikhachev ridge, in the source of the River Naryn-Gol, 2600 m (49.81°N 88.55°E), 18.VII.2009, A. Barkalov (1 ♂, ISEA); Kosh-Agach, plato Ukok, 2400 m, surrounding area of Lake Muzdy-Bulak (49.26°N, 87.65°E), 10–11.VII.2008, A. Barkalov (2 ♂♂, 3 ♀♀, ISEA and ZMUM); Kosh-Agach, plato Ukok, 2450 m, Lake Muzdy-Bulak (49.3°N 87.65°E), 8.VII.2008, A. Barkalov (1 ♀, ISEA); Kurayskiy ridge, 2500–2700 m (50.33°N 87.75°E), tundra, 3.VII.2008, A. Barkalov (1 ♀, ISEA); the upper reaches of the River Naryn-Gol, 2520 m, (49.49°N 89.32°E), 16–19.VII.2009, V. Sorokina (1 ♂, ISEA); Ust-Koksa (50.27°N 85.61°E), 24.IX.2011, O. Kosterin (1 ♂, ZMUM); **Arkhangelsk Oblast:** 70 km N of Nar’yan-Mar (ca. 68.204°N 53.627°E), 18.VIII.1978, Gorodkov (1 ♂, 2 ♀♀, ZISP); 73 km NW of Nar’yan-Mar (ca. 67.981°N 51.608°E), 3.VIII.1978, Gorodkov (1 ♂, 1 ♀, ZISP); Arkhangelsk (64.546°N 40.567°E), 4.VIII.2010, D. Gavryushin (4 ♂♂, ZMUM); Arkhangelsk (64.562°N 40.547°E), 10.VIII.1967, 25.VIII.1981, Gorodkov (5 ♂♂, ZISP); Belush’e env. (66.89°N 47.61°E), 24.VIII.1978, Gorodkov (5 ♂♂, ZISP); Kanin Nos (68.656°N 43.279°E), 17.VII.1970, Gorodkov (18 ♂♂, 12 ♀♀, ZISP); Kara [= Ust’-Kara (69.246°N 64.923°E)], 10–11.VIII.1961, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Kar-

gopol’ (61.503°N 38.971°E), 16.VII.1982, Gorodkov (1 ♂, ZISP); Khal’mer’yu (ca. 67.550°N 53.962°E), 19.VII.1962, Gorodkov (2 ♂♂, 1 ♀, ZISP); Kolguev I., Bugrino (68.782°N 49.309°E), 20–21.VIII.1980, Gorodkov (13 ♂♂, 7 ♀♀, ZISP); Mezen’ (65.85°N 44.24°E), 26 and 27.VIII.1978, Gorodkov (3 ♂♂, 1 ♀, ZISP); Nar’yan-Mar (67.631°N 52.985°E), 28.VIII.1970, Gorodkov (5 ♂♂, 3 ♀♀, ZISP); same place, 8, 9 and 13.VII.2008, N. Vikhrev, A.L. Ozerov (12 ♂♂, 9 ♀♀, ZMUM); Nenetsky Nature Reserve, cordon “Bol’shoy Gusinets” (68.175°N, 53.645°E), 9–10.VII.2008, A.L. Ozerov (1 ♂, ZMUM); Nizhnaya Pesh (66.751°N 47.760°E), 22 and 23.VII.1978, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); River Silova-Yakha (ca. 68.558°N 64.817°E), 80 km N of Khal’mer’yu, 19.VII.1961, Gorodkov (4 ♂♂, ZISP); Shoyna (67.877°N 44.150°E), 16.VII.1970, Gorodkov (13 ♂♂, 9 ♀♀, ZISP); Solovetsky I. (65.080°N 35.686°E), 26.VII.1959, Gorodkov (3 ♂♂, 1 ♀, ZISP); Solvychevsk env. (61.342°N 46.913°E, 61.334°N 46.926°E), 2.IX.1981, Gorodkov (2 ♂♂, 1 ♀, ZISP); same place, 13 and 17.VIII.2010, D. Gavryushin (1 ♂, 2 ♀♀, ZMUM); the lower reaches of the River Pechora (68.334°N 53.304°E), 11.VII.2008, A.L. Ozerov (1 ♂, ZMUM); Velikovochnoe (67.255°N 52.032°E), 18.VIII.1978, Gorodkov (1 ♂, 1 ♀, ZISP); **Astrakhan Oblast:** Baskunchak salt lake (48.193°N 46.813°E), 2–4.V.2010, K. Tomkovich (1 ♂, 1 ♀, ZMUM); **Buryatia:** Lake Baykal, Pokoyniki env. (53.713°N 109.049°E), 27.VII.1962, Gorodkov (1 ♂, 1 ♀, ZISP); Mondy env. (51.675°N 100.992°E), 28.VII.1965, Gorodkov (5 ♂♂, 4 ♀♀, ZISP); **Chelyabinsk Oblast:** Chelyabinsk, airport (55.302°N 61.502°E), 5.IX.1988, Gorodkov (1 ♂, ZISP); Taganay (55.277°N 59.795°E), 18–24.VII.2008, K. Tomkovich (1 ♂, ZMUM); **Chukotka:** 5 km N of Egvekinot (66.395°N 179.132°W), 26.VII.1963, Gorodkov (4 ♂♂, 4 ♀♀, ZISP); Bilibino (68.058°N 166.446°E), 5.VII.1971, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); Komsomol’skiy (69.130°N 172.735°E), 4 and 7.VII.1963, Gorodkov (1 ♂, 1 ♀, ZISP); Markovo (ca. 64.680°N 170.412°E), 18.VIII.1966, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Meynypil’gyno env. (62.628°N 176.976°E), 25.VII.2015, P.S. Tomkovich (1 ♂, ZMUM); Ugol’nyy env. (64.733°N 177.733°E), 12–15.VIII.1966, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Urel’ki (64.400°N 173.214°W), 6.VIII.1963, Gorodkov (8 ♂♂, 6 ♀♀, ZISP); **Ivanovo Oblast:** Malinki (56.995°N 41.154°E), 2.IX.1969, Lobanov (1 ♂, 1 ♀, ZISP); **Kamchatka Krai:** Kozyrevsk (56.048°N 159.870°E), 7.IX.1969, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); Zhupanovo (54.082°N 159.974°E), 6.IX.1969, Gorodkov (4 ♂♂, 5 ♀♀, ZISP); Commander Islands, Nikol’skoe (55.196°N 165.998°E), 4–20.IX.1959, Gorodkov (12 ♂♂, 7 ♀♀, ZISP); Petropavlovsk-Kamchatskiy (53.013°N 158.657°E), 5.IX.1969, Gorodkov (5 ♂♂, 1 ♀, ZISP); Valley of Geysers (ca. 54.43°N 160.15°E), 12.VIII.1985, V. Zlobin (3 ♂♂, 2 ♀♀, ZISP); **Karelia:** Poyakonda (66.589°N 32.821°E), 8.VII.2010, A.L. Ozerov (1 ♂, ZMUM); Primorsky env. (66.549°N 33.133°E, 66.552°N 33.100°E, 66.545°N 33.103°E), 30.VI., 3 and 7.VII.2010, A.L. Ozerov (2 ♂♂, 2 ♀♀, ZMUM); Pudozh (66.804°N 36.565°E), 17 and 19.VII.1982, Gorodkov (2 ♀♀, ZISP); Segezha (63.745°N 34.317°E), 29.VII.1996, Gorodkov (1 ♀, ZISP); Sumskey Posad (64.238°N 35.408°E), 27.VII.1996, Gorodkov (1 ♂, ZISP); **Khabarovsk Krai:** Bulgino env. (59.371°N 143.147°E), 29.VIII.1987, Gorodkov (2 ♂♂, ZISP); **Komi:** Shchel’yabozh (66.29°N 56.45°E), 13 and 15.VIII.1978, Gorodkov (2 ♂♂, ZISP); Sivaya Maska Station (66.675°N 62.569°E), 12 and 18.VII.1961, Gorodkov (1 ♂, 1 ♀, ZISP); same place, but 5 km NW, 16.VII.1961, Gorodkov (1 ♂, ZISP); Syktyvkar (61.669°N 50.822°E), 29–30.VII.1976 and 24.VII.1982, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Ust-Tsilma (65.440°N 52.153°E), 6.VIII.1978, Gorodkov (1 ♂, ZISP); Ust’-Usa (65.980°N 56.911°E), 13.VIII.1978, Gorodkov (2 ♂♂, 1 ♀, ZISP); Vorkuta (67.501°N 64.039°E), 23.VII.1961, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); same place, 19–25.VII.2010, N. Vikhrev (8 ♂♂, 3 ♀♀, ZMUM); Yaksha (61.823°N 56.821°E), 12.VIII.1989, Gorodkov (1 ♀, ZISP); **Krasnoyarsk Krai:** Agapa (71.421°N 89.251°E), River Pyasina, 15–21.VII.1967, Gorodkov (5 ♂♂, 3 ♀♀, ZISP); Baykit (61.68°N 96.38°E), 23 and 26.VIII.1972, Gorodkov (4 ♂♂, 4 ♀♀, ZISP); Dikson (73.508°N 80.529°E), 8.VIII.1967, Gorodkov (1 ♂, 1 ♀, ZISP); Dudinka (69.404°N 86.182°E), 2.VII.1967, Gorodkov (3 ♂♂, ZISP); Igarka (67.457°N 86.598°E), River Yenisei, 30.VI. and 1.VII.1967, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Lake Glubokoe, 60 km E of Noril’sk (ca. 69.37°N 89.79°E), 8.VII.1967, Gorodkov (4 ♂♂, 2 ♀♀, ZISP);

Noril'sk env., Medvezhiy (69.284°N 88.148°E), 6.VII.1967, Gorodkov (3 ♂♂, 1 ♀, ZISP); Noril'sk env., Talnakh (69.500°N 88.447°E), 22.VIII.1973, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Noril'sk env. (69.339°N 88.214°E), 6.VII.1967, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); River Nizhnyaya Agapa, 40 km below the source (~ 70.097°N 86.688°E), 12–14.VII.1973, V. Zherikhin & I. Sukacheva (2 ♂♂, ZMUM); **Kursk Oblast:** Streletskaya Steppe (51.579°N 36.087°E), 11–13.V.2008, K. Tomkovich (1 ♂, ZMUM); **Leningrad Oblast:** Rakovich (58.650°N 29.836°E), 1.IX.1897, G. Pleske (2 ♂♂, ZISP); **Magadan Oblast:** Chaybukha (61.801°N 160.413°E), 1 and 2.IX.1987, Gorodkov (5 ♂♂, 1 ♂, ZISP); Evensk (61.916°N 159.234°E), 9.IX.1987, Gorodkov (1 ♂, ZISP); Gizhiga (61.948°N 160.377°E), 5.IX.1987, Gorodkov (5 ♂♂, 6 ♀♀, ZISP); Koni peninsula, Cape Ploskiy (59.161°N 151.643°E), 16.VII.2015, 3.VII. and 27.VIII.2017, N. Tridrikh (3 ♂♂, ZMUM); Sokol (59.919°N 150.752°E), 25.VIII.1966, Gorodkov (1 ♂, ZISP); **Moscow and Moscow Oblast:** 20 km WSW of Volokolamsk (55.983°N 35.616°E), 11.VII.1999, A.L. Ozerov (1 ♀, ZMUM); Burtsevo (55.937°N 37.388°E), 13.V.2010, A.L. Ozerov (1 ♂, ZMUM); Dmitrov env. (56.316°N 37.725°E), 9–23.IX.2006, 9, 18–19.V., 21.VI.2007, 8 and 18.V.2010, N. Vikhrev (8 ♂♂, 5 ♀♀, ZMUM); Ivanovskoe (55.933°N 35.623°E), 19.V.2006, A.L. Ozerov (1 ♂, ZMUM); Izmaylovo (55.786°N 37.835°E), 12.V.1983, A.L. Ozerov (1 ♂, ZMUM); Molzhaninovka (55.936°N 37.385°E), 13.V.2010, A.L. Ozerov (1 ♂, ZMUM); Ozhigovo (55.455°N 36.882°E), 29.IV.2008, 26.VII.2010, D. Gavryushin (1 ♀, ZMUM); Shchukino (55.798°N 37.478°E), 22.IX.2006, N. Vikhrev (1 ♀, ZMUM); Smolevo (55.626°N 38.964°E), 10–20.X.2009, K. Tomkovich (1 ♀, ZMUM); **Murmansk env.** (68.918°N 33.059°E), 9–13.VIII.2010, N. Vikhrev (1 ♀, ZMUM); same place, 3.VIII.1981, Gorodkov (1 ♂, 1 ♀, ZISP); 8 km N of Revda (68.003°N 34.570°E), 15.VIII.1981, Gorodkov (1 ♀, ZISP); Aleksandrovsk [= Polyarny] (69.198°N 33.456°E), 1.V., 14 and 18.VI.1921, Zhelokhovtsev (3 ♂♂, ZMUM); Vudvayr Lake basin (ca. 67.646°N 33.644°E), 18.VI. and 5.VII.1930, 5–14.VII.1931, Fridolin (24 ♂♂, 12 ♀♀, ZISP); Dal'nie Zelentsy (69.117°N 36.062°E), 6.VIII.1981, Gorodkov (1 ♂, 1 ♀, ZISP); Khibiny Station (67.673°N 33.212°E), 27.VIII.1928, Cheburova (1 ♀, ZISP); Kirovsk env. (67.608°N 33.661°E), 9.VII.1975, Zinov'ev (2 ♀♀, ZISP); Kovdor (67.564°N 30.478°E), 21.VIII.1995, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Laplandskiy Nature Reserve (67.926°N 32.052°E), 19.VIII.1976, V. Sychevskaya (1 ♀, ZMUM); Lovozero (68.005°N 35.017°E), 14.VIII.1981, Gorodkov (1 ♀, ZISP); Monchegorsk (67.937°N 32.891°E), 11–18.VII.2009, M. Kozlov (1 ♀, ZMUM); Murmansk env. (68.978°N 33.115°E, 68.973°N 33.137°E, 68.978°N 33.117°E, 68.979°N 33.151°E), 18–21.VII.2011, A. Ozerov, D. Gavryushin (5 ♂♂, 1 ♀, ZMUM); Tumanny (68.883°N 35.693°E), 4.VIII.1981, Gorodkov (1 ♀, ZISP); **Novgorod Oblast:** Novgorod env. (58.486°N 31.284°E), 1.IX.1978, Gorodkov (1 ♂, 1 ♀, ZISP); Spirovo (58.623°N 35.972°E), 8.V.1921, Zhelokhovtsev (1 ♂, ZMUM); **Novosibirsk Oblast:** Novosibirsk (54.842°N 83.114°E), 9–10.IX.2009, O. Kosterin (3 ♂♂, ZMUM); **Pskov Oblast:** Aparino (56.958°N 29.966°E), 16.V.1915, N. Kuznetsov (1 ♂, ZISP); **Rostov Oblast:** Kamensk-Shakhtinsky (48.344°N 40.257°E), 24.V.2011, D. Gavryushin (1 ♂, ZMUM); **Sakhalin Oblast:** Iturup I., Cape Burevestnik (44.921°N 147.65°E), 28.VI.1954, Violovich (1 ♂, 1 ♀, ZISP); Iturup I., Rybaki (45.209°N 147.851°E), 22.VI.1968, V. Richter (1 ♂, ZISP); Paramushir I., Severo-Kuril'sk (50.679°N 156.132°E), 8 and 14.IX.1968, Gorodkov (2 ♀♀, ZISP); Paramushir I., Severo-Kuril'sk (50.679°N 156.132°E), 7–14.IX.1968, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); **Tver' Oblast:** Udomlya env. (57.881°N 35.008°E), 4.X.2003, 8–31.X.2009, A. Korobkov (1 ♂, 2 ♀♀, ZISP); **Tyumen' Oblast:** (63.766°N 59.716°E, 63.818°N 59.562°E), 1–8.VII.2010, K. Tomkovich (3 ♂♂, 1 ♀, ZMUM); 130 km SE of Nadym (ca. 64.718°N 74.532°E), 2.VIII.1977, Gorodkov (2 ♀♀, ZISP); 75 km WSW of Samburg (ca. 67.035°N 76.541°E), 7–9.VIII.1976, Gorodkov (5 ♂♂, 3 ♀♀, ZISP); 83 km WNW of Tazovskiy (ca. 68.049°N 77.702°E), 29.VII.1977, Gorodkov (7 ♂♂, 3 ♀♀, ZISP); Voykar River basin (ca. 65.720°N 64.324°E), 8–18.VIII.1925, Fridolin (5 ♂♂, 5 ♀♀, ZISP); Bely Nos (69.618°N 60.223°E), 4–18.VII.1957 (3 ♂♂, 1 ♀, ZMUM); Berezovo (63.937°N 65.041°E), 26.VIII.1976, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); Gaz-sale (67.364°N 78.998°E), 18 km SE of Tazovskiy, 31.VII.1977, Gorodkov (3 ♂♂, 3 ♀♀, ZISP);

Khanty-Mansiysk (61.000°N 69.032°E), 27–28.VIII.1976, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Kharp (66.803°N 65.809°E), 17.VIII.1972, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Labytangi (66.657°N 66.391°E), 30.VI., 10–28.VII., 16.VIII.1973, R. Kamenskaya, V. Sychevskaya (14 ♂♂, 4 ♀♀, ZMUM); same place, 21.VIII.1976, Gorodkov (1 ♂, 1 ♀, ZISP); Muzhi (65.397°N 64.700°E), 22.VIII.1976, Gorodkov (6 ♂♂, 1 ♀, ZISP); Cape Kamenny (72.066°N 77.434°E), 9.VIII.1967, Gorodkov (2 ♂♂, ZISP); Nadym env. (65.536°N 72.522°E), 6, 12 and 15.VIII.1976, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); Novyy Urengoy (66.087°N 76.513°E), 30.VII.1982, Gorodkov (5 ♂♂, 5 ♀♀, ZISP); Nyda (66.628°N 72.922°E), 3–5.VIII.1977, Gorodkov (7 ♂♂, 2 ♀♀, ZISP); River Shchuch'ya (60.564°N 68.797°E), 11.VII.1984, P. Basikhin (1 ♂, 1 ♀, ZMUM); Salekhard (66.53°N 66.613°E), 3–5.VIII.1976, Gorodkov (8 ♂♂, 3 ♀♀, ZISP); Salekhard (66.53°N 66.613°E), VI.1951 (1 ♂, ZISP); Sob' env. (67.07°N 65.46°E), 26–31.VII.2011, K. Tomkovich (1 ♀, ZMUM); Tarko-Sale (64.914°N 77.766°E), 1 and 2.IX.1982, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Tobol'sk (58.206°N 68.264°E), 2.IX.1925, Fridolin (2 ♂♂, 1 ♀, ZISP); Tyumen' (57.150°N 65.535°E), 4.IX.1976, Gorodkov (4 ♂♂, 1 ♀, ZISP); Vaygach, Cape Lyamchin (66.870°N 59.136°E), 13.VIII.1957 (1 ♂, 1 ♀, ZMUM); Yar-Sale (66.863°N 70.83°E), 28.VII.1986, Veselkin (1 ♀, ZMUM); **Vologda Oblast:** Belozersk env. (60.029°N 37.791°E), 13.VI.1904, Borodin (1 ♂, ZMUM); Vologda env. (59.207°N 39.904°E), 8.IX.1981, Gorodkov (1 ♀, ZISP); **Yakutia:** airport Sasyklakh (71.934°N 114.083°E), 24.VII.1988, Gorodkov (1 ♀, ZISP); Aykhal (65.944°N 111.495°E), 19.VIII.1988, Gorodkov (3 ♀♀, ZISP); Chekurovka (71.046°N 127.525°E), 19 and 24.VII.1957, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); Chersky (68.75°N 161.332°E), 6.VII.1971, Gorodkov (1 ♂, ZISP); Chokurdakh (70.618°N 147.895°E), 20–21.VII.1971, Gorodkov (2 ♂♂, 3 ♀♀, ZISP); Deputatskiy (69.319°N 139.966°E), 6–7.VIII.1974, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); Ebelyakh, bank of the River Anabara (70.884°N 113.57°E), 14.VIII.1988, Gorodkov (1 ♂, ZISP); env. of Ystannakh-Khocho Vill. (ca. 72.58°N, 121.42°E), 20.VIII.2010, A. Yadrenkin (1 ♂, ZMUM); Kular (70.573°N 134.271°E), 2.VIII.1974, Gorodkov (1 ♀, ZISP); same place, 24–25.VII.2000, Potapova (4 ♂♂, 2 ♀♀, ZISP); Kular (70.573°N 134.271°E), 3–4.VIII.1974, Gorodkov (5 ♂♂, 3 ♀♀, ZISP); Mirny (62.540°N 113.962°E), 16.IX.1987, Gorodkov (1 ♂, ZISP); River Yana, Stolby env. (67.531°N 134.087°E), 27.VII. 2008, A. Ovchinnikov (1 ♂, ZISP); Tiksi env. (71.635°N 128.857°E), 9.VII. and 10–13.VIII.1957, Gorodkov (5 ♂♂, 6 ♀♀, ZISP); Tostuya (73.208°N 113.606°E), 45 km S of Uryung-Khaya, 26.VII.1988, Gorodkov (1 ♂, 1 ♀, ZISP); Udachnyy (66.405°N 112.299°E), 20.VII.1988, Gorodkov (1 ♂, 1 ♀, ZISP). See also Ozerov & Krivosheina [2014: 217] and Ozerov & Barkalov [2014: 563].

**DESCRIPTION.** Male. Female (Fig. 3). Body-length 4.2–7.2 mm.

**Head.** Frontal vitta reddish-yellow, matt; fronto-orbital plate blackish, greyish dusted. Face, parafacial and gena yellow, with delicate golden reflection. Postcranium black in upper third or quarter and yellow in lower part. 3 orbital and 3–4 frontal setae present. Scapus and pedicel reddish-yellow. Postpedicel from reddish-yellow to blackish, but basally outside always reddish-yellow, approximately twice as long as wide. Arista bare. Palpus yellow.

**Thorax** black, greyish dusted. Acrostichals not differentiated from the other hairs on scutum or setulose in two irregular rows, but prescutellar pair usually stronger than the other acrostichals, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs** yellow, but as a rule fore femur blackish dorsocentrally (Fig. 3). Fore femur covered with hairs, but without conspicuous setae. Fore tibia with 2–3 dorsal,

0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with 3–5 anterodorsal setae in apical third in male and usually with a row of anterodorsal setae in female, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 3 posterodorsal, 2–3 anterodorsal, 1 anteroventral, 1 posteroventral setae and a ring of apicals. Hind femur with a row of anterodorsal setae in apical half in male and on all length in female. Hind tibia with 3 anterodorsal, 3 posterodorsal, 1 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anteroventral setae.

*Wing* tinged with brownish; crossveins r-m and dm-cu darkened (Fig. 3).

*Abdomen* from yellow to dark brownish, delicately greyish dusted, covered with not long hairs, in female tergites with black marginal setulae. Male sternite 4 approximately 1.5 times as long as wide (Fig. 22); sternite 5 with a pair of small apical median processes, covered with spinules (Fig. 67). Epandrium, cercal plate and surstyli as in Figs 68, 69.

**DISTRIBUTION.** Throughout Russia. — Europe (widespread); Japan, Mongolia [Šifner, 2008: 164]; North America; Haiti [Vockeroth, 2010: 1269]; common in forest zone.

*Scathophaga incola* (Becker, 1900)

Figs 9, 23, 70–72.

*incola* Becker, 1900: 54 (*Scatophaga*). Type-locality: “Kantanka und der Insel Nikander” [Khantayka and Nikandorskie Islands NE of Dudinka] (Russia: Krasnoyarsk Krai).

*fascifrons* Ringdahl, 1936: 174 (*Scopeuma*). Type-locality: “Moore bei Abisco in Lappland angetroffen” (Sweden).

**REMARK.** This species was recorded in Russia for subarctic and taiga zones in European part [Gorodkov, 1986: 31 (without specifying the place of collecting); Engelmark, 1999: 158, 159; Polevoi, 1997: 309], Siberia [Becker, 1900: 54; Ozerov, Barkalov, 2014: 563], Yakutia [Veselkin, 1985: 75; Bagachanova *et al.* 2016: 782] and Far East [Hendel, 1930: 2; Ozerov, Krivosheina, 2014: 217].

**MATERIAL EXAMINED.** **Altai:** “Rodonovy istochnik”, 2412 m, Lake Muzdy-Bulak (49.46°N 88.05°E), 5.VII.2008, A. Barkalov (2 ♂♂, ISEA); Kosh-Agach, 2400 m, Lake Muzdy-Bulak env. (49.26°N, 87.65°E), 8–10.VII.2008, A. Barkalov (6 ♂♂, 4 ♀♀, ISEA and ZMUM); Kosh-Agach, plateau Ukok, 2450 m, Lake Muzdy-Bulak (49.3°N 87.65°E), 8.VII.2008, A. Barkalov (2 ♂♂, 5 ♀♀, ISEA and ZMUM); Topuchaya Vill. (51.126°N 85.586°E), 1825 m, 3–4.VII.2014, I. Shamshev (1 ♂, 2 ♀♀, ZISP); **Arkhangelsk Oblast:** Karpogory (63.999°N 44.453°E), 10.VII.1996, Gorodkov (1 ♀, ZISP); **Buryatia:** Barguzinsky Nature Reserve (ca. 54.35°N 109.51°E), 4 and 16.VII.1965, Negrobov (1 ♂, 1 ♀, ZISP); Mondy env. (51.675°N 100.992°E), 28.VII.1965, Gorodkov (2 ♂♂, ZISP); **Chukotka:** 20 km SSO of Iul'tin (67.724°N 178.515°W), 22.VII.1963, Gorodkov (1 ♀, ZISP); Chaunskaya Bay, the mouth of the River Ichun\* (68.854°N 170.547°E), 3.VII.1963, Semenov (5 ♂♂, 4 ♀♀, ZISP); Markovo (ca. 64.680°N 170.412°E), 18.VIII.1966, Gorodkov (2 ♂♂, ZISP); Meynypil'gyno env. (62.628°N 176.976°E), 14.VII.2015, P.S. Tomkovich (1 ♂, ZMUM); Pevek (69.702°N 170.298°E), 11.VIII.1963, Gorodkov (1 ♂, 1 ♀, ZISP); **Kamchatka Krai:** Apuka env. (60.443°N 169.602°E), 7.VIII.1959, Gorodkov (1 ♂, ZISP); Krapivnoe, 60 km E of Esso (55.927°N 158.704°E), 8.VIII.1978, A. Zinov'ev (1 ♀, ZISP); **Karelia:** Kartesh

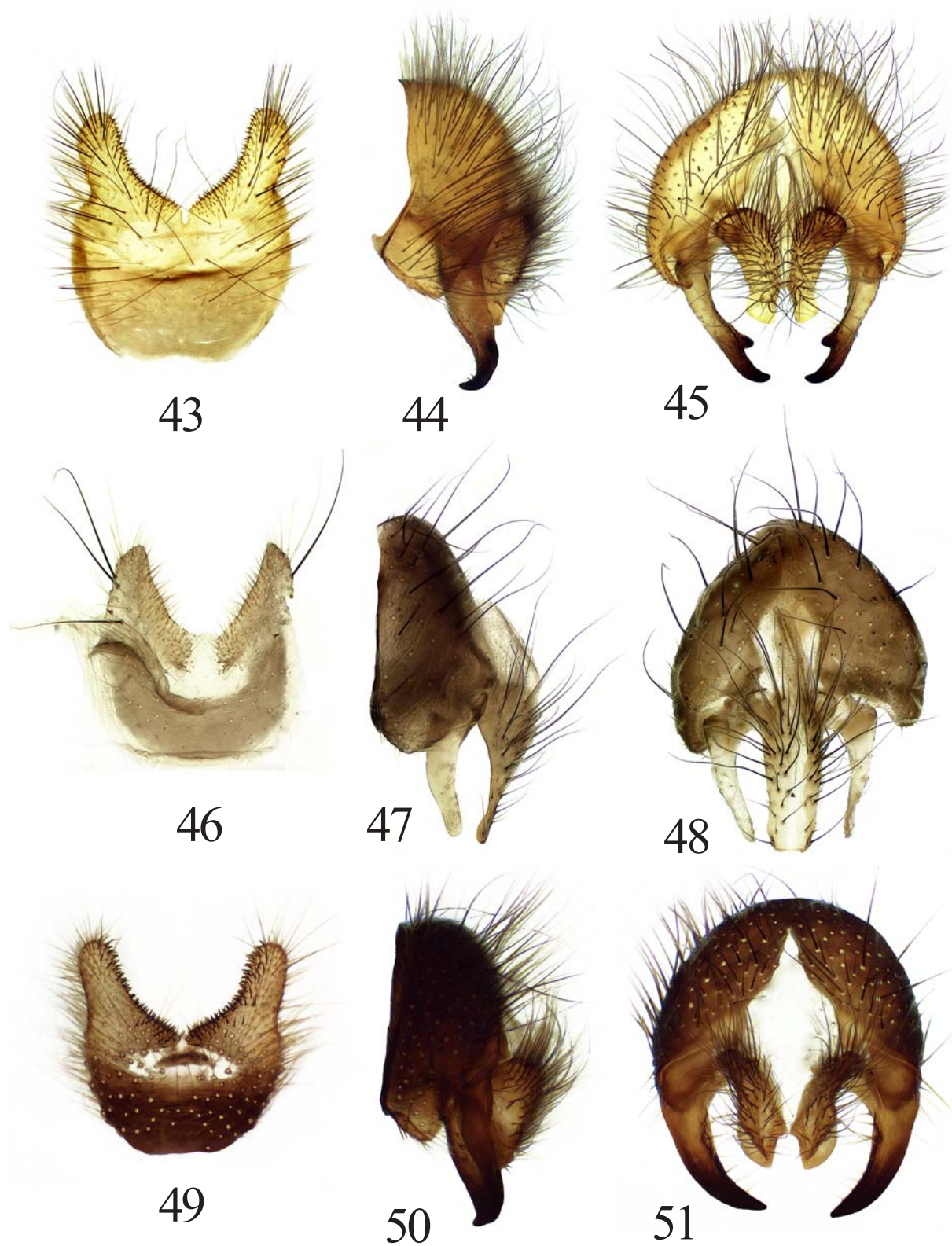
(66.33°N 33.64°E), 22.VII.1975, Gorodkov (1 ♂, ZISP); **Khabarovsk Krai:** Bulgino env. (59.371°N 143.147°E), 29.VIII.1987, Gorodkov (1 ♂, 2 ♀♀, ZISP); **Komi:** Blagoievo (63.41°N 47.95°E), 12 and 13.VII.1996, Gorodkov (2 ♀♀, ZISP); **Krasnodar Krai:** Teberdinskiy Nature Reserve, Dzhmagat Valley (43.464°N 41.736°E), 7.VII.1984, Ovchinnikov (1 ♂, ZISP); **Krasnoyarsk Krai:** Noril'sk env. (69.339°N 88.214°E), 4.VII.1967, 21.VIII.1973, Gorodkov (2 ♂♂, ZISP); Zhdanikha (72.171°N, 102.868°E), 27–30.VIII.1971, V. Zherikhin & I. Sukacheva (1 ♂, ZMUM); **Magadan Oblast:** Chaybukha (61.801°N 160.413°E), 1.IX.1987, Gorodkov (1 ♀, ZISP); **Moscow Oblast:** Dmitrov env. (56.316°N 37.725°E), 8.IX.2006, N. Vikhrev (1 ♀, ZMUM); **Murmansk Oblast:** River Tuloma (ca. 68.738°N 32.288°E), 4–6.VIII.1904, Soldatov (2 ♂♂, ZISP); **Primorsky Krai:** Mt Oblachnaya (43.695°N 134.201°E), 11.VIII.1963, Nartshuk (1 ♂, ZISP); **Tuva:** River Uyuk (52.07°N 94.04°E), 800 m, 1–3.VII.2017, N. Vikhrev (1 ♂, ZMUM); the upper reaches of the River Mogun-Buren\* (ca. 50.041°N 89.872°E), 25.VII.1964, Nartshuk (1 ♂, ZISP); **Tyumen' Oblast:** (63.818°N 59.562°E), 6–8.VII.2010, K. Tomkovich (1 ♂, ZMUM); 55 km W of Samburg (ca. 67.035°N 76.541°E), 12.VIII.1976, Gorodkov (1 ♂, ZISP); 75 km WSW of Samburg (ca. 67.0357°N 76.5411°E), 9.VIII.1976, Gorodkov (1 ♀, ZISP); 85 km WSW of Antipayuta (ca. 68.820°N 75.344°E), 31.VII.1977, Gorodkov (1 ♀, ZISP); 87 km NW of Tazovskiy (ca. 67.522°N 77.807°E), floodplain of the River Khariyanog, 29.VII.1977, Gorodkov (1 ♀, ZISP); Labytnangi env. (66.661°N 66.394°E), 20.VIII.1976, Gorodkov (1 ♂, ZISP); Nyda (66.628°N 72.922°E), 5.VIII.1977, Gorodkov (1 ♀, ZISP); Saranpaul\* (64.257°N 60.917°E), 30.VII.1990, Malozemov (1 ♂, 1 ♀, ZISP); Tobol'sk env. (58.206°N 68.264°E), Lake Boyarskoe, 25.IX.1926, K.P. Samko (1 ♂, ZISP); **Yakutia:** Kular (70.573°N 134.271°E), 3–4.VIII.1974, Gorodkov (3 ♂♂, 8 ♀♀, ZISP); left bank of the River Yana opposite of Verkhoyansk (67.55°N 133.359°E), 23.VII.1974, Nartshuk (1 ♂, ZISP); River Atirayana near Zhigansk (66.766°N 123.372°E), 12.VII.1875, Chekanovskiy (1 ♀, ZISP); Srednekolymsk (67.46°N 153.71°E), 16.VIII.1974, Gorodkov (4 ♂♂, ZISP); Tiksi env. (71.635°N 128.857°E), 9.VII.–17.VIII.1957, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); same place, 30.VII.1990, Kasparyan (1 ♀, ZISP); Verkhoyansk (67.548°N 133.396°E), 11.VIII.1972, 22.VII.1974, Gorodkov (1 ♂, 1 ♀, ZISP); **Zabaikalskiy Krai:** Lesnaya Station (51.764°N 112.999°E), 1.VII.2012, A. Medvedev (2 ♂♂ ZMUM). See also Ozerov & Krivosheina [2014: 217] and Ozerov & Barkalov [2014: 563].

**DESCRIPTION.** Male. Female. Body-length 6.5–10.6 mm.

*Head.* Frontal vitta reddish-yellow, with delicate whitish reflection; fronto-orbital plate blackish, greyish dusted. Face, parafacial and gena reddish-yellow, with delicate whitish reflection. Postcranium black in upper third or quarter and reddish-yellow in lower part. 3 orbital and 4–5 frontal setae present. Antenna reddish-yellow. Postpedicel approximately twice as long as wide. Arista pubescent, the longest hairs approximately equal to 1/2 width of postpedicel. Palpus yellow.

*Thorax* greyish dusted, black completely, only postpronotal lobe usually yellowish. Acrostichals setulose in two rows, but prescutellar pair stronger than the other acrostichals, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Katapisternum posteriorly, besides yellow hairs and setulae, also with several black setulae. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

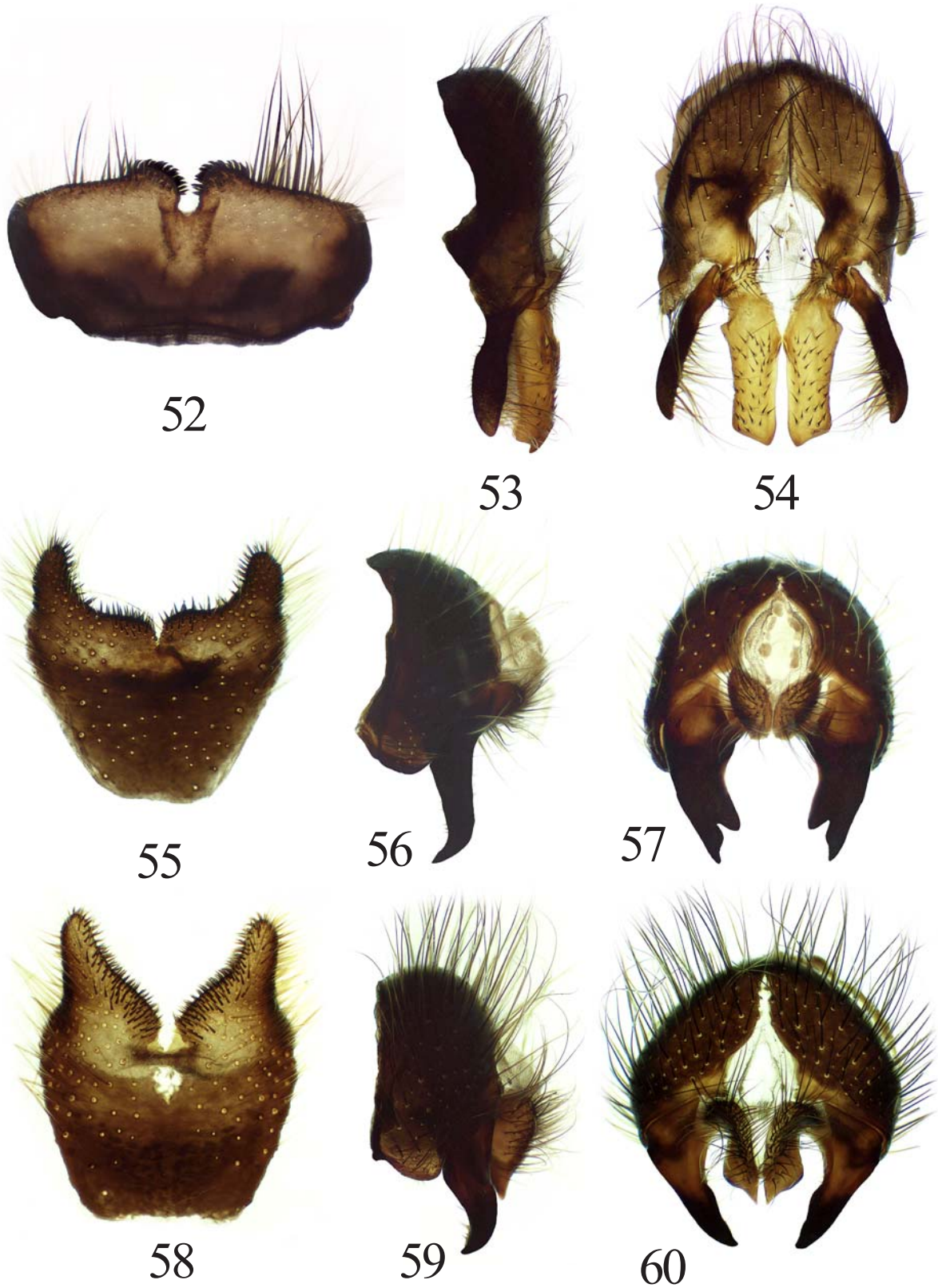
*Legs.* Coxae from yellow to brown. Femora, tibiae, and tarsi yellowish, fore femur as a rule darkened posteriorly or posterodorsally. Fore femur covered with hairs, but without conspicuous setae. Fore tibia with 2–



Figs 43–51. *Scathophaga apicalis* (Curtis) (43–45), *S. buryatica* Ozerov et Krivosheina (46–48) and *S. calida* (Haliday) (49–51): 43, 46, 49 — male sternite 5; 44, 47, 50 — epandrium, cercal plate and surstyli, lateral view; 45, 48, 51 — same, dorsal view. 46–48 — after Ozerov & Krivosheina, 2019, figs 1, 3, 4.

Рис. 43–51. *Scathophaga apicalis* (Curtis) (43–45), *S. buryatica* Ozerov et Krivosheina (46–48) и *S. calida* (Haliday) (49–51): 43, 46, 49 — стернит 5 самца; 44, 47, 50 — эпандрий, церки и сурстии, сбоку; 45, 48, 51 — то же, сверху. 46–48 — по Ozerov & Krivosheina, 2019, figs 1, 3, 4.





Figs 52–60. *Scathophaga cordylurina* (Holmgren) (52–54), *S. crinita* (Coquillett) (55–57) and *S. dasythrix* (Becker) (58–60): 52, 55, 58 — male sternite 5; 53, 56, 59 — epandrium, cercal plate and surstyli, lateral view; 54, 57, 60 — same, dorsal view.

Рис. 52–60. *Scathophaga cordylurina* (Holmgren) (52–54), *S. crinita* (Coquillett) (55–57) и *S. dasythrix* (Becker) (58–60): 52, 55, 58 — стернит 5 самца; 53, 56, 59 — эпандрий, церки и сурстили, сбоку; 54, 57, 60 — то же, сверху.

4 dorsal, 0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with 1 preapical anterodorsal seta in male and usually with a row of anterodorsal setae in female, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 2–3 posterodorsal, 1 anterodorsal setae and a ring of apicals. Hind femur without conspicuous setae in male and with a row of anterodorsal setae in female. Hind tibia with 3–4 anterodorsal, 2–3 posterodorsal, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anteroventral setae.

*Wing* tinged with brownish; crossveins r-m and dm-cu darkened (Fig. 9).

*Abdomen* from yellowish to dark brownish, delicately greyish dusted, covered with not long hairs, tergites with black marginal setulae. Female tergite 7 shiny. Male sternite 4 approximately as long as wide (Fig. 23); sternite 5 with a pair of small narrow apical median processes (Fig. 70). Epandrium, cercal plate and surstyli as in Figs 71, 72.

**DISTRIBUTION.** Russia: Siberia and Far East from Ural Mountains east to Chukotka, south to Altay, Buryatia, Lake Baikal and Magadan Oblast; — Europe (Finland, Norway); North America.

*Scathophaga incompleta* Ozerov et Krivosheina, 2020  
Figs 24, 73–75, 132.

*incompleta* Ozerov, Krivosheina, 2020: 228. Type-locality: Priyutnoe env. (46.1°N 43.5°E) (Russia: Kalmykia).

**REMARK.** This species was recorded in Russia from Adygea, Crimea and Kalmykia [Ozerov, Krivosheina, 2020: 228].

**MATERIAL EXAMINED.** **Dagestan:** Tushilovka (44.310°N 46.881°E), 12.X.1921, Ryabov (1 ♂, ZISP). See also Ozerov & Krivosheina [2020: 228].

**ADDITIONAL MATERIAL EXAMINED.** **Turkmenistan:** Etrek (37.658°N 54.763°E), 2.XI.1932, Ushinskiy (1 ♂, ZISP) (**first record**).

**DESCRIPTION.** Male. Female. Body-length 5.8–6.6 mm.

*Head.* Frontal vitta yellow, with delicate whitish reflection; fronto-orbital plate blackish, densely pale grey dusted, ocellar triangle blackish. Face and gena yellow, with whitish reflection. Postcranium blackish. 3 orbital and 2–4 frontal setae present. Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely pale grey dusted; scutum with a double brownish line down the middle, and an obscure one on each side. Acrostichals setulose in two rows, dorsocentrals 2+3, intra-alars 1+(1–2) (posterior postsutural intra-alar seta small, about 0.5 times as long as anterior one or absent), supra-alars 1+2, postpronotals 2. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

*Legs.* All coxae black, greyish dusted. All femora greyish dusted, black, except yellow apex. All tibiae and tarsi yellow. Fore femur with whitish hairs, longer ventrally, with 4–5 dorsal setulae in apical third. Fore tibia with 2–3 dorsal, 3–4 posterodorsal, 1–2 posterior,

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

*Wing* clear; crossveins r-m and dm-cu not darkened.

*Abdomen* black, densely pale grey dusted, covered with whitish hairs. Tergites 2–5 in male and tergites 2–6 in female each with a row of marginal setae. Male sternite 4 almost twice as long as wide (Fig. 24). Male sternite 5 with moderately long and narrow lobes, with a small projection medially between lobes (Fig. 73). Cercal plate longer than surstyli and narrowing to a slender incurved tip (Figs 74, 75). Aedeagus as in Fig. 132.

**DISTRIBUTION.** Russia: Adygea, Crimea, Dagestan, Kalmykia. — Azerbaijan, Turkmenistan (**first record**).

*Scathophaga inquinata* (Meigen, 1826)  
Figs 25, 76–78.

*inquinata* Meigen, 1826: 250 (*Scathophaga*). Type-locality: not given.

**REMARKS.** The species was recorded for Russia from Yaroslavl' Oblast [Ovchinnikov, 2004: 422], Karelia [Humala, Polevoi, 2009: 72] and Mordovia [MacGowan *et al.*, 2021: 17]. Gorodkov [1970: 453] registered this species for Caucasus, but without specifying the place of collecting.

**MATERIAL EXAMINED.** **Altai:** Artybash env., floodplain of the River Sema (51.87°N, 87.18°E), 550 m, 22.VI.2009, V. Sorokina (1 ♂, ISEA); Biysk (52.535°N 85.178°E), 5.IX.1971, Sychevskaya (1 ♂, 1 ♀, ZISP); Lake Teletskoe, Artybash (51.796°N, 87.274°E), 21.VI.1987, A. Barkalov (1 ♂, 4 ♀♀, ISEA); Seminsky pass (51.06°N 85.59°E), 1650 m, 27–30.VI.2016, N. Vikhrev (1 ♂, ZMUM); Seminsky pass, River Sarlyk (51.11°N 85.60°E), 1200 m, 28–30.VI.2016, N. Vikhrev (1 ♂, ZMUM); Tigirek Vill. (51.13°N 83.05°E), 550 m, 9–12.VII.2014, I. Shamshev (1 ♂, 7 ♀♀, ZISP); Ust-Koksa (50.27°N 85.61°E), 28.VI.–4.VII.2007, O. Kosterin (1 ♀, ZMUM); Ust-Sema env., (51.6°N 85.8°E), 21–26.VI.2016, N. Vikhrev (1 ♂, ZMUM); **Arkhangelsk Oblast:** Arkhangelsk (64.546°N 40.567°E), 4.VIII.2010, D. Gavryushin (1 ♂, ZMUM); Nar'yan-Mar env. (67.631°N 52.985°E; 67.642°N 53.196°E), 6–9.VII.2008, N.E. Vikhrev, A.L. Ozerov (9 ♂♂, 5 ♀♀, ZMUM); Nenetsky Nature Reserve, cordon "Bol'shoy Gusinets" (68.175°N 53.645°E), 9–10.VII.2008, A.L. Ozerov (3 ♂♂, ZMUM); Solovetskiy I. (65.080°N 35.686°E), 26.VII.1975, Gorodkov (1 ♂, ZISP); Solvychehovsk (61.342°N 46.913°E), 12.VIII.2010, D. Gavryushin (1 ♂, ZMUM); the lower reaches of the River Pechora (68.334°N 53.304°E), 11.VII.2008, A.L. Ozerov (1 ♂, ZMUM); the lower reaches of the River Pechora, Kashin I. (68.242°N 53.856°E), 10.VII.2008, A.L. Ozerov (2 ♂♂, ZMUM); **Astrakhan Oblast:** Ikryanoe (46.112°N 47.767°E), 10.V.2010, K. Tomkovich (1 ♂, ZMUM); **Bashkiria:** Abzakovo env., River Karan (53.84°N 58.566°E), 551 m, 17.VII.2015, D. Gavryushin (1 ♂, ZMUM); Bashkirskiy Nature Reserve (53.420°N 57.935°E), 7.VIII.1975, Gorodkov (3 ♂♂, ZISP); Levaya Belaya Station (54.708°N 55.885°E), 18.VIII.1975, Gorodkov (2 ♂♂, ZISP); Urman (54.878°N 56.877°E),

19.VIII.1975, Gorodkov (1 ♀, ZISP); **Karachay–Cherkessia:** Dombay, Valley of the River Alibek (43.291°N 41.594°E), 2500 m, 1.VII.1982, Nartshuk (1 ♂, ZISP); **Karelia:** Primorsky env. (66.549°N 33.133°E, 66.555°N 33.006°E, 66.552°N 33.100°E), 3–5.VII.2010, A.L. Ozerov (3 ♂♂, ZMUM); **Krasnodar Krai:** Agurskoe gorge (43.548°N 39.814°E), 25.IV.2008, A.L. Ozerov (1 ♀, ZMUM); Lagonaki (44.009°N 39.994°E), 1700 m, 11–12.VII.2008, O. Kosterin (1 ♀, ZMUM); Lagonaki (44.01°N 40.02°E), 1500–1700 m, 5–7.V.2013, N. Vikhrev (3 ♂♂, ZMUM); Lagonaki (44.107°N 40.020°E, 1450 m; 44.093°N 40.019°E, 1725 m), 15–17 and 26–28.VI.2009, K. Tomkovich (6 ♂♂, ZMUM); Lakes Khmelevskie (43.716°N 40.201°E), 10.VII.2008, O. Kosterin (1 ♂, ZMUM); Sochi, Estosadok env. (43.691°N 40.366°E), 20–22.VI.2008, K. Tomkovich (3 ♂♂, ZMUM); Sochi, Mt. Akhvan (43.523°N 39.879°E), 22.X.2006, N. Vikhrev (2 ♂♂, ZMUM); Sochi/Adler (43.476°N 39.906°E), 21.X.2010, D. Gavryushin (1 ♂, 1 ♀, ZMUM); Sochi/Khosta (43.523°N 39.879°E), 15.V.2011, D. Gavryushin (1 ♂, ZMUM); Teberdinskiy Nature Reserve, Valley of the River Teberda (43.405°N 41.721°E), 11.VII.1982, Nartshuk (1 ♂, ZISP); Vostochnoe (53.573°N 92.128°E), 19.V.1923, Zhelokhovtsev (1 ♀, ZMUM); Arkhyz (43.564°N 41.280°E), 1450 m, 12.IX.1965, Gorodkov (1 ♂, ZISP); Karachayevsk (43.778°N 41.915°E), 900 m, 26.IV.1964, Gorodkov (1 ♂, ZISP); Teberdinskiy Nature Reserve (43.405°N 41.721°E), 25.IV. and 3.VI.1964, Gorodkov (3 ♂♂, ZISP); **Krasnoyarsk Krai:** National Park “Stolby” (55.887°N 92.817°E), 29.VIII.1973, Gorodkov (1 ♂, ZISP); **Kursk Oblast:** Oboyan’ (51.191°N 36.312°E), 20–21.VII.2007, A.L. Ozerov (1 ♂, ZMUM); **Leningrad Oblast:** Luga (ca. 58.73°N 29.84°E), 11.V.1954, 27.VI.1955, A. Stackelberg (2 ♂♂, ZISP); Peterhof (59.883°N 29.896°E), 21.V.1959, V. Sychevskaya (2 ♂♂, ZMUM); Rakovich (58.650°N 29.836°E), 15.VI. and 1.IX.1897, Pleske (1 ♂, 1 ♀, ZISP); Saint Petersburg (59.934°N 30.359°E), 29.VIII.1995, Gorodkov (6 ♂♂, 1 ♀, ZISP); Saint Petersburg (59.934°N 30.359°E), 31.VII.1995, Gorodkov (1 ♂, ZISP); Sergievka (59.893°N 29.839°E), 25.IX.1930, Burakova (5 ♂♂, ZISP); Shuvalovo (60.047°N 30.283°E), 27.VI.1897, Yakobson (1 ♂, ZISP); same place, 19.V.1954, Razhev (2 ♂♂, ZISP); Tolmachevo (58.856°N 29.895°E), 7.VIII.1935, Rohendorf (1 ♀, ZISP); **Moscow and Moscow Oblast:** Abramtsevo (56.23°N 37.956°E), 31.V.1958, 16.VI.1959, E.S. Smirnov (2 ♀♀, ZMUM); Andreevskoe (55.967°N 35.609°E, 55.978°N 35.588°E), 28.IV. and 14.V.2007, 6.V.2009, A.L. Ozerov (4 ♂♂, 1 ♀, ZMUM); Bol’shevo (55.925°N 37.868°E), 7.V.1930, N. Violovich (1 ♂, 1 ♀, ZMUM); Burtsevo (55.981°N 35.597°E, 55.975°N 35.586°E), 2–3.VI.2006, 10.X.2010, A.L. Ozerov (2 ♂♂, ZMUM); Dmitrov env. (56.316°N 37.725°E), 16.V. and 21.VI.2007, 10.V.2008, N. Vikhrev (2 ♂♂, 2 ♀♀, ZMUM); Golitsyno (55.649°N 37.011°E), 12, 13 and 17.V.1979, 17 and 24.V.1981, 26.VI.1982, A. Shatalkin (1 ♂, 5 ♀♀, ZMUM); Izmaylovo (55.786°N 37.835°E), 15.V.1983, 3 and 29.V.1986, A.L. Ozerov (5 ♂♂, 2 ♀♀, ZMUM); Kostino (56.305°N 37.714°E), 7.V.2010, D. Gavryushin (1 ♂, ZMUM); Luzhki (55.833°N 37.550°E), 29.IV.2000, A. Gusakov (1 ♂, ZMUM); Molzhaninovka (55.936°N 37.385°E), 13.V.2010, A.L. Ozerov (1 ♂, ZMUM); Ozhigovo (55.455°N 36.882°E), 27.IV.2008, 9.V.2009, D. Gavryushin (2 ♂♂, 1 ♀, ZMUM); Podol’sk (45.448°N 37.563°E), 10–15.IV.2010, K. Tomkovich (1 ♂, ZMUM); Pripuschaev (56.702°N 37.681°E), 8–10.IX.2008, K. Tomkovich (2 ♂♂, ZMUM); Serpuhkov env. (54.924°N 37.409°E), 1.X.1901, G.A. Kozhevnikov (1 ♂, ZMUM); Shchukino (55.798°N 37.478°E), 19.IX.2006, N. Vikhrev (1 ♂, ZMUM); Zelenograd (55.986°N 37.202°E), 19.VI.1998, 15.V.1999, A. Gusakov (2 ♂♂, 1 ♀, ZMUM); Zvenigorod env. (55.700°N 36.722°E), 24.V.1981, 1–4.V.1996, A.L. Ozerov, K. Tomkovich (12 ♂♂, 1 ♀, ZMUM); **Nizhegorod Oblast:** Dzerzhinsk (56.21°N 43.62°E), 18.VIII.2009, N. Vikhrev (1 ♂, ZMUM); **North Ossetia – Alania:** Alagir env. (43.015°N 44.224°E), 18 and 19.V.1989, A.L. Ozerov (1 ♂, 2 ♀♀, ZMUM); Bakhty-Lapparyrag ridge (42.938°N 44.287°E), 1770 m, 18.V., 1 and 13.VI.1989, 29–30.VI.1990, A.L. Ozerov (6 ♂♂, 4 ♀♀, ZMUM); Buron env. (43.793°N 43.922°E), 7.VI.1989, A.L. Ozerov (1 ♂, ZMUM); Tsey (43.793°N 43.922°E), 16.IX.1989, A. Shatalkin (2 ♀♀, ZMUM); **Novgorod Oblast:** Malaya Vishera (58.849°N 32.209°E), 9.V.1975, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); Spas-Nereditsa (58.497°N 31.312°E), 22.VI.1975, Gorodkov (1 ♂, 1 ♀, ZISP); **Novosibirsk Oblast:** Orlovka env. (59.93°N

76.33°E), 16.VII.2015, O. Kosterin (1 ♂, ZMUM); Novosibirsk (54.842°N 83.114°E), 9–10.IX.2009, O. Kosterin (2 ♂♂, ZMUM); Novosibirsk (55.52°N 83.24°E), 22.V.2011, O. Kosterin (1 ♂, ZMUM); Academgorodok (54.87°N 83.05°E), 18–19.VI.2016, N. Vikhrev (1 ♂, ZMUM); **Pskov Oblast:** “Pokrovskaya Novor[zhevskogo] u[ezda] Pskov[skoy] g[ubernii]” (57.242°N 28.431°E), 15.VII.1915, N. Kuznetsov (1 ♀, ZISP); **Rostov Oblast:** Taganrog (47.226°N 38.898°E), 6 and 8.IX.1927, C. Ahnger (3 ♂♂, ZISP); **Ryazan’ Oblast:** Gremyachka (53.487°N 39.515°E), 5.IX.1904, A. Semenov (1 ♀, ZISP); Zalesnoe (54.969°N 41.327°E), 21–26.VII.2013, N. Vikhrev (1 ♂, ZMUM); **Saratov Oblast:** Saratov env. (51.558°N 46.018°E), 5.VIII.1917, A. Stackelberg (1 ♂, ZISP); **Smolensk Oblast:** National Park “Smolenskoe poozer’e” (55.511°N 31.839°E), 24.VII., 3–11.VIII.1991, Zlobin (3 ♂♂, 1 ♀, ZISP); **Tver’ Oblast:** Boglaevo (58.155°N 34.797°E), 8–31.X.2009, A.G. Korobkov (1 ♂, ZISP); **Tyumen’ Oblast:** Novyy Urengoy (66.087°N 76.513°E), 30.VII.1982, Gorodkov (1 ♂, ZISP); Salekhard (66.53°N 66.6135°E), 3.VIII.1991, Gorodkov (1 ♂, ZISP); **Ulyanovsk Oblast:** Radishchevo (55.836°N 48.367°E), 2–5.V.2011, K. Tomkovich (1 ♂, ZMUM); **Volgograd Oblast:** Serafimovich env. (49.57°N 42.6°E), 28–29.IV.2013, N. Vikhrev (1 ♂, ZMUM); **Vologda Oblast:** Belozersk env. (60.029°N 37.791°E), 13.VI.1964, Borodin (2 ♀♀, ZMUM); **Voronezh Oblast:** Voronezh env. (51.695°N 39.151°E), 3.V.2012, Kornev (1 ♂, ZISP); Voronezh env., Shilovskiy Forest (51.601°N 39.181°E), 7.IX.1965, Negrobov (2 ♂♂, 1 ♀, ZISP); **Yaroslavl’ Oblast:** Yaroslavl’ (57.632°N 39.836°E), 1.VI.1988, M.A. Klepikov (1 ♂, ZISP).

**DESCRIPTION.** Male. Female. Body-length 4.9–8.8 mm.

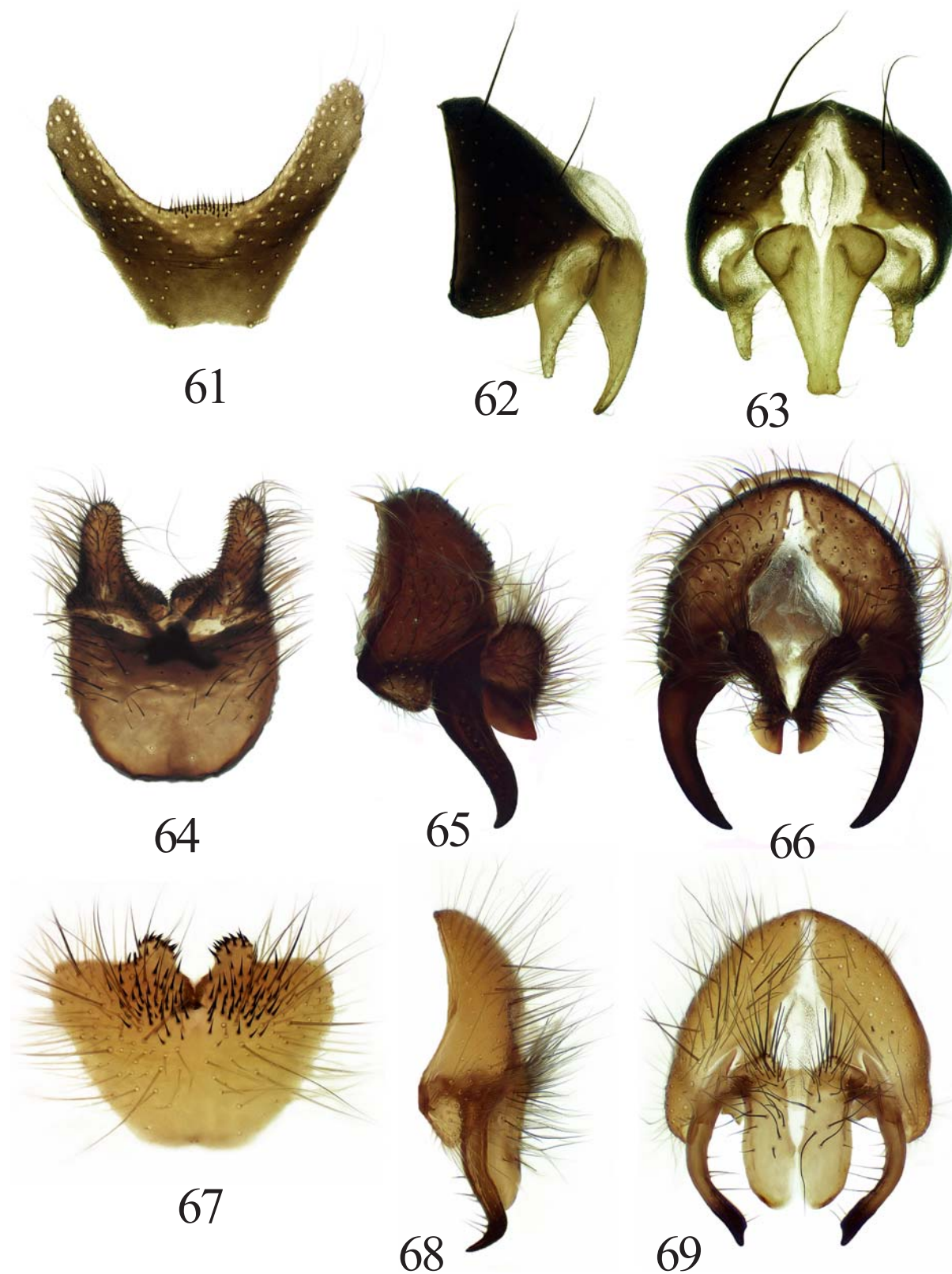
**Head.** Frontal vitta yellow or reddish-yellow, matt; fronto-orbital plate blackish, greyish dusted. Face, parafacial and gena yellow, with delicate golden reflection. Postcranium black in upper third or half and yellow in lower part. 3 orbital and 4–5 frontal setae present. Antenna reddish-yellow. Postpedicel approximately twice as long as wide. Arista pubescent, the longest hairs approximately equal to 1/3–1/2 width of postpedicel. Palpus yellow.

**Thorax** black in ground colour, greyish dusted, but usually postpronotal lobe yellowish. Acrostichals not differentiated from the other hairs on scutum or setulose in two rows, but prescutellar pair usually stronger than the other acrostichals, dorsocentrals 2+3, intralalars 1+2, supra-alars 1+2, postpronotals 2. Katepisternum posteriorly with yellow hairs and setulae, but without black setulae. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs** yellow. Fore femur covered with hairs, but without conspicuous setae. Fore tibia with 2 dorsal, 0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with a row of anterior/anterodorsal setae, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 2–3 posterodorsal, 1 anterodorsal setae and a ring of apicals. Hind femur with a row of anterodorsal setae in both sexes. Hind tibia with 3 anterodorsal, 3 posterodorsal, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anteroventral setae.

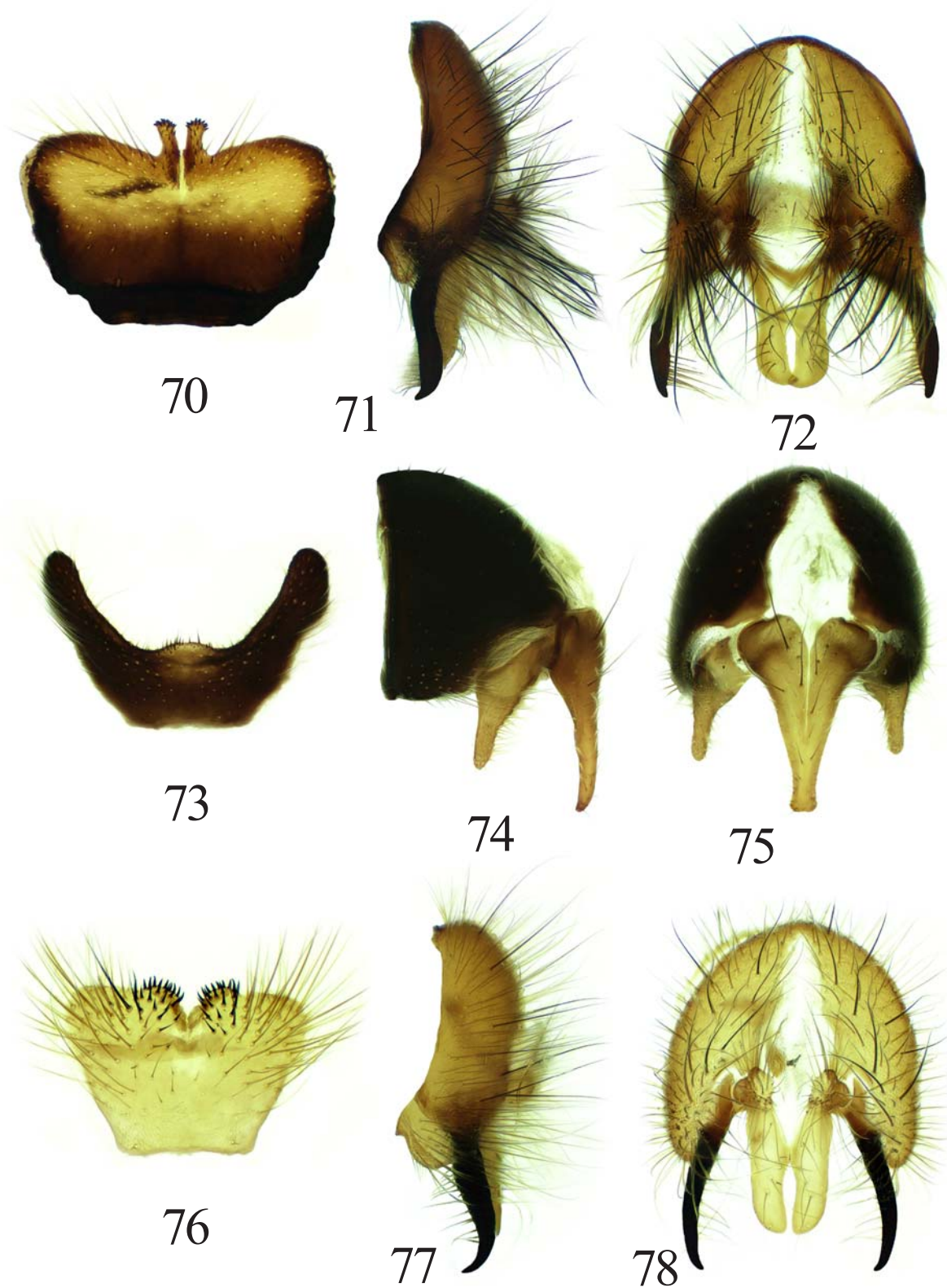
**Wing** tinged with brownish; crossveins r-m and dm-cu darkened.

**Abdomen** from yellow to dark brownish, delicately greyish dusted, covered with not long hairs, in female tergites with black marginal setulae.



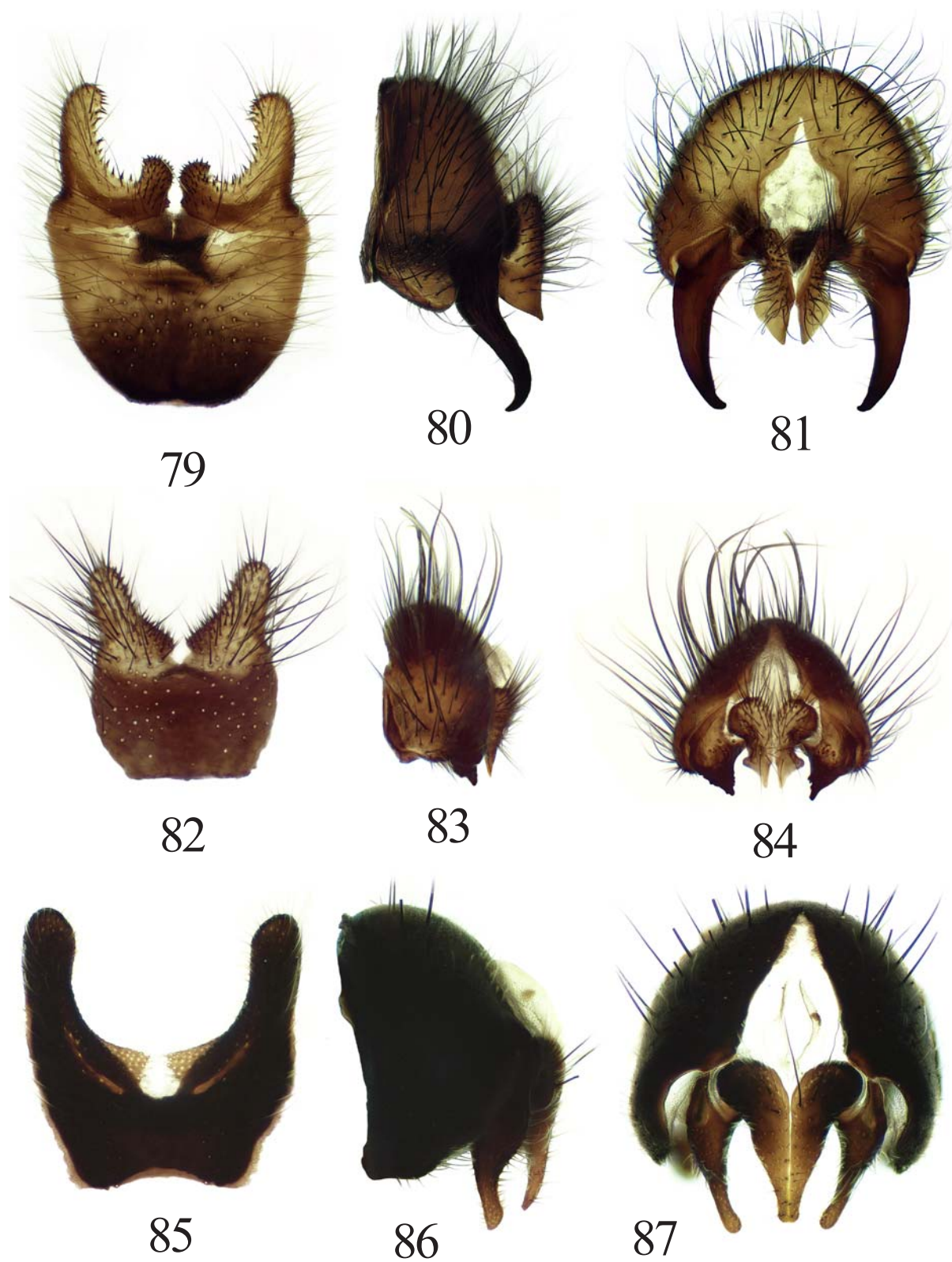
Figs 61–69. *Scathophaga decipiens* (Haliday) (61–63), *S. exalata* Ozerov (64–66) and *S. furcata* (Say) (67–69): 61, 64, 67 — male sternite 5; 62, 65, 68 — epandrium, cercal plate and surstyli, lateral view; 63, 66, 69 — same, dorsal view. 61–63 — after Ozerov & Krivosheina, 2020, figs 4, 6, 7.

Рис. 61–69. *Scathophaga decipiens* (Haliday) (61–63), *S. exalata* Ozerov (64–66) и *S. furcata* (Say) (67–69): 61, 64, 67 — стернит 5 самца; 62, 65, 68 — эпандрий, церки и сурстили, сбоку; 63, 66, 69 — то же, сверху. 61–63 — after Ozerov & Krivosheina, 2020, figs 4, 6, 7.



Figs 70–78. *Scathophaga incola* (Becker) (70–72), *S. incompleta* Ozerov et Krivosheina (73–75) and *S. inquinata* (Meigen) (76–78): 70, 73, 76 — male sternite 5; 71, 74, 77 — epandrium, cercal plate and surstyli, lateral view; 72, 75, 78 — same, dorsal view. 73–75 — after Ozerov & Krivosheina, 2020, figs 10, 12, 13.

Рис. 70–78. *Scathophaga incola* (Becker) (70–72), *S. incompleta* Ozerov et Krivosheina (73–75) и *S. inquinata* (Meigen) (76–78): 70, 73, 76 — стернит 5 самца; 71, 74, 77 — эпандрий, церки и сурстили, сбоку; 72, 75, 78 — то же, сверху. 73–75 — по Ozerov & Krivosheina, 2020, figs 10, 12, 13.



Figs 79–87. *Scathophaga intermedia* (Walker) (79–81), *S. karelica* Ozerov (82–84) and *S. lapponica* (Ringdahl) (85–87): 79, 82, 85 — male sternite 5; 80, 83, 86 — epandrium, cercal plate and surstyli, lateral view; 81, 84, 87 — same, dorsal view. 82–84 — after Ozerov, 2013, figs 14–16.

Рис. 79–87. *Scathophaga intermedia* (Walker) (79–81), *S. karelica* Ozerov (82–84) и *S. lapponica* (Ringdahl) (85–87): 79, 82, 85 — стернит 5 самца; 80, 83, 86 — эпандрий, церки и сурстили, сбоку; 81, 84, 87 — то же, сверху. 82–84 — по Ozerov, 2013, figs 14–16.

Male sternite 4 approximately 2 times as long as wide (Fig. 25); sternite 5 with a pair of very small apical median processes, covered with spinules (Fig. 76). Epandrium, cercal plate and surstyli as in Figs 77, 78.

DISTRIBUTION. Russia: forest zone of European part and Siberia. — Europe (widespread). Common.

*Scathophaga intermedia* (Walker, 1849)  
Figs 26, 79–81.

*intermedia* Walker, 1849: 980 (*Scatophaga*). Type-locality: “Nova Scotia” (Canada).

*hadleyi* Ozerov, 2013: 88 (*Scathophaga*). Type-locality: Tserkovnaya Bay (43.75°N 146.70°E), Shikotan I. (Russia).

REMARK. The species was registered for Russia from the Far East by Gorodkov [1986: 31, on “sea coast”, but without specifying the place of collecting] and by Ozerov & Krivosheina [2014: 217].

MATERIAL EXAMINED. **Kamchatka Krai:** Apuka env. (60.443°N 169.602°E), 19.VIII.1959, Gorodkov (3 ♀♀, ZISP); Commander Islands, Mednyy I. (ca 54.790°N 167.578°E), 29.VII., VII.–VIII.1932, I. Barabash (2 ♂♂, 1 ♀, ZISP); Commander Islands, Nikol’skoe (55.196°N 165.998°E), 9.IX.1959, Gorodkov (6 ♂♂, 5 ♀♀, ZISP); Commander Islands, Preobrazhenskoe (54.790°N 167.578°E), 5.IX.1959, Gorodkov (21 ♂♂, 28 ♀♀, ZISP); Nizhne–Kamchat.[sky ostrog] (56.247°N 162.017°E), 15.VIII.1909, P. Shmidt (1 ♀, ZISP); Ust’-Kamchatsk (56.229°N 162.469°E), 10.VIII.1930, E. Gur’yanova (1 ♂, ZISP); **Khabarovsk Krai:** Bulgino env. (59.371°N 143.147°E), 29.VIII.1987, Gorodkov (1 ♂, ZISP); Imperatorskaya Gavan’ [= Sovetskaya Gavan’] (48.957°N 140.281°E), IX.1908, V. Artem’ev (8 ♂♂, 2 ♀♀, ZISP); Cape Pronge (52.853°N 141.225°E), 10–11.IX.1911, Derbek (7 ♂♂, 6 ♀♀, ZISP); **Magadan Oblast:** Evensk (61.916°N 159.234°E), 8.IX.1987, Gorodkov (10 ♂♂, 3 ♀♀, ZISP); Koni peninsula, cordon “Mys Plosky” (59.15°N 151.63°E), 2–8.VII.2017, Sorokina (4 ♂♂, 1 ♀, ZISP); Koni peninsula, Cape Plosky (59.161°N 151.643°E), 16.VII. and 10.IX.2015, 21.VIII.2017, N. Tridrikh (35 ♂♂, 12 ♀♀, ZMUM); **Sakhalin Oblast:** Iturup I., Rybaki (45.209°N 147.851°E), 23.VI.1968, V. Richter (1 ♂, 1 ♀, ZISP); Kunashir I., Dubovoe (43.766°N 145.499°E), 10.VI.1973, 20.VII.1973, Kerzhner (2 ♀♀, ZISP); Kunashir I., Golovino (43.737°N 145.517°E), 27.IX.1968, Gorodkov (1 ♀, ZISP); Paramushir I., Severo-Kuril’sk (50.679°N 156.132°E), 7–12.IX.1968, Gorodkov (28 ♂♂, 22 ♀♀, ZISP); same place, 18.VIII.1978, A. Zinov’ev (28 ♂♂, 22 ♀♀, ZISP); Sakhalin I., Rakuma [now =Antonovo] (47.166°N 142.083°E), 17.IX.1946, Strelkov (3 ♂♂, 8 ♀♀, ZISP); Shikotan I., Malokuril’sk (43.869°N 146.829°E), 21.IX.1968, Gorodkov (2 ♀♀, ZISP); Shikotan I., Tserkovnaya Bay (43.75°N 146.70°E), 16.VIII.1973, Kerzhner (1 ♀, ZISP); same place, 25–30.IX.2012, Yu. Sundukov (2 ♀♀, ZMUM); Yankicha I. (47.517°N 152.811°E), 16.VII.1958, Violovich (2 ♀♀, ZISP); Zelenyy I. (43.51°N 146.137°E), 2.VIII.1955, Violovich (8 ♂♂, 20 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 217, including *S. hadleyi*].

DESCRIPTION. Male. Female. Body-length 5.8–9.8 mm.

Thorax, abdomen and legs of most males, especially large exemplares, covered with dense, long, blackish hairs. Females have hairs less dense and shorter.

**Head.** Frontal vitta reddish-yellow, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena yellow, with whitish or golden reflection. Postcranium black. 3 orbital and 4–5 frontal setae present. Scapus and pedicel reddish-yellow or brownish. Postpedicel black, approximately 2 times as long as wide. Arista nearly bare, longest

hairs not exceeding greatest diameter of arista. Palpus yellow.

**Thorax** black, densely greyish dusted, with dark stripes and fuzzy spots on scutum and scutellum. Acrostichals in two rows, prescutellar pair stronger than the other acrostichals, dorsocentrals 4+4, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae, also with a pair of discal setulae.

**Legs** densely greyish dusted. All coxae black; all femora from black to yellow, as a rule fore femur always blackish; all tibiae and tarsi yellow. Male legs covered with long hairs, clearly visible setae on mid and hind tibiae only. Female fore femur also without conspicuous setae. Fore tibia with 2–3 anterodorsal, 2 posterodorsal, 1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with a row of anterodorsal setae, also with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 3 posterodorsal, 2 anterodorsal, 1 ventral, 1 posterior setae and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 4–5 anterodorsal, 4–5 posterodorsal, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral, and 1 apical ventral setae.

**Wing** tinged with brownish; crossveins r-m and d-m not darkened.

**Abdomen** black, densely greyish dusted, covered with dense hairs in male; in female tergites with black marginal setulae. Male sternite 4 about twice as long as wide (Fig. 26); sternite 5 with filiform lateral lobes and a pair of median processes (Fig. 79). Epandrium, cercal plate and surstyli as in Figs 80, 81.

DISTRIBUTION. Russia: Pacific coast. — North America.

*Scathophaga karelica* Ozerov, 2013  
Figs 27, 82–84, 139.

*karelica* Ozerov, 2013: 83 (*Scathophaga*). Type-locality: Poyakonda (66.589°N 32.828°E) (Russia: Karelia).

REMARK. The species is known from three males from Karelia only [Ozerov, 2013: 83].

DESCRIPTION. Male. Body-length 5.8–6.2 mm.

**Head.** Frontal vitta reddish-yellow in lower part and blackish around ocellar triangle, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena reddish-yellow, with whitish reflection. Postcranium black. 3 orbital and 5–6 frontal setae present. Antenna black. Postpedicel approximately 2 times as long as wide. Arista bare. Palpus yellow.

**Thorax** black, greyish dusted. Scutum with double brownish line down the middle, and an obscure one on each side. Acrostichals in two rows, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs.** Coxae, trochanters, femora black, greyish dusted; tibiae and tarsi brownish. Fore femur also without conspicuous setae. Fore tibia with 2 dorsal, 2 posterodorsal, 1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with 2–5 anterodorsal setae in apical half, also with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 3 posterodorsal, 2 anterodorsal, 1–2 ventral, 1–2 posterior setae and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 3 anterodorsal, 3 posterodorsal, 2–3 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral, and 1 apical ventral setae.

**Wing** tinged with brownish; crossveins r-m and d-m not darkened.

**Abdomen** black, greyish dusted, covered with not long hairs. Tergites 6–8 and epandrium covered with black setae (Fig. 139). Sternite 4 about 1.5 times as long as wide (Fig. 27); sternite 5 as in Fig. 82. Surstyli very short (Figs 83, 84).

Female unknown.

**NOTE.** All flies were collected on stones in littoral zone of White Sea.

**DISTRIBUTION.** Russia: Karelia.

*Scathophaga lapponica* (Ringdahl, 1920)

Figs 10–12, 28, 85–87, 133.

*lapponica* Ringdahl, 1920: 39 (*Coniosternum*). Type-locality: “Kiruna in Lappland” (Norrbotten, Sweden).

**REMARK.** This species was recorded in Russia from Kola Peninsula [Gorodkov, 1970: 454], Siberia [Gorodkov, 1986: 32, without specifying the place of collecting], Commander Islands [Gorodkov, 1986: 32] and Amur Oblast [Ozerov, Krivosheina, 2014: 217].

**MATERIAL EXAMINED.** **Altai:** Kosh-Agach, plato Ukok, 2400 m, surrounding area of Lake Muzdy-Bulak (49.26°N 87.65°E), 10.VII.2008, A. Barkalov (1 ♂, 1 ♀, ISEA and ZMUM); Shebalino env. (51.57°N 85.58°E), floodplain of the River Sema s, 462 m, 27–30.VI.2009, V. Sorokina (2 ♀♀, ISEA); **Amur Oblast:** Bol'shoy Never (53.978°N 124.150°E), 7–8.IX.1974, Gorodkov (14 ♂♂, 8 ♀♀, ZISP); **Arkhangelsk Oblast:** Belush'e env. (66.89°N 47.61°E), 24.VIII.1978, Gorodkov (1 ♂, ZISP); Mezen' (65.85°N 44.24°E), 27.VIII.1978, Gorodkov (1 ♀, ZISP); Nizhnaya Peshha (66.751°N 47.760°E), 22 and 23.VIII.1978, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); **Buryatia:** Khargun, 6 km E of Kyren (51.683°N 102.132°E), Sayany, 11.VII.1965, Gorodkov (1 ♀, ZISP); Mondy env. (51.675°N 100.992°E), 26.VII.1965, Gorodkov (1 ♂, ZISP); **Kamchatka Krai:** Commander Islands, Nikol'skoe (55.196°N 165.998°E), 14.IX.1959, Gorodkov (3 ♂♂, ZISP); **Krasnoyarsk Krai:** Khatanga (71.975°N 102.482°E), 24–26.VIII.1970, V. Zherikhin & I. Sukacheva (1 ♂, ZMUM); Khatanga (71.981°N 102.483°E), 22–26.VIII.1971, Gorodkov (8 ♂♂, 8 ♀♀, ZISP); Norilsk (69.339°N 88.220°E), 26.VIII.1975, Gorodkov (1 ♂, ZISP); Taymyr, Taymyrskiy Nature Reserve, cordon Ary-Mas (72.5°N 101.94°E), 14 m, 9–22.VII.2010, A. Barkalov (1 ♂, ZMUM); **Magadan Oblast:** Chaybukha (61.801°N 160.413°E), 2.IX.1987, Gorodkov (1 ♂, 1 ♀, ZISP); Gizhiga (61.948°N 160.377°E), 5.IX.1987, Gorodkov (4 ♂♂, 4 ♀♀, ZISP); **Sakhalin Oblast:** Paramushir I., Severo-Kuril'sk (50.679°N 156.132°E), 5.IX.1968, Gorodkov (1 ♂, ZISP); **Yakutia:** Chokurdakh (70.618°N 147.895°E), 19–20.VIII.1971, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); Deputatskiy (69.319°N 139.966°E), 6–7.VIII.1974, Gorodkov (14 ♂♂, 11 ♀♀, ZISP); Kular (70.573°N 134.271°E), 2–4.VIII.1974, Gorodkov (10 ♂♂, 6 ♀♀, ZISP); left bank of the River Yana opposite of Verkhoyansk (67.550°N

133.359°E), 23.VII.1974, Nartshuk (1 ♂, ZISP); Mikhaylovka, 60 km NE of Amga (61.214°N 132.681°E), 12–24.VIII.1985, 23.VII.1986, Maksimova & Sivtsov (4 ♀♀, ZISP); same place, 20.VII.1986, Bagachanova (1 ♂, ZISP); Ust'-Kuyga (70.000°N 135.562°E), 26–28.VII.1974, Gorodkov (10 ♂♂, 8 ♀♀, ZISP); Zhigansk (66.766°N 123.372°E), 15.VIII.1973, Gorodkov (4 ♂♂, 3 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 217].

**DESCRIPTION.** Male. Female. Body-length 6.0–6.8 mm.

**Head.** Frontal vitta yellow or reddish-yellow, with delicate whitish reflection; fronto-orbital plate blackish, densely greyish dusted. Face, parafacial and gena yellow, with whitish reflection. Postcranium blackish. 3 orbital and 4–5 frontal setae present. Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus yellow.

**Thorax** black, densely greyish dusted, with dark stripes and fuzzy spots on scutum and scutellum. Acrostichals not differentiated from the other hairs on scutum, dorsocentrals 2+3, intra-alars 1+(1–2), supra-alars 1+2, postpronotals 2. Anepimeron bare. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs.** All coxae black, greyish dusted. All femora greyish dusted, black, except yellow apex. All tibiae and all tarsi yellow. Fore femur covered with whitish hairs, with 3–4 dorsal setae or setulae in apical third. Fore tibia with 2–4 dorsal, 2–4 posterodorsal, 1–2 posterior, 1 preapical dorsal, 1 preapical anterodorsal, and 1 posterior apical setae. Mid femur with a row of anterior setae, 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1–2 anterodorsal, 1–2 posterodorsal, 0–1 anteroventral, 0–1 posterior setae, also with a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2–3 posterodorsal, 2–3 anterodorsal, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae.

**Wing** clear; crossveins r-m and d-m not darkened.

**Abdomen** black, densely pale grey dusted, covered with short whitish hairs; tergites 2–6 each with a row of marginal setulae in both sexes. Male sternite 4 about twice as long as wide (Fig. 28). Male sternite 5 with long narrow lateral lobes (Fig. 85). Cercal plate slightly shorter than surstyli (Figs 86, 87). Aedeagus as in Fig. 133. End of female abdomen as in Figs 10–12.

**DISTRIBUTION.** Russia: north of European part, and from northern Siberia east to Magadan Oblast and Kamchatka (Commander Islands), south to Altay and Amur Oblast. — North America; widely distributed, but is not a common species.

*Scathophaga litorea* (Fallén, 1819)

Figs 6, 8, 13, 29, 88–90, 138.

*litorea* Fallén, 1819: 4 (*Scatomyza*). Type-locality: “ad litus maris balthici” (Sweden).

*nigripes* Holmgren, 1869: 34 (*Scatomyza*). Type-locality: “Beer-en Eiland... Spetsbergia ad Nordfjorden” (Bear Island and Spitsbergen, Norway).

*islandica* Becker, 1894: 175 (*Scatophaga*). Type-locality: “Island” [= Iceland].

*stuxbergii* Holmgren, 1880: 24 (*Scatomyza*). Type-locality: not given [?Russia: Novaya Zemlya].



*rufiventris* Villeneuve, 1917: 308 (*Scathophaga*). Type-locality: "Gatteville, ... Barfleur, côté normande" (France).

REMARK. The species was recorded in Russia from north of European part (coast of Baltic, Barents, White and Pechora Seas [Gorodkov, 1970: 451, 1986: 32; Engelmark, 1999: 158, 159], Kamchatka [Hendel, 1930: 2, as *S.islandica*], Pacific coast from Chukotka south to Kuril Islands [Ozerov, Krivosheina, 2014: 218].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** Kolguev I., Bugrino (68.783°N 49.306°E), 21.VIII.1970, Gorodkov (1 ♂, 1 ♀, ZISP); Novaya Zemlya, Krestovaya Bay (74.128°N 55.534°E), 31.VIII.1921, Nazarov (1 ♂, ZMUM); Novaya Zemlya, Pukhovaya Bay (72.645°N 52.773°E), 14.IX.1921, Nazarov (1 ♂, ZMUM); Solovetskie Islands, Bol'shoy Solovetsky I. (65.090°N 35.639°E), 17.VIII.1963 (1 ♂, ZISP); **Chukotka:** 5 km N of Egvekinot (66.395°N 179.132°W), 26.VII.1963, Gorodkov (12 ♂♂, ZISP); Meynypil'gyno env. (62.555°N 177.063°E), 29.VII.2015, P.S. Tomkovich (1 ♂, ZMUM); Provideniya Bay (64.412°N 173.307°W), 14.IX.1911, Starokad (1 ♂, ZISP); **Kamchatka Krai:** Commander Islands, Mednyy I. (ca 54.790°N 167.578°E), 1.VII.1958, Violovich (1 ♂, ZISP); Commander Islands, Nikol'skoe (55.196°N 165.998°E), 9.IX.1959, Gorodkov (4 ♂♂, ZISP); Korf (60.376°N 166.023°E), 9.IX.1973, Negrobov (1 ♂, ZISP); Petropavlovsk-Kamchatskiy (53.013°N 158.657°E), 30–31.VIII.1969, Gorodkov (14 ♂♂, 6 ♀♀, ZISP); the mouth of the River Kygchik (ca. 53.411°N 156.742°E), 18.VIII.1911, Soldatov (2 ♂♂, 1 ♀, ZISP); Ust'-Kamchatsk (56.229°N 162.469°E), 10.VIII.1930, E. Gur'yanova (1 ♂, ZISP); **Karelia:** Kartesh (66.33°N 33.64°E), 18 and 22.VII.1975, Gorodkov (1 ♂, 1 ♀, ZISP); Keret' I. (66.313°N 33.719°E), 8.IX.1984, Gorodkov (3 ♂♂, ZISP); Poyakonda (66.589°N 32.828°E), 30.VI. and 7.VII.2010, A.L. Ozerov (28 ♂♂, 16 ♀♀, ZMUM); Primorsky env. (66.549°N 33.133°E, 66.536°N 33.087°E, 66.552°N 33.100°E), 1–9.VII.2010, A.L. Ozerov (18 ♂♂, 9 ♀♀, ZMUM); Ryazhkov I. (67.017°N 32.556°E), 12.VI.1992, E.V. Shutova (2 ♂♂, ZMUM); Voron'ya Guba (66.937°N 32.472°E), 21.VIII.1982, Erykova (1 ♂, ZISP); **Khabarovsk Krai:** Ochotsk env. (59.366°N 143.229°E), 25.VIII.1987, Gorodkov (13 ♂♂, 3 ♀♀, ZISP); **Magadan Oblast:** Evensk (61.916°N 159.234°E), 8.IX.1987, Gorodkov (17 ♂♂, ZISP); Gizhiga (61.948°N 160.377°E), 5 and 6.IX.1987, Gorodkov (1 ♂, 1 ♀, ZISP); Koni Peninsula, cordon "Mys Ploskiy" (59.15°N 151.63°E), 30.VI. and 4–7.VII.2017, Sorokina (3 ♂♂, ZISP); Koni Peninsula, Cape Plosky (59.161°N 151.643°E), 16.VII.2015 and 3.VII.2016, N. Tridrikh (8 ♂♂, 1 ♀, ZMUM); **Murmansk Oblast:** Aleksandrovsk [= Pol'yarnyy] (69.198°N 33.456°E), 12.VI.1921, Zhelokhovtsev (1 ♂, ZMUM); same place, 17.IX.1928, Cheburova (39 ♂♂, 21 ♀♀, ZMUM); Dal'nie Zelentsy (69.117°N 36.062°E), 6 and 9.VIII.1981, Gorodkov (4 ♂♂, 1 ♀, ZISP); Kashkarantsy (66.340°N 36.031°E), 15.VIII.1995, Gorodkov (1 ♂, ZISP); Murmansk (68.918°N 33.059°E), 9–13.VIII.2010, N. Vikhrev (4 ♂♂, ZMUM); Olenitsa (66.471°N 35.348°E), 15.VIII.1995, Gorodkov (1 ♂, ZISP); Por'ya Bay (66.764°N 33.669°E), 12.VI.1992, E.V. Shutova (3 ♂♂, 1 ♀, ZMUM); River Kola (68.886°N 33.0236°E), 19.VII.2011, A. Ozerov, D. Gavryushin (8 ♂♂, 1 ♀, ZMUM); Sosnovka (66.507°N 40.583°E), 23.VIII.1981, Gorodkov (2 ♂♂, 1 ♀, ZISP); Teriberka (69.164°N 35.140°E), 3.VII.2008, V. Semenov (3 ♂♂, ZMUM); Voroniy I. (66.994°N 33.666°E), 24.VI.1992, E.V. Shutova (2 ♂♂, 1 ♀, ZMUM); Kol'sky Bay (68.951°N 33.033°E), 3 and 18.VII.1924, Kapustin (5 ♂♂, 2 ♀♀, ZISP); **Sakhalin Oblast:** Kunashir I., Golovnino (43.737°N 145.517°E), 27–28.IX.1968, Gorodkov (29 ♂♂, 21 ♀♀, ZISP); Paramushir I., Severo-Kuril'sk (50.679°N 156.132°E), 9.IX.1968, Gorodkov (3 ♂♂, 3 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 218].

DESCRIPTION. Male. Female. Body-length 4.3–6.8 mm.

**Head.** Frontal vitta reddish-yellow completely or reddish-yellow in lower half and blackish around ocellar triangle, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena reddish-yellow, with whitish or golden reflection.

Postcranium black. 3 orbital and 5–6 frontal setae present. Antenna black. Postpedicel approximately 2 times as long as wide. Arista bare. Palpus yellow.

**Thorax** black, greyish dusted. Scutum with double brownish line down the middle, and an obscure one on each side. Acrostichals in two rows, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs** greyish dusted. Coxae and trochanters black; femora from yellow to black, as a rule black; tibiae and tarsi brownish, sometimes fore and hind tibiae blackish. Fore femur covered with more or less long whitish and blackish hairs, but without conspicuous setae. Fore tibia with 2 dorsal, 2 posterodorsal, 1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur usually with 2–5 anterodorsal setae in apical half in male and a row of anterodorsal setae in female, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 3 posterodorsal, 2 anterodorsal, 1–2 ventral, 1–2 posterior setae and a ring of apicals; ventral and posterior setae strong in female and hair-like in male. Hind femur without conspicuous setae in male and with a row of anterodorsal setae in female. Hind tibia with 3 anterodorsal, 3 posterodorsal, 2–3 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral and 1 apical ventral setae.

**Wing** tinged with brownish; crossveins r-m and d-m not darkened (Fig. 8).

**Abdomen** black, greyish dusted, covered with not long hairs, female tergites 2–6 each with a row of marginal setae. Male end of abdomen as in Fig. 138. Male sternite 4 about 2 times as long as wide (Fig. 29). Male sternite 5, epandrium, cercal plate and surstyli as in Figs. 88–90.

DISTRIBUTION. Russia: sea coast of north European part (Baltic, Barents, White and Pechora Seas), Pacific coast from Chukotka south to Kuril Islands. — Europe (widespread on north Atlantic coast), ?Greenland; a littoral species.

### *Scathophaga lutaria* (Fabricius, 1794)

Figs 30, 91–93.

*lutaria* Fabricius, 1794: 344 (*Musca*). Type-locality: "Habitat Kiliae" [= Kiel, Germany].

*maculipes* Zetterstedt, 1846: 1964 (*Scatomyza*). Type-localities: "Jemtlandia... Lapponia Umensi... Norwegia ad diversorium Suulstuen" (Sweden, Norway).

*parviceps* Ringdahl, 1936: 175 (*Scopeuma*). Type-locality: "Vällista-Gebirge in Jämtland" (Sweden).

REMARK. This species was registered in Russia from Kola Peninsula and Crimea [Gorodkov, 1970: 451], Siberia (Dudunka) [Ozerov, Barkalov, 2014: 563], Astrakhan' Oblast [Ovchinnikov, 2004: 422], Yakutia [Sychevskaya, 1972: 150; Veselkin, 1985: 75; Bagachanova *et al.* 2016: 782].

MATERIAL EXAMINED. **Altai:** Biysk (52.535°N 85.178°E), 31.VIII., 1–5.IX.1971, Sychevskaya (4 ♂♂, 4 ♀♀, ZISP); River

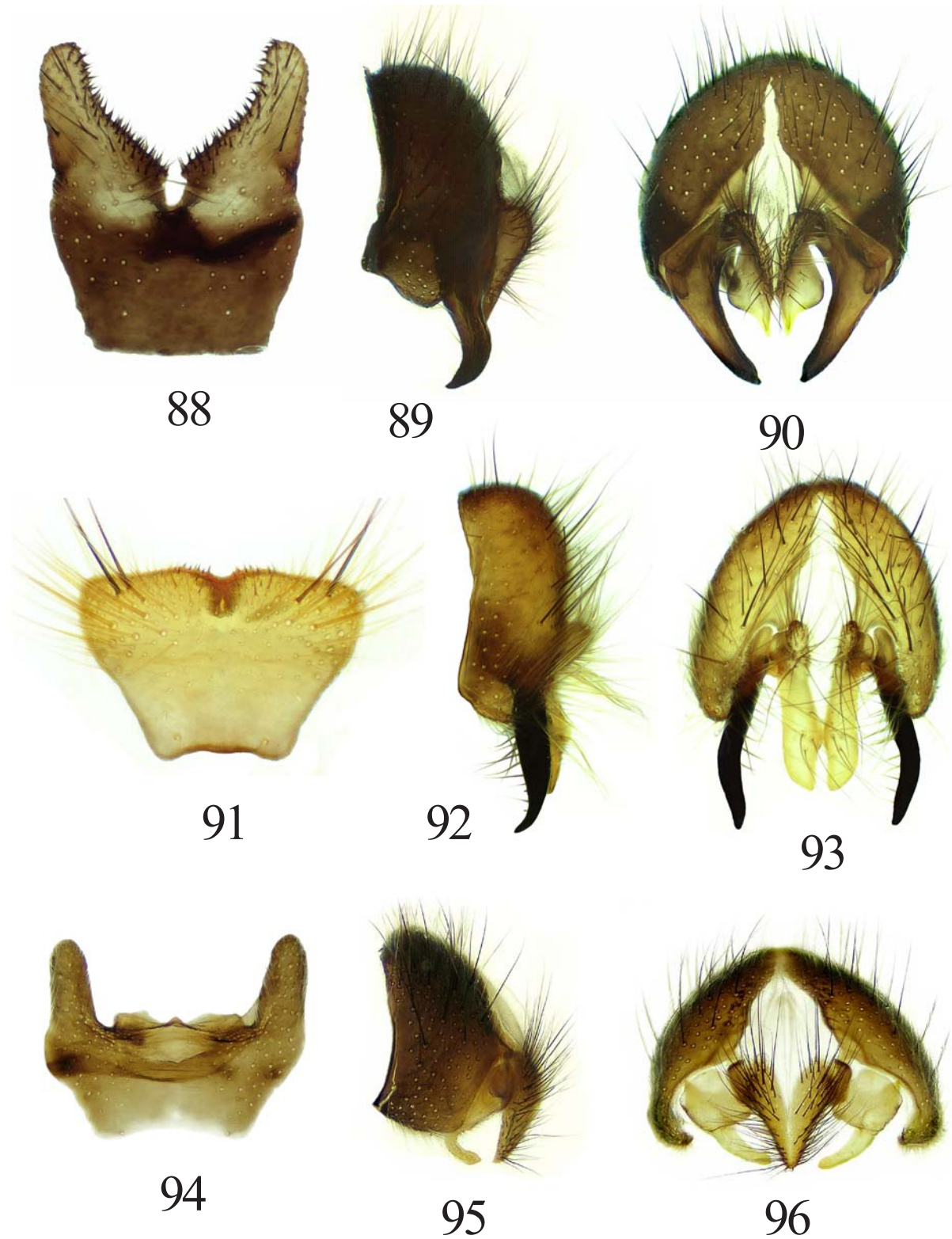
Chuya, 20 km NW of Kosh-Agach (50.085°N 88.404°E), 25–27.VII.2006, Nartshuk (1 ♂, ZISP); **Arkhangelsk Oblast**: Solovetskiy I. (65.080°N 35.686°E), 26.VII.1959, Gorodkov (1 ♂, ZISP); Solvychevsk (61.336°N 46.900°E), 15.VIII.2010, D. Gavryushin (1 ♂, ZMUM); Talagi (64.620°N 40.648°E), 11.VIII.1970, Gorodkov (2 ♂♂, ZISP); **Astrakhan Oblast**: Baskunchak salt Lake (48.193°N 46.813°E), 2–4.V.2010, K. Tomkovich (1 ♂, ZMUM); Ikryanoe (46.112°N 47.767°E), 10.V.2010, K. Tomkovich (2 ♂♂, 1 ♀, ZMUM); **Bashkiria**: Bashkirskiy Nature Reserve (53.344°N 57.783°E), 7.VIII.1975, Gorodkov (1 ♂, ZISP); between Abzakovo and Murakaevo (ca. 53.797°N 58.651°E), 2–8.VIII.2008, K. Tomkovich (1 ♀, ZMUM); Ufa env. (54.776°N 56.068°E), 18.VIII.1975, Gorodkov (1 ♂, 2 ♀♀, ZISP); **Buryatia**: Arshan (51.908°N 102.428°E), 2.VII.1965, Negrobov (1 ♂, ZISP); Mondy env. (51.675°N 100.992°E), 1900 m, 21.VII.1962, Gorodkov (1 ♂, ZISP); same place, 30.VII.1965, A. Pleshanov (1 ♀, ZISP); **Chelyabinsk Oblast**: Katav-Ivanovsk (54.751°N 58.197°E), 2.VII.1926, Vakulenko (1 ♀, ZISP); Taganay (55.277°N 59.795°E), 18–24.VII.2008, K. Tomkovich (2 ♂♂, ZMUM); **Crimea**: Alushta (44.677°N 34.403°E), 19.V.1900, N. Kuznetsov (1 ♂, ZISP); Chaytyr-Dag (44.862°N 34.224°E), 25.V.1963, Gorodkov (1 ♀, ZISP); Chufut-Kale (44.741°N 33.922°E), 24. VIII.1971, Kasparyan (1 ♂, ZISP); south coast (ca. 44.483°N 33.866°E), 1901, Yu. Vagner (1 ♂, 1 ♀, ZISP); **Kaliningrad Oblast**: Kurshskaya Kosa (55.154°N 20.857°E), without data, V. Kolyda (1 ♂, ZMUM); Rybachiy (55.157°N 20.841°E), 12.IX.1972, Gorodkov (1 ♂, ZISP); **Kalmykia**: Tsagan Aman (47.562°N 46.717°E), 14.VI.1979, Emel'yanenko (1 ♂, ZISP); **Karelia**: Kartesh (66.33°N 33.64°E), 20.VII.1975, Gorodkov (1 ♂, ZISP); **Komi**: 3 km N of Ust-Tsilma (ca. 65.45°N 52.11°E), 10.VIII.1978, Gorodkov (1 ♂, 1 ♀, ZISP); Troitsko-Pechersk (62.712°N 56.184°E), 11.VIII.1989, Gorodkov (1 ♂ ZISP); Ukhta, 3.VIII.1976, Gorodkov (1 ♂, 1 ♀, ZISP); Vil'gort (61.620°N 50.752°E), 26.VIII.1957, Gabova (1 ♂, ZISP); Yaksha (61.823°N 56.821°E), 15.VIII.1989, Gorodkov (1 ♀, ZISP); **Krasnodar Krai**: Tuapse (44.104°N 39.068°E), 26.X.1913, Shaposhnikov (4 ♂♂, 1 ♀, ZISP); Agurskoe gorge (43.548°N 39.814°E), 22.IV.2008, A.L. Ozerov (2 ♂♂, ZMUM); Lagonaki (44.009°N 39.994°E), 1700 m, 11.VI.2012, N. Vikhrev (1 ♂, ZMUM); Sochi, Mt Akhun (43.523°N 39.879°E), 22.IV.2008, N. Vikhrev (1 ♂, ZMUM); Teberdinskiy Nature Reserve (43.405°N 41.721°E), 15.V.1964, Gur'yanova (1 ♂, ZISP); same place, 18.VI.1968, Gorodkov (1 ♂, ZISP); **Krasnoyarsk Krai**: Baykit (61.68°N 96.38°E), 26.VIII.1972, Gorodkov (1 ♀, ZISP); National Park "Stolby" (55.887°N 92.817°E), 29.VIII.1973, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); **Kursk Oblast**: Oboyan' (51.191°N 36.312°E), 26.V.2007, N. Vikhrev, A.L. Ozerov (1 ♂, 1 ♀, ZMUM); Ryl'sk (51.569°N 34.682°E), 3.V.1915, Sokolov (1 ♀, ZISP); Streletskaya steppe (51.579°N 36.087°E), 6.IX.2007, 11.VIII.2008, N. Vikhrev (1 ♂, 1 ♀, ZMUM); **Leningrad Oblast**: Agalatovo (60.217°N 30.303°E), 1.X.1961, A. Stackelberg (1 ♂, ZISP); Komarovo (60.188°N 29.812°E), 2.IX.1950, A. Stackelberg (1 ♂, ZISP); Luga (ca. 58.73°N 29.84°E), 2.VIII.1955, A. Stackelberg (1 ♂, ZISP); Rakovichi (58.650°N 29.836°E), 10 and 17.V., 12.VI., 1 and 5.IX.1897, G. Pleske (20 ♂♂, 5 ♀♀, ZISP); Saint Petersburg (59.934°N 30.359°E), 5.X.1954, A. Stackelberg (1 ♂, ZISP); same place, 17.VIII.1997, Gorodkov (1 ♂, ZISP); same place, 23.IX.2006, Krivokhatskiy (1 ♂, ZISP); Yashchera (58.894°N 29.820°E), 25.VIII.1958, A. Stackelberg (1 ♂, ZISP); **Moscow and Moscow Oblast**: 35 km NNE of Moscow (56.200°N 37.833°E), 26.VI.1993, A.L. Ozerov (1 ♂, ZMUM); Abramtsevo (56.230°N 37.956°E), 15.VI.1958, E.S. Smirnov (1 ♀, ZMUM); Bittsa (55.641°N 37.570°E), 17.VI., 18–31.VII.1936, B. Rohdendorf (3 ♂♂, 4 ♀♀, ZMUM); Dmitrov env. (56.316°N 37.725°E), 9 and 16.IX.2006, 4.IX.2007, N. Vikhrev (3 ♂♂, ZMUM); Golitsyno (55.649°N 37.011°E), 3.VII.1977, 31.V. and 4–7.IX.1981, A. Shatalkin (8 ♂♂, 2 ♀♀, ZMUM); Izmaylovo (55.786°N 37.835°E), 9.IX.1989, 3.VI.1990, A.L. Ozerov (1 ♂♂, 2 ♀♀, ZMUM); Kosino (55.721°N 37.847°E), 26.VI.1921 B. Dodonov (1 ♀, ZMUM); Kuntsevo (55.720°N 37.473°E), 5.IX.1981, 5.VI.1982, A.L. Ozerov (3 ♂♂, 3 ♀♀, ZMUM); Mamontovka (55.999°N 37.816°E), 3.VII.1917, 26.VI.1956, E. Smirnov (2 ♂♂, 3 ♀♀, ZMUM); Naro-Fominsk (55.455°N 36.882°E), 12.V.2006, D. Gavryushin (1 ♂, ZMUM); Petrovsko-Razumovskoe (55.839°N 37.569°E), 10.VI.1931, E. Smirnov (1 ♂, ZMUM); Shchukino (55.798°N 37.478°E), 19.IX.2006, N. Vikhrev (2 ♂♂, ZMUM);

Smolevo (55.578°N 38.666°E), 25–31.V.2012, K. Tomkovich (1 ♂, ZMUM); Sokolova Pustyn' (54.843°N 38.047°E), 25.VI.1937, B. Rohdendorf (1 ♂, ZMUM); Zelenograd (55.986°N 37.202°E), 19.VI.1998, A. Gusakov (1 ♂, 1 ♀, ZMUM); Zvenigorod env. (55.700°N 36.722°E), 6.VII.1954, L. Zimina (1 ♀, ZMUM); **Murmansk Oblast**: 8 km N of Revda (68.003°N 34.570°E), 15.VIII.1981, Gorodkov (1 ♂, ZISP); Aleksandrovsk [= Polyarnyy] (69.198°N 33.456°E), 25. VIII. and 6.IX.1923, V. Kuznetsov (4 ♂♂, 1 ♀, ZISP); same place, 24.VIII. and 7.IX.1923, Fridolin (2 ♂♂, 1 ♀, ZISP); same place, 16.IX.1928, Cheburova (1 ♀, ZISP); Dal'nie Zelentsy (69.117°N 36.062°E), 26.VIII.1984, Gorodkov (1 ♂, ZISP); Khibiny Station (67.6736°N 33.2126°E), 15, 16 and 19.VIII., 4.IX.1928, Cheburova (1 ♂, 3 ♀♀, ZISP); Kirovsk env. (67.608°N 33.661°E), 9.VII.1975, Zinov'ev (2 ♀♀, ZISP); Lake Vudayr basin (ca. 67.646°N 33.644°E), 27 and 28.VIII., 9, 13 and 14.IX.1930, Cheburova (3 ♂♂, 2 ♀♀, ZISP); same place, 10 and 30.VII.1931, 12 and 18.IX. 1936, Fridolin (3 ♂♂, 2 ♀♀, ZISP); same place, 21.VIII.1931, E. Belyakova (1 ♂, 4 ♀♀, ZISP); Murmansk (68.918°N 33.059°E), 9–13.VIII.2010, N. Vikhrev (1 ♂, ZMUM); Murmansk env. (68.964°N 33.085°E), 14 and 15.VIII., 28.IX.1923, Fridolin (3 ♂♂, 1 ♀, ZISP); Murmansk env. (68.973°N 33.137°E), 21.VII.2011, A. Ozerov (1 ♂, ZMUM); River Tuloma (68.738°N 32.288°E), 14–15.VII.1906, Soldatov (1 ♀, ZISP); Tumanny (68.883°N 35.693°E), 4.VIII.1981, Gorodkov (1 ♂, ZISP); **Novgorod Oblast**: Malaya Vishera (58.849°N 32.209°E), 9.V.1975, Gorodkov (1 ♂, ZISP); Verebe (58.678°N 32.696°E), 10.V.1975, Gorodkov (1 ♀, ZISP); **Perm' Oblast**: Kungur (57.424°N 56.953°E), 29.VII.1997, Gorodkov (1 ♂, 1 ♀, ZISP); **Pskov Oblast**: Khtiny (58.711°N, 28.597°E), 31.V.1896, Pleske (1 ♀, ZISP); **Rostov Oblast**: Kamensk-Shakhtinsk (48.293°N 40.257°E), 25.V.2011, D. Gavryushin (1 ♂, ZMUM); **Smolensk Oblast**: "Smolenskoe poozer'e" National Park (55.511°N 31.839°E), 30.VII.1991, Zlobin (1 ♀, ZISP); **Tver' Oblast**: Bologoe (57.879°N 33.997°E), 21.V.1902, F. Zaytseva (1 ♀, ZISP); **Tyumen' Oblast**: Labytngani (66.657°N 66.391°E), 23.VIII.1973, V. Sychevskaya (1 ♀, ZMUM); Novyy Urengoy (66.087°N 76.513°E), 30.VII.1982, Gorodkov (5 ♂♂, ZISP); Salekhard (66.53°N 66.6135°E), 4 and 5.VIII.1976, Gorodkov (2 ♀♀, ZISP); Sob' env. (67.07°N 65.46°E), 26–31.VII.2011, K. Tomkovich (2 ♂♂, ZMUM); Surgut (61.260°N 73.401°E), 27.VII.1977, Gorodkov (1 ♂, ZISP); Tyumen' env. (57.15°N 65.53°E), 5.IX.1976, Gorodkov (1 ♀, ZISP); Tarko-Sale (64.914°N 77.766°E), 3.IX.1982, Gorodkov (1 ♂, 1 ♀, ZISP); **Yakutia**: Khaptagay (61.785°N 129.797°E), 23.VI.1974, L. Zimina (1 ♀, ZMUM); Lensk (60.727°N 114.943°E), 14.IX.1987, Gorodkov (1 ♂, ZISP); **Yaroslavl' Oblast**: Rostov (57.190°N 39.414°E), VI.–VII.1920, Martynov (1 ♀, ZISP). See also Ozerov & Barkalov [2014: 563].

**DESCRIPTION.** Male. Female. Body-length 3.8–9.2 mm.

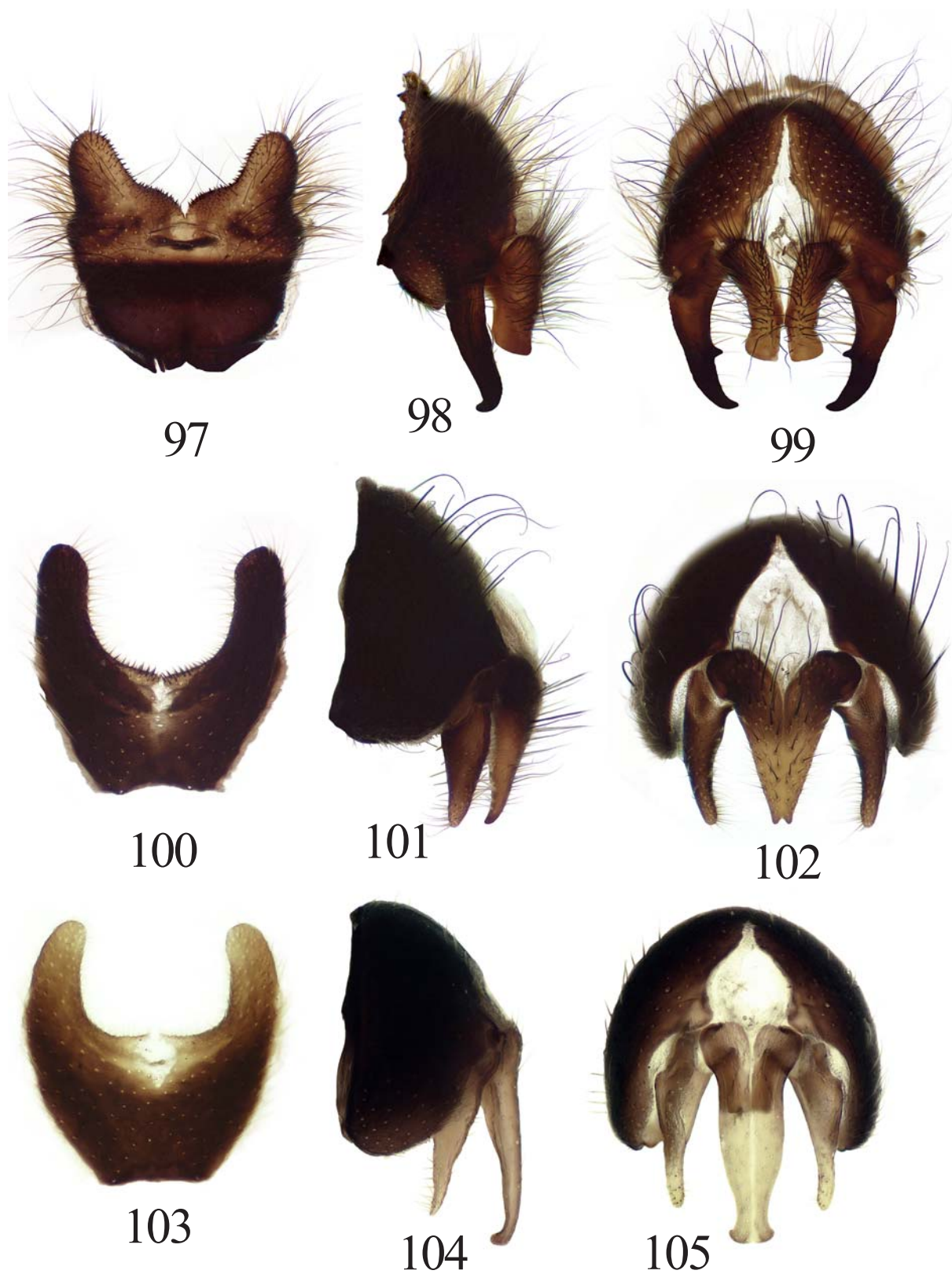
**Head.** Frontal vitta yellow or reddish-yellow, matt; fronto-orbital plate blackish, greyish dusted. Face, parafacial and gena yellow, with delicate golden reflection. Postcranium black in upper third or half and yellow in lower part. 3 orbital and 4–6 frontal setae present. Antenna reddish-yellow. Postpedicel approximately twice as long as wide. Arista pubescent, the longest hairs approximately equal to 1/2 width of postpedicel. Palpus yellow.

**Thorax** black in ground colour, greyish dusted, but usually postpronotal lobe yellowish. Acrostichals not differentiated from the other hairs on scutum or setulose in two rows, only prescutellar pair usually stronger than the other acrostichals, dorsocentrals 2+3, intralars 1+2, supra-alars 1+2, postpronotals 2. Katepisternum posteriorly, besides yellow hairs and setulae, as a rule also with several black setulae. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.



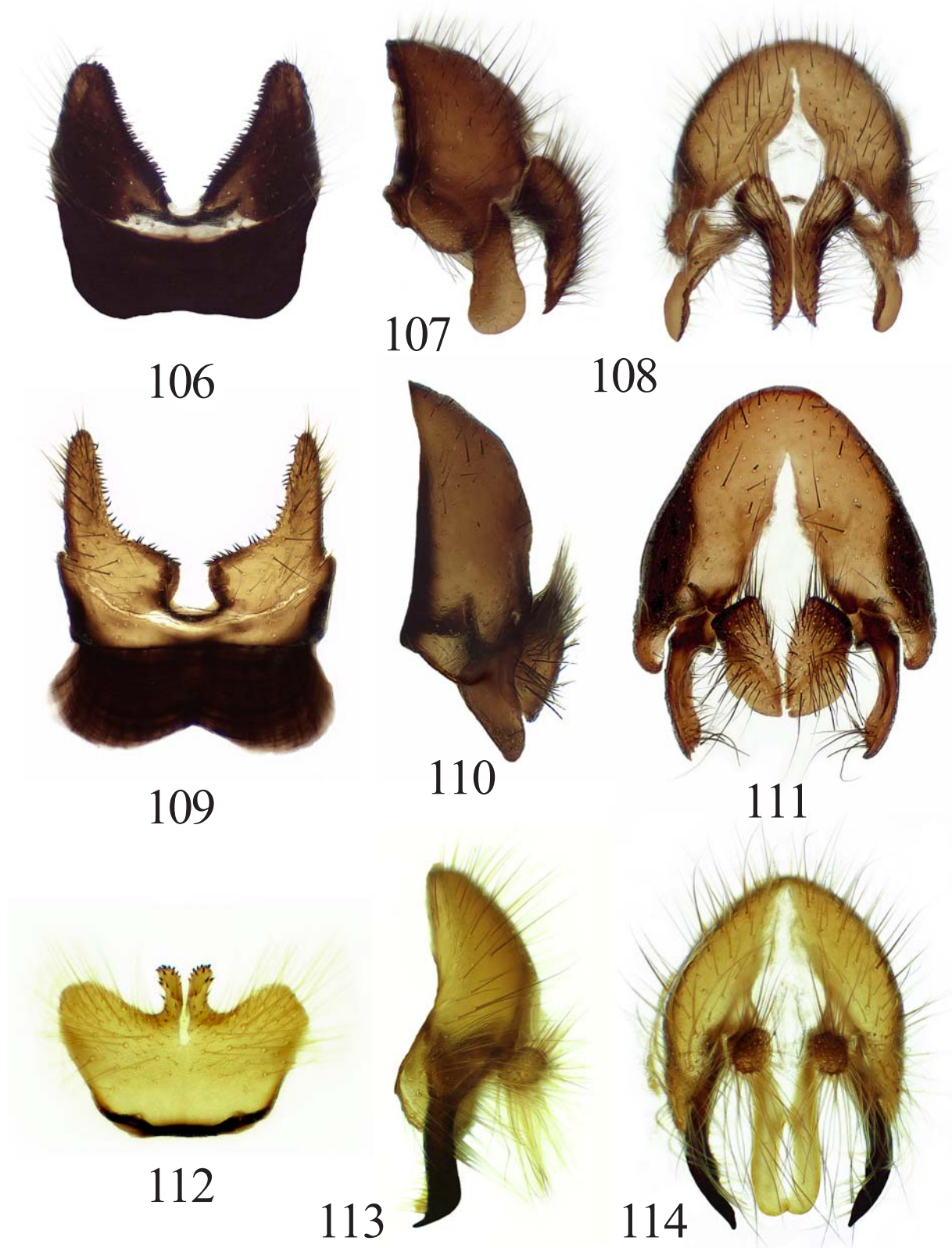
Figs 88–96. *Scathophaga litorea* (Fallén) (88–90), *S. lutaria* (Fabricius) (91–93) and *S. mollis* (Becker) (94–96): 88, 91, 94 — male sternite 5; 89, 92, 95 — epandrium, cercal plate and surstyli, lateral view; 90, 93, 96 — same, dorsal view. 89, 90 — after Ozerov, 2013, figs 17, 18; 94–96 — after Ozerov, 2010b, figs 27, 28, 30.

Рис. 88–96. *Scathophaga litorea* (Fallén) (88–90), *S. lutaria* (Fabricius) (91–93) и *S. mollis* (Becker) (94–96): 88, 91, 94 — стернит 5 самца; 89, 92, 95 — эпандрий, церки и сурстилы, сбоку; 90, 93, 96 — то же, сверху. 89, 90 — по Ozerov, 2013, figs 17, 18; 94–96 — по Ozerov, 2010b, figs 27, 28, 30.



Figs 97–105. *Scathophaga multisetosa* (Holmgren) (97–99), *S. nigripalpis* (Becker) (100–102) and *S. obscura* (Fallén) (103–105): 97, 100, 103 — male sternite 5; 98, 101, 104 — epandrium, cercal plate and surstyli, lateral view; 99, 102, 105 — same, dorsal view.

Рис. 97–105. *Scathophaga multisetosa* (Holmgren) (97–99), *S. nigripalpis* (Becker) (100–102) и *S. obscura* (Fallén) (103–105): 97, 100, 103 — стернит 5 самца; 98, 101, 104 — эпандрий, церки и сурстили, сбоку; 99, 102, 105 — то же, сверху.



Figs 106–114. *Scathophaga obscurinervis* (Becker) (106–108), *S. pictipennis* (Oldenberg) (109–111) and *S. spurca* (Meigen) (112–114): 106, 109, 112 — male sternite 5; 107, 110, 113 — epandrium, cercal plate and surstyli, lateral view; 108, 111, 114 — same, dorsal view. 109–111 — after Ozerov, 2017, figs 4–6.

Рис. 106–114. *Scathophaga obscurinervis* (Becker) (106–108), *S. pictipennis* (Oldenberg) (109–111) и *S. spurca* (Meigen) (112–114): 106, 109, 112 — стернит 5 самца; 107, 110, 113 — эпандрий, церки и сурстили, сбоку; 108, 111, 114 — то же, сверху. 109–111 — по Ozerov, 2017, figs 4–6.

*Legs* yellow. Fore femur covered with hairs, but without conspicuous setae. Fore tibia with 2–3 dorsal, 0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with a row of anterior/anterodorsal setae, also with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1–3 posterodorsal, 1–2 anterodorsal setae and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 3 anterodorsal, 3 posterodorsal, 1 preapical dorsal, 1 preapical anterodorsal, and 1 apical anteroventral setae.

*Wing* tinged with brownish; crossveins r-m and dm-cu not darkened or crossveins r-m slightly darkened only.

*Abdomen* from yellow to dark brownish, delicately greyish dusted, covered with not long hairs, in female tergites with black marginal setulae. Female tergite 7 greyish dusted. Male sternite 4 approximately 2 times as long as wide (Fig. 30); sternite 5 trapezoid with median cavity, but without apical processes and lateral lobes (Fig. 91). Epandrium, cercal plate and surstyli as in Figs 92, 93.

**DISTRIBUTION.** Russia: throughout midland, north to southern tundra. — Europe (widespread); known also from Algeria, Tunisia, Lebanon, Turkey and Israel [Šifner, 2008: 197; Ozerov, Freidberg, 2011: 175–176].

*Scathophaga mollis* (Becker, 1894)

Figs 31, 94–96, 134.

*mollis* Becker, 1894: 171 (*Scatophaga*). Type-locality: “Siberia” (Russia).

*sychevskayae* Ozerov, 2010b: 162, 165 (*Scathophaga*). Type-locality: Tabalakh, Sakha [=Yakutia] (Russia).

**REMARK.** The species was recorded in Russia from Yakutia [Sychevskaya, 1972: 150; Ozerov, 2010b: 162, 165; Bagachanova *et al.* 2016: 782] and Magadan Oblast [Ozerov, Krivosheina, 2014: 218].

**MATERIAL EXAMINED.** **Altai:** River Chuya, 20 km NW of Kosh-Agach (50.085°N 88.404°E), 25–27.VII.2006, A. Ovchinnikov, Nartshuk (3 ♀♀, ZISP); **Buryatia:** Mondy env. (51.675°N 100.992°E), 28.VII.1965, Gorodkov (2 ♂♂, 1 ♀, ZISP); **Irkutsk Oblast:** Padun (56.293°N 101.711°E), 4.IV.1867, Chekanovskiy (2 ♂♂, 1 ♀, ZISP); **Kamchatka Krai:** Mil'kovo (54.697°N 158.620°E), 7.VII.1985, Zlobin (3 ♂♂, 1 ♀, ZISP); **Magadan Oblast:** Gizhiga (61.948°N 160.377°E), 5–6.IX.1987, Gorodkov (14 ♂, 9 ♀♀, ZISP); Magadan env. (59.38°N 150.51°E), 12.VII.2017, V. Sorokina (2 ♂♂, 3 ♀♀, ZISP); road Solnechnyy – Ola (59.616°N 150.850°E), 13.VIII. and 28.VIII.2017, N. Tridrikh (1 ♂, 4 ♀♀, ZMUM); **Tuva:** the upper reaches of the Mogun-Buren' River (ca. 50.041°N 89.872°E), 26.VII.1964, Nartshuk (1 ♂, ZISP); **Yakutia:** Abaga (61.049°N 132.280°E), 19.VII. 2008, A. Ovchinnikov (1 ♀, ZISP); airport Saskylakh (71.934°N 114.083°E), 24.VII.1988, Gorodkov (2 ♂♂, 4 ♀♀, ZISP); Balagannakh (64.495°N 143.817°E), 4–8.VII.1974, Nartshuk (2 ♂♂, 7 ♀♀, ZISP); same place 24.VIII.1974, Gorodkov (8 ♂♂, 7 ♀♀, ZISP); Batagay (67.653°N 134.635°E), 9.VIII.1972, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); same place, 21.VII.1974, Gorodkov (5 ♂♂, 7 ♀♀, ZISP); same place, 31.VII.2008, A. Ovchinnikov (12 ♂♂, 8 ♀♀, ZISP); Deputatskiy (69.319°N 139.966°E), 7.VIII.1974, Gorodkov (11 ♂♂, 8 ♀♀, ZISP); Khaptagay (61.785°N 129.797°E), 4.VII.1974, R. Kamenskaya (1 ♂, ZMUM); Lake Tabalakh (71.500°N 128.756°E), 3.VIII.1969, V. Sychevskaya (3 ♀♀, ZMUM); left bank of the River Yana opposite of Verkhoyansk (67.550°N 133.359°E), 23.VII.1974, Nartshuk (8 ♂♂, 13 ♀♀, ZISP); Mikhaylovka, 60 km NE of Amga (61.214°N 132.6815°E), 13–23.VII.1985, 12–24.VIII.1985, 17–23.VII. and 21.VIII.1986, Bagachanova, Novikov, Kaymuk (21

♂♂, 18 ♀♀, ZISP); Mirnyy (62.540°N 113.962°E), 22.VIII.1988, Gorodkov (11 ♂, 8 ♀♀, ZISP); Neryuktyayinsk-1 (60.258°N 119.673°E), 11, 17 and 18.VII. 2008, A. Ovchinnikov (12 ♂♂, 10 ♀♀, ZISP); Oktemtsy env. (61.672°N 129.417°E), 6.VII. 2008, A. Ovchinnikov (2 ♂♂, 2 ♀♀, ZISP); Olekminsk (60.370°N 120.436°E), 29.VIII.1988, Gorodkov (11 ♂♂, 10 ♀♀, ZISP); Pokhodsk (69.079°N 160.961°E), 18.VII.1973, Vinokurov (8 ♂♂, 8 ♀♀, ZISP); River Tyung (65.75°N 118.93°E), 6.VIII.1926, Grigor'ev (1 ♀, ZISP); River Yana, Stolby env. (67.531°N 134.087°E), 26–29.VII. 2008, A. Ovchinnikov (3 ♂♂, 38 ♀♀, ZISP); Teply Klyuch (62.783°N 136.809°E), 20–21.VIII.1974, Gorodkov (14 ♂♂, 10 ♀♀, ZISP); Tolon (59.458°N 111.539°E), 15.VII.1987, Zlobin (4 ♂♂, 4 ♀♀, ZISP); Tyubelyakh env. (65.371°N 143.1673°E), 11.VII.1974, Nartshuk (1 ♂, 4 ♀♀, ZISP); Tyungyulyu (62.201°N 130.676°E), 26.VII.1996, Bagachanova (1 ♂, ZISP); Udachny (66.405°N 112.299°E), 16–20.VIII.1988, Gorodkov (4 ♂♂, 4 ♀♀, ZISP); Ust'-Kuyga (70.000°N 135.562°E), 26–28.VII.1974, Gorodkov (13 ♂♂, 12 ♀♀, ZISP); Verkhoyansk (67.548°N 133.396°E), 23.VII.1974, Gorodkov (9 ♂♂, 8 ♀♀, ZISP); Yakutsk env. (62.042°N 129.708°E), 23.VII.1969, V. Sychevskaya (1 ♂, 7 ♀♀, ZMUM); Yakutsk env. (62.159°N 129.822°E), 13.VII.1974, Kovalev (1 ♀, ZISP); same place, 10.VIII.1987, Zlobin (1 ♂, ZISP); Yakutsk env., Chochur-Muran (62.034°N 129.618°E), 1–2.VII. and 3.VIII.2008, A. Ovchinnikov (15 ♂♂, 27 ♀♀, ZISP); Zhigansk (66.766°N 123.372°E), 15.VIII.1973, Gorodkov (25 ♂♂, 16 ♀♀, ZISP); **Zabaikalsky Krai:** Ulyatuy (51.168°N 116.227°E), 16.VIII.2016, A. Medvedev (1 ♂ ZMUM). See also Ozerov [2010b: 162, 165], Ozerov & Krivosheina [2014: 218].

**DESCRIPTION.** Male. Female. Body-length 6.1–7.4 mm.

*Head.* Frontal vitta yellow or reddish-yellow, with delicate whitish reflection; fronto-orbital plate blackish, densely greyish dusted. Face, parafacial and gena yellow, with whitish reflection. Postcranium blackish. 3 orbital and 5–6 frontal setae present. Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus black completely or yellow in basal half and black apically.

*Thorax* black, densely greyish dusted. Acrostichals not differentiated from the other hairs on scutum, dorso-centrals 2+3, intra-alars 1+1 (anterior postsutural), supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

*Legs.* All coxae black, greyish dusted. All femora greyish dusted, black, except yellow apex. All tibiae and tarsi yellow. Male fore and hind femora and female fore femur covered with whitish hairs, but without conspicuous setae. Fore tibia with 2 dorsal, 2 posterior, 1 preapical anterodorsal, and 1 posterior apical setae. Mid femur with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes, additionally with a row of anterior setae in apical half in female. Mid tibia with 2–3 anterodorsal, 2 posterodorsal, 2–3 posterior, 0–1 anteroventral, 1 ventral setae, also with a ring of apicals. Hind femur with a row of anterodorsal setulae. Hind tibia with 2 posterodorsal, 2 anterodorsal, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae. All setae on tibiae more or less strong in female and hair-like in male.

*Wing* clear; crossveins r-m and dm-cu not darkened or crossveins r-m slightly darkened only.

*Abdomen* black, densely pale grey dusted, covered with short whitish hairs. Tergites 2–5 in male and tergi-

tes 2–6 in female each with a row of marginal setulae (males) or setae (females). Male sternite 4 about as long as wide (Fig. 31). Male sternite 5 with short and narrow lobes (Fig. 94). Cercal plate short, not longer than short surstyli (Figs 95, 96). Aedeagus as in Fig. 134.

**DISTRIBUTION.** Russia: midland of Siberia and Far East. — Mongolia, China [Sun, 1996: 630], North America.

*Scathophaga multisetosa* (Holmgren, 1883)

Figs 32, 97–99, 141.

*multisetosa* Holmgren, 1883: 174 (*Scatomyza*). Type-locality: “Norra Gåskap. Waigatsch” [Cape Severny Gusinyi Nos, Novaya Zemlya, Vaygach Island] (Russia).

**REMARK.** This species was recorded in high arctic territory of Russia: Novaya Zemlya, Vaygach I., New Siberian Islands, Taimyr Peninsula [Holmgren, 1883: 174; Gorodkov, 1986: 33; Ozerov, Barkalov, 2014: 563]. Incorrectly registered from Chukotka by Ozerov & Krivosheina [2014: 218] (see above in *S. apicalis*).

**MATERIAL EXAMINED.** **Chukotka:** Shmidt (68.892°N 179.409°W), 2.VII.1966, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); same place, 9–17.VII.1971, Gorodkov (35 ♂♂, 24 ♀♀, ZISP); **Krasnoyarsk Krai:** Dikson I. (73.507°N 80.334°E), 9.VII.1961, Yu.I. Chernov (12 ♂♂, 2 ♀♀, ZMUM); Taimyr, the lower reaches of the River Lenivaya (74.966°N 89.916°E), on flowers of *Sieversia glacialis*, 4.VII.1980, Yu.I. Chernov (1 ♀, ZMUM); **Yakutia:** Anabarsky Bay, Cape Khorgo (73.502°N 113.551°E), 28.VI.1959 (1 ♂, ZMUM); Novosibirskie Islands, Kotel’nyy I. (75.338°N 140.855°E), 14.VII.1973, Gorodkov (45 ♂♂, 28 ♀♀, ZISP); Uryung-Khaya (72.812°N 113.231°E), 5.VIII.1988, Gorodkov (1 ♂, ZISP). See also Ozerov & Barkalov [2014: 563].

**DESCRIPTION.** Male. Female. Body-length 7.5–11.2 mm.

Male thorax, abdomen and legs covered with dense, furry brownish hairs. Female much less hairy, especially abdomen and legs.

**Head.** Frontal vitta reddish-orange, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena reddish-orange, with delicate whitish reflection. Postcranium black. 3 orbital and 6–8 frontal setae present. Scapus and pedicel reddish-orange. Postpedicel black, approximately 2 times as long as wide. Arista bare. Palpus yellow.

**Thorax** black, densely greyish dusted. Acrostichals, postpronotals and intra-alars not differentiated from the other long hairs on scutum, dorsocentrals 0+1, supra-alars (0–1)+(2–3), notopleurals 1–2. Anepimeron bare. Scutellum black, greyish dusted, covered with dense hairs, with pairs of strong basal scutellar, lateral scutellar and apical scutellar setae.

**Legs** greyish dusted. Coxae black. Femora from yellow completely to blackish. Tibiae and tarsi yellowish. All femora and fore tibia covered with long hairs, but without conspicuous setae, only mid femur with 1 preapical posterior seta. Mid tibia with 2–3 posterodorsal, 2 anterodorsal setae, 1 posterior, 2 anteroventral, 1–2 posteroventral, 1–2 ventral setae and a ring of apicals. Hind tibia with 2–3 anterodorsal, 1 preapical dorsal, 1 apical anterodorsal, 1 apical anteroventral and 1 apical ventral setae; posterodorsal setae often

absent in male or, as in female, not strong differentiated from the other long hairs on hind tibia (Fig. 141).

**Wing** tinged with brownish; crossveins r-m and dm-cu darkened.

**Abdomen** black, greyish dusted; female tergites 2–6 each with a row of marginal setae. Male sternite 4 approximately as long as wide (Fig. 32), Male sternite 5, epandrium, cercal plate and surstyli as in Figs 97–99.

**DISTRIBUTION.** Russia: arctic islands and arctic coast from Taimyr to Chukotka. — North America; a littoral species.

*Scathophaga nigripalpis* (Becker, 1907)

Figs 5, 33, 100–102, 135.

*nigripalpis* Becker, 1907: 413 (*Scathophaga*). Type-locality: Ost-Grönland.

*orbitalis* Becker, 1915: 65 (*Scopeuma*). Type-locality: “Petal” [hilly area between the northernmost parts of the Polar Urals and the Arctic sea coast] (Russia).

**REMARK.** This species was recorded in Russia for arctic zone of European part (e.g., Yugorsky Peninsula, Novaya Zemlya) and Siberia [Becker, 1915: 65; Gorodkov, 1970: 451, 1989: 33; Engelmark, 1999: 158, 159], from Yakutia [Bagachanova *et al.* 2016: 782] and Chukotka [Ozerov, Krivosheina, 2014: 218].

**MATERIAL EXAMINED.** **Chukotka:** Shmidt (68.892°N 179.409°W), 17.VII.1963, Gorodkov (1 ♂, 3 ♀♀, ZISP); Anadyr’ (64.731°N 177.504°E), 13.VIII.1966, Gorodkov (25 ♂♂, 16 ♀♀, ZISP); Apapel’khin (ca. 69.764°N 170.617°E), 21.VI.1963, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); Ugol’nyy env. (64.733°N 177.733°E), 12.VIII.1966, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); Ureliki (64.400°N 173.214°W), 3–6.VIII.1963, Gorodkov (4 ♀♀, ZISP); **Yakutia:** airport Saskylakh (71.934°N 114.083°E), 24.VII. and 9.VIII.1988, Gorodkov (6 ♂♂, 14 ♀♀, ZISP); Anabarsky Bay (ca. 73.502°N 113.551°E), 25 and 30.VI.1959 (3 ♂♂, ZMUM); Anabarsky Bay, Cape Khorgo (73.504°N 113.525°E), 24–25.VII.1959, Chernov (3 ♂♂, ZISP); Chekurovka (71.046°N 127.526°E), 24.VII.1957, Gorodkov (1 ♂, ZISP); Chokurdakh (70.618°N 147.895°E), 19–20.VIII.1971 and 7.VIII.1972, Gorodkov (20 ♂♂, 18 ♀♀, ZISP); Kular (70.573°N 134.271°E), 3.VIII.1974, Gorodkov (1 ♀, ZISP); Tiksi env. (71.635°N 128.857°E), 2–17.VIII.1957, Gorodkov (28 ♂♂, 23 ♀♀, ZISP); Uryung-Khaya (72.812°N 113.231°E), 26.VII. and 7–8.VIII.1988, Gorodkov (6 ♂♂, 5 ♀♀, ZISP); Kular (70.573°N 134.271°E), 3–4.VIII.1974, Gorodkov (10 ♂♂, 8 ♀♀, ZISP); Nizhneyansk (71.441°N 136.135°E), 31.VII.1974, Gorodkov (3 ♂♂, 3 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 218].

**DESCRIPTION.** Male. Female. Body-length 5.1–5.9 mm.

**Head.** Frontal vitta yellow completely or blackish, but yellow in apical third or quarter, with delicate whitish reflection; fronto-orbital plate black, densely greyish dusted. Face, parafacial and gena yellow, with whitish reflection. Postcranium blackish. 4–6 frontals, 3 orbitals and additionally numerous setulae along margin of eye present (Fig.5). Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus black (Fig.5).

**Thorax** black, greyish dusted, with dark stripes and fuzzy spots on scutum and scutellum. Acrostichals not differentiated from the other hairs on scutum, dorsocentrals 2+(2–3), intra-alars 1+0, supra-alars 1+2, postpronotals 2. Anepimeron with several hairs. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs.** Coxae and femora of all legs black, greyish dusted. Tibiae and tarsi of all legs from yellow completely to black completely. Fore femur covered with long hairs, with 3–4 dorsal setae or setulae in apical third (female) or without conspicuous setae (male). Fore tibia with 2–4 dorsal, 2–4 posterodorsal, 1–2 posterior, 1 preapical dorsal, 1 preapical anterodorsal, and 1 posterior apical setae. Mid femur without conspicuous setae. Mid tibia with 1–2 anterodorsal, 1–3 posterodorsal, 0–1 anteroventral, 0–2 posterior setae, also with a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2–3 posterodorsal, 2–3 anterodorsal, 0–2 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae.

**Wing** clear; crossveins r-m and d-m not darkened.

**Abdomen** black, densely pale grey dusted, covered with whitish hairs; female tergites 2–6 each with a row of marginal setae. Male sternite 4 about 2 times as long as wide (Fig. 33). Male sternite 5 with moderately wide lateral lobes (Fig. 100). Cercal plate as long as surstyli (Figs 101, 102). Aedeagus as in Fig. 135.

**DISTRIBUTION.** Russia: north from Polar Ural to Chukotka. — North America.

*Scathophaga obscura* (Fallén, 1819)

Figs 1, 34, 103–105, 136.

*obscura* Fallén, 1819: 9 (*Cordylura*). Type-locality: “Scania... Lärketorp Ostrogothiae” (Sweden).

**REMARK.** The species was registered in Russia from Kola Peninsula [Gorodkov, 1970: 453], Caucasus and Kuril Islands [Gorodkov, 1986: 33], Siberia (Taimyr Peninsula) [Ozerov, Barkalov, 2014: 564] and Far East [Ozerov, Krivosheina, 2014: 218].

**MATERIAL EXAMINED.** **Altai:** Kosh-Agach env., (50.01°N 88.66°E), 1750 m, 2–4.VII.2016, N. Vikhrev (1 ♀, ZMUM); Kosh-Agach, plateau Ukok, 2400 m, surrounding area of Lake Muzdy-Bulak (49.26°N, 87.65°E), 10.VII.2008, A. Barkalov (1 ♂, ISEA); Onguday env., (50.77°N 86.09°E), 8–13.VII.2016, N. Vikhrev (3 ♂♂, ZMUM); Seminsky pass, River Turala (50.99°N 85.68°E), 1350 m, 8–12.VII.2016, N. Vikhrev (1 ♂, ZMUM); Tigirek Vill. (51.13°N 83.05°E), 550 m, 9–12.VII.2014, I. Shamshev (1 ♂, 3 ♀♀, ZISP); **Arkhangelsk Oblast:** 73 km NW of Nar’yan-Mar (ca. 67.981°N 51.608°E), 3.VIII.1978, Gorodkov (1 ♂, 1 ♀, ZISP); Nar’yan-Mar (67.631°N, 52.985°E), 12.VII.2008, A.L. Ozerov (1 ♂, ZMUM); Solvychegovsk (61.342°N 46.913°E), 12–13.VIII.2010, D. Gavryushin (4 ♂♂, 12 ♀♀, ZMUM); **Bashkiriya:** between Abzakovo and Murakaevo (ca. 53.797°N 58.651°E), 2–8.VIII.2008, K. Tomkovich (1 ♀, ZMUM); **Buryatia:** the upper reaches of the River Irkut near Lake Il’chir (51.961°N 100.952°E), 7.VIII.2012, A. Medvedev (1 ♂, 1 ♀, ZMUM); **Chelyabinsk Oblast:** Taganay (55.277°N 59.795°E), 18–24.VII.2008, K. Tomkovich (2 ♂♂, 1 ♀, ZMUM); **Chukotka:** Meynyipil’gyno env. (62.628°N 176.976°E), 14.VII.2015, P.S. Tomkovich (1 ♂, ZMUM); **Kamchatka Krai:** Kozyrevsk (56.048°N 159.870°E), 23.VII.1985, V. Zlobin (1 ♀, ZISP); **Karelia:** Primorsky (66.555°N 33.006°E), 5.VII.2010, A.L. Ozerov (7 ♂♂, 4 ♀♀, ZMUM); **Khbarovsk Krai:** Bulgino env. (59.371°N 143.147°E), 29.VIII.1987, Gorodkov (1 ♂, ZISP); **Khakassia:** W Sayan pass (51.717°N 89.882°E), 2100 m, 9–12.VII.2017, N. Vikhrev (1 ♂, ZMUM); **Krasnodar Krai:** Teberdinskiy Nature Reserve, (43.443°N 41.738°E), 2.IX.1965, Gorodkov (1 ♂, ZISP); **Krasnoyarsk Krai:** Igarka (67.457°N 86.598°E), River Yenisei, 30.VI.1967, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Igarka (67.457°N 86.598°E), River Yenisei, 1.VII.1967, Gorodkov (1 ♀, ZISP); Kryuchkovo Station (56.096°N 92.109°E), 14–23.VII.2009, K.

Tomkovich (1 ♂, ZMUM); **Leningrad Oblast:** Bol’shoy Bere-zovyy I. (60.3°N 28.62°E), 7.VIII.1981, Kandybina (1 ♂, ZISP); Gor’kovskoe, Lake Lebyazh’e (60.312°N 29.532°E), 24.VIII.2003, A. Ovchinnikov (1 ♀, ZISP); Luga (ca. 58.73°N 29.84°E), 10.VII.1952, 27.VIII.1953, A. Stackelberg (1 ♂, 1 ♀, ZISP); Rozhdestveno (59.322°N 29.946°E), 28.VIII.1956, A. Stackelberg (1 ♂, ZISP); Yashchera (58.894°N 29.820°E), 28.VIII.1957 and 11.VII.1959, A. Stackelberg (4 ♂♂, 2 ♀♀, ZISP); **Moscow and Moscow Oblast:** Dmitrov env. (56.316°N 37.725°E), 7.V.2006, N. Vikhrev (1 ♂, ZMUM); Ivanovskoe (55.925°N 35.605°E), 17.VII.2007, A.L. Ozerov (1 ♂, ZMUM); Izmaylovo (55.800°N 37.832°E), 5.VII.1983, A.L. Ozerov (3 ♂♂, 3 ♀♀, ZMUM); Naro-Fominsk (55.375°N 36.756°E), 8–13.V.2006, 14.V., 22.VI.2010, D. Gavryushin (1 ♂, 2 ♀♀, ZMUM); Pavlovskoe env. (55.921°N 35.588°E), 14.VIII.2006, A.L. Ozerov (2 ♂♂, 2 ♀♀, ZMUM); Rozhdestveno (56.932°N 35.625°E), 17.VII.2007, A.L. Ozerov (1 ♂, 1 ♀, ZMUM); Yakshino (55.922°N 35.577°E), 1.VIII.2005, A.L. Ozerov (4 ♂♂, 4 ♀♀, ZMUM); Zelenograd (55.926°N 37.202°E), 23.IV.1999, A. Gusakov (1 ♂, ZMUM); **Murmansk Oblast:** Molochnoe (68.853°N 33.016°E), 20.VII.2011, A. Ozerov (4 ♂♂, 1 ♀, ZMUM); Murmansk env. (68.979°N 33.114°E), 21.VII.2011, A. Ozerov (1 ♀, ZMUM); Revda (67.942°N 34.552°E), 15.VIII.1981, Gorodkov (8 ♂♂, 6 ♀♀, ZISP); **Novgorod Oblast:** Terekhovo (58.072°N 33.333°E), 29.VIII.1948 (1 ♀, ZMUM); **Novosibirsk Oblast:** River Inya (55.0°N 83.2°E), 22.VII.2012, O. Kosterin (2 ♂♂, ZMUM); **Primorsky Krai:** Gornotaezhnoe (43.697°N 132.156°E), 5.IX.1980, Zlobin (1 ♀, ZISP); Lazovsky Nature Reserve, Proselochnaya Bay (43.015°N 134.124°E), 3–5.VII.2007, 6.VIII.2009, A. Ovchinnikov (3 ♂♂, 2 ♀♀, ZISP); Suputinsky [=Ussuriysky] Nature Reserve (ca. 46.591°N 137.021°E), 18.VIII.1980, Zlobin (1 ♂, 1 ♀, ZISP); Lazovsky Nature Reserve, cordon Korpad’ (43.263°N 134.131°E), 8–10.VII.2007, 6.VIII.2009, A. Ovchinnikov (1 ♂, 1 ♀, ZISP); Preobrazhenie (42.909°N 133.890°E), 16–17.VII.2007, A. Ovchinnikov (1 ♂, ZISP); Tigrovyy (=Tigrovoe) (43.189°N 132.894°E), 22.VIII.1979, Zinov’ev (1 ♂, ZISP); Vladivostok env., Sedanka (43.213°N 131.960°E), 20.VI.19278, A. Stackelberg (1 ♂, ZISP). **Ryazan’ Oblast:** Zalesnoe (54.969°N 41.327°E), 21–26.VII.2013, N. Vikhrev (1 ♂, ZMUM); **Sakhalin Oblast:** Kunashir I., Golovnin Volcano (43.841°N 145.504°E), 24.VII.1973, Kasparyan (1 ♂, ZISP); Kunashir I., Tret’yakovo (43.989°N 145.644°E), 7.VIII.1971, Nartshuk (1 ♂, ZISP); same place, 3.VIII.1973, Kasparyan (1 ♂, ZISP); Sakhalin I., Yuzhno-Sakhalinsk (46.954°N 142.736°E), 22.VII.1956, Violovich (1 ♂, 1 ♀, ZISP); **Tuva:** W Sayan pass (51.69°N 89.96°E), 1840 m, 9.VII.2017, N. Vikhrev (1 ♂, ZMUM); **Tyumen’ Oblast:** 75 km WSW of Samburg (ca. 67.035°N 76.541°E), 7–9.VIII.1976, Gorodkov (6 ♂♂, 5 ♀♀, ZISP); Neroyka (ca. 64.57°N 59.67°E), 600 m, 5.VIII.1990, Malozemov (2 ♂♂, ZISP); **Voronezh Oblast:** Ramon’ (51.908°N 39.333°E), 15.IX.1978, A. Shatalkin (1 ♀, ZMUM); **Yakutia:** Deputatskiy (69.319°N 139.966°E), 6.VIII.1974, Gorodkov (11 ♂♂, 10 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 218] and Ozerov & Barkalov [2014: 564].

**DESCRIPTION.** Male. Female (Fig. 1). Body-length 4.5–6.1 mm.

**Head.** Frontal vitta yellow or reddish-yellow, matt; fronto-orbital plate blackish, greyish dusted. Face, parafacial and gena yellow, with delicate whitish or golden reflection. Postcranium blackish. 3 orbital and 3–4 frontal setae present. Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus yellow.

**Thorax** black, densely pale grey dusted. Acrostichals absent, dorsocentrals 2+3, intra-alars absent, supra-alars 1+2, postpronotals 1–2. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs.** All coxae black, greyish dusted. All femora greyish dusted, black, except yellow apex. All tibiae and tarsi yellow. Fore femur covered with whitish hairs, with 4–5 dorsal setulae in apical half. Fore tibia with 1



dorsal, 0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with 1 preapical posterior seta. Mid tibia with 1 anterodorsal, 1 posterodorsal, 0–1 anteroventral setae, also with a ring of apicals. Hind femur with a row of anterodorsal setulae. Hind tibia with 2 posterodorsal, 2 anterodorsal, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae.

*Wing* clear; crossveins r-m and d-m not darkened.

*Abdomen* black, densely pale grey dusted, covered with short whitish hairs, without marginal setae. Male sternite 4 about twice as long as wide (Fig. 34). Male sternite 5 with moderately long and narrow lateral lobes (Fig. 103). Cercal plate longer than surstyli and narrowing to a slender incurved tip (Figs 104, 105). Aedeagus as in Fig. 136.

**DISTRIBUTION.** Russia: throughout midland, north to southern tundra. — Mongolia, North America.

*Scathophaga obscurinervis* (Becker, 1900)  
Figs 35, 106–108.

*obscurinervis* Becker, 1900: 55 (*Scatophaga*). Type-locality: “Insel Nikander und Dudinka” [Dudinka, Nikandrovskie Islands; NW Dudinka, River Yenisey] (Russia: Krasnoyarsk Krai).

**REMARK.** This species was registered in Russia for arctic zone of European part (e.g., Dolgii I., Kolguev I.) [Gorodkov, 1986: 33; Engelmark, 1999: 158, 159; Ovchinnikov, Makarova, 2016: 217], Siberia [Becker, 1900: 55; Ozerov, Barkalov, 2014: 564] and Chukotka [Ozerov, Krivosheina, 2014: 218].

**MATERIAL EXAMINED.** **Arkhangelsk Oblast:** Kolguev I., Bugrino (68.782°N 49.309°E), 20–22.VIII.1970, Gorodkov (6 ♂♂, 6 ♀♀, ZISP); Nar’yan-Mar (67.636°N 53.031°E), 3.VIII.1978, Gorodkov (2 ♂♂, 1 ♀, ZISP); River Silova-Yakha (ca. 68.558°N 64.817°E), 80 km N of Khal’mer’yu, 19.VII.1961, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); **Chukotka:** Pevek (69.702°N 170.298°E), 3.VII.1963, Gorodkov (1 ♂, ZISP); **Krasnoyarsk Krai:** 104 km NNW of Noril’sk, River Nizhnyaya Agapa (ca. 70.097°N 86.688°E), 26–27.VII.1973, Sukacheva & Zherikhin (1 ♂, ZISP); River Pyasina (ca. 72.359°N 90.582°E), 90 km S of Tareya, 23.VII.1967, Gorodkov (2 ♂♂, ZISP); Ust’-Tareya (73.252°N 90.596°E), 14–15.VII.1967, Gorodkov (15 ♂♂, 10 ♀♀, ZISP); **Tyumen’ Oblast:** 75 km WSW of Samburg (ca. 67.035°N 76.541°E), 7–9.VIII.1976, Gorodkov (24 ♂♂, 20 ♀♀, ZISP); 83 km W of Tazovskiy (ca. 67.466°N 76.762°E), valley of the River Khaddute, 29.VIII.1977, Gorodkov (5 ♂♂, 4 ♀♀, ZISP); 87 km NW of Tazovskiy (ca. 67.522°N 77.807°E), floodplain of the Khariyanog River, 29.VII.1977, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); 90 km W of Samburg (ca. 67.035°N 76.541°E), 28.VII.1977, Gorodkov (6 ♂♂, 4 ♀♀, ZISP) Lake Yambuto (71.314°N 80.003°E), VI–VII.1908, B.M. Zhitkov (Expedition I. Russk. geogr. obshchestva to Yamal in 1908) (1 ♂, ZISP); Lake Yaroto-Puykovo (70.766°N 75.750°E), VII–VIII.1908, B.M. Zhitkov (Expedition I. Russk. geogr. obshchestva to Yamal in 1908) (1 ♂, ZMUM); Tabotarka River Basin (67.477°N 70.558°E), VII–VIII.1908, B.M. Zhitkov (Expedition I. Russk. geogr. obshchestva to Yamal in 1908) (1 ♀, ZISP); **Yakutia:** airport Saskylakh (71.934°N 114.083°E), 24.VII.1988, Gorodkov (3 ♀♀, ZISP); Chokurdakh (70.618°N 147.895°E), 20–21.VII.1971, Gorodkov (1 ♂, 1 ♀, ZISP); Tiksi env. (71.635°N 128.857°E), 9.VII. and 10.VIII.1957, Gorodkov (1 ♀, ZISP); Oleneksoe Bay, Ystannakh-Khocho (72.58°N 121.42°E), 20.VIII.2010, A. Yadrenkin (2 ♀♀, ZMUM). See also Ozerov & Krivosheina [2014: 218] and Ozerov & Barkalov [2014: 564].

**DESCRIPTION.** Male. Female. Body-length 3.4–5.2 mm.

*Head.* Frontal vitta yellowish-orange, matt; fronto-orbital plate black, densely greyish dusted. Face, parafacial and gena yellow, with whitish reflection. Postcranium black, densely greyish dusted. 3 orbital and 2–3 frontal setae present. Scapus and pedicel reddish or black. Postpedicel black, approximately 2 times as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely greenish-grey dusted. Acrostichals setulose in two rows, dorsocentrals 2+3, intralalars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum black, greenish-grey dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

*Legs* delicately greyish dusted. All coxae black; fore femur yellow completely or blackish basally; mid and hind femora, all tibiae and all tarsi yellow. Male fore femur without conspicuous setae. Female fore femur with a row of dorsal/posterodorsal setulae. Fore tibia with 1–2 anterodorsal, 1–3 posterodorsal, 1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with 1 preapical posterior seta in both sexes, additionally with a row of anterior/anterodorsal setae in female. Mid tibia with 2 posterodorsal, 1–2 anterodorsal, 1–2 anteroventral/ventral, 1 posterior setae and a ring of apicals. Male hind femur without conspicuous setae. Female hind femur with a row of anterodorsal setae. Hind tibia with 2–3 anterodorsal, 2–3 posterodorsal, 1–2 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral, and 1 apical ventral setae.

*Wing* tinged with brownish; crossveins r-m and d-m strongly darkened.

*Abdomen* black, greenish-grey dusted, covered with hairs in male; female tergites 2–6 with marginal setulae. Male sternite 4 wider than long (Fig. 35); sternite 5 with wide triangular lateral lobes, without median processes (Fig. 106). Epandrium, cercal plate and surstyli as in Figs 107, 108.

**DISTRIBUTION.** Russia: arctic and subarctic from Arkhangelsk Oblast to Chukotka. — Europe (Scandinavia), North America; a rare northern holarctic species.

*Scathophaga pictipennis* (Oldenberg, 1923)  
Figs 36, 109–111.

*pictipennis* Oldenberg, 1923: 307 (*Scatophaga*). Type-locality: Gastein valley (Austria).

*maculipenne* Ringdahl, 1936: 175 (*Scopeuma*). Type-locality: “bei Idre im nördlichen Dalarna” (Sweden).

**REMARK.** The species is known for certain in Russia from the territory of Karelia only [Humala, Polevoi, 2009: 72].

**MATERIAL EXAMINED.** **Karelia:** Kivach Nature Reserve (62.267°N 33.980°E), 31.V. and 5–8.VI.1989, A.V. Polevoy (1 ♂, 1 ♀, ZMUM).

**DESCRIPTION.** Male. Female. Length of body 4.5–5.6 mm.

*Head.* Frontal vitta yellow, with delicate whitish reflection; fronto-orbital plate blackish, greyish dusted. Face and gena yellow, with whitish reflection. Postcranium black in upper half and yellow in lower

half. 3 orbital and 3–4 frontal setae present. Scapus and pedicel dark reddish. Postpedicel black, about twice as long as wide. Arista bare. Palpus yellow.

**Thorax** black, dense pale grey dusted, only postpronotal lobe yellowish. Acrostichals setulose in two rows, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron bare. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs.** Fore coxa yellow, mid and hind coxae brownish or blackish. Fore femur black, except yellow apex, greyish dusted. Mid and hind femora, all tibiae and all tarsi yellow. Male fore femur covered with whitish and blackish hairs, without conspicuous setae. Female fore femur with a row of dorsal/posterodorsal setae. Fore tibia with 2–3 dorsal, 1 posterior, 1 preapical anterodorsal, 1 apical posterodorsal, 1 apical posterior setae. Mid femur with a row of anterodorsal setae, with 1 preapical posterodorsal and 1 preapical posterior setae. Mid tibia with 2 anterodorsal, 2 posterodorsal, 0–1 ventral setae, also with a ring of apicals. Hind femur with a row of dorsal/ anterodorsal setae. Hind tibia with 2–3 posterodorsal, 2–3 anterodorsal, 2–3 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal, and 2 apical anteroventral setae.

**Wing** clear; crossveins r-m and d-m broadly darkened.

**Abdomen** brownish, greyish dusted. Male sternite 4 slightly wider than long (Fig. 36). Male sternite 5 with broad in base narrow apically lateral lobes and with deep and wide median cavity (Fig. 109). Epandrium, cercal plate and surstyli as in Figs 110, 111.

**DISTRIBUTION.** Russia: Karelia. — Europe, North America; extremely rare species.

*Scatophaga spurca* (Meigen, 1826)

Figs 37, 112–114.

*Scatomyza suilla* (Fabricius); Fallén [1819: 5]. Misidentification [see: Michelsen, O'Hara, 2014: 77–79].

*spurca* Meigen, 1826: 250 (*Scatophaga*). Type-locality: not given.

*glabrata* Zetterstedt, 1838: 721 (*Scatomyza*). Type-localities: “Lapponia Norvegica borealis — Dalekarlia Sueciae” (Norway, Sweden).

*scatomyzoides* Zetterstedt, 1838: 727 (*Cordylura*). Type-locality: “Lapponia Umensi... Wilhelmina... (Lappon. — meridional.)” (Sweden).

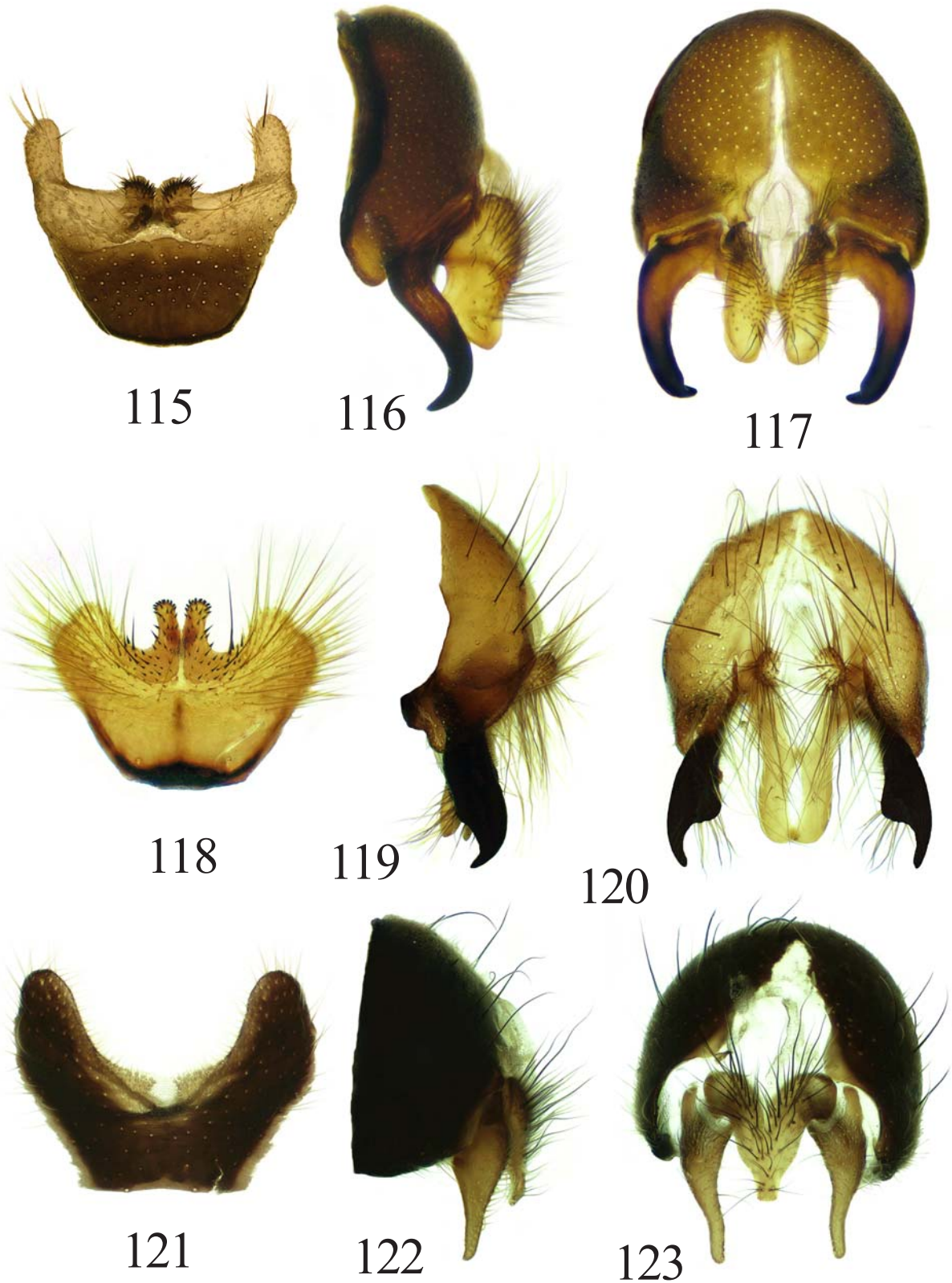
*serotina* Perris, 1839: 48 (*Scatophaga*). Type-locality: “environs de Mont-de-Marsan” (Landes, France).

**REMARKS.** This widespread and common species was recorded in Russia (in most cases as *S. suilla*) from Karelia [Polevoi, 1997: 309; Humala, Polevoi, 2009: 72], Kanin Peninsula [Engelmark, 1999: 158, 159], Mordovia [MacGowan *et al.*, 2021: 17], Yaroslavl' Oblast [Ovchinnikov, 2004: 422], Krasnoyarsk Krai (Taimyr Peninsula) [Ozerov, Barkalov, 2014: 564], Yakutia [Sychevskaya, 1972: 150; Veselkin, 1985: 75; Bagachanova *et al.*, 2016: 783] and Far East [Ozerov, Krivosheina, 2014: 219].

Gorodkov published a map with the distribution area of this species on the territory of the former USSR and

separately on its European part [Gorodkov, 1980: map 68, as *S. suilla*], but without the names of the points.

**MATERIAL EXAMINED.** **Altai:** River Chuya, 20 km NW of Kosh-Agach (50.085°N 88.404°E), 25–27.VII.2006, Nartshuk (1 ♂, ZISP); **Amur Oblast:** Bol'shoy Never (53.978°N 124.150°E), 7.IX.1974, Gorodkov (7 ♂♂, 5 ♀♀, ZISP); **Arkhangelsk Oblast:** 70 km N Nar'yan-Mar (ca. 68.204°N 53.627°E), 18.VIII.1978, Gorodkov (4 ♂♂, 1 ♀, ZISP); 73 km NW of Nar'yan-Mar (ca. 67.981°N 51.608°E), 3.VIII.1978, Gorodkov (3 ♂♂, 1 ♀, ZISP); Arkhangelsk (64.546°N 40.567°E), 10.VIII.1967, Gorodkov (8 ♂♂, 3 ♀♀, ZISP); Belush'e env. (66.89°N 47.61°E), 24.VIII.1978, Gorodkov (2 ♂♂, ZISP); Kanin Nos (68.656°N 43.279°E), 17.VII.1970, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Kargopol' (61.503°N 38.971°E), 13.VII.1982, Gorodkov (1 ♀, ZISP); Kolguev I., Bugrino (68.782°N 49.309°E), 20–21.VIII.1970, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Lomonosovo (64.229°N 41.732°E), 31.VIII.1978, Gorodkov (1 ♂, ZISP); Mezen' (65.85°N 44.24°E), 25 and 27.VIII.1978, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); Nar'yan-Mar (67.636°N 53.031°E), 28.VIII.1970, 4, 7 and 21.VIII.1978, Gorodkov (5 ♂♂, 3 ♀♀, ZISP); Nizhnaya Pesha (66.751°N 47.760°E), 22.VIII.1978, Gorodkov (1 ♂, 1 ♀, ZISP); Omega (63.922°N 38.085°E), 20.VII.1996, Gorodkov (2 ♂♂, ZISP); Solovetskiy I. (65.080°N 35.686°E), 27.VII.1975, Gorodkov (1 ♂, ZISP); Solvychevsk env. (61.327°N 46.918°E, 61.342°N 46.913°E), 13–14.VIII.2010, D. Gavryushin (6 ♂♂, 8 ♀♀, ZMUM); same place, 2.IX.1981, Gorodkov (1 ♂, 2 ♀♀, ZISP); Velikovochnoe (67.255°N 52.0328°E), 18.VIII.1978, Gorodkov (2 ♂♂, 3 ♀♀, ZISP); **Bashkiria:** Bashkirskiy Nature Reserve (53.420°N 57.935°E), 7.VIII.1975, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Beloretsk env. (54.051°N 58.268°E, 54.004°N 58.463°E, 53.973°N 58.344°E), 7–10.VIII.2012, D. Gavryushin (2 ♂♂, 1 ♀, ZMUM); Ufa env. (54.776°N 56.068°E), 18.VIII.1975, Gorodkov (2 ♂♂, 1 ♀, ZISP); **Buryatia:** Barguzinsky Nature Reserve (ca. 54.35°N 109.51°E), 20.VII.1965, Negrobov (2 ♂♂, 1 ♀, ZISP); Khasura (50.327°N 103.282°E), 1.VII.1971, V. Richter (1 ♂, ZISP); Tankhoy (51.554°N 105.118°E), 10–17.VI.1980, Barkalov (1 ♂, 1 ♀, ZISP); **Chukotka:** Markovo (ca. 64.680°N 170.412°E), 18.VIII.1966, Gorodkov (10 ♂♂, 8 ♀♀, ZISP); **Irkutsk Oblast:** Padun (56.293°N 101.711°E), 24.VI.1956, Monchadskiy (13 ♂♂, 8 ♀♀, ZISP); **Kamchatka Krai:** Kozzyrevsk (56.048°N 159.870°E), 7.IX.1969, Gorodkov (2 ♂♂, 1 ♀♀, ZISP); Commander Islands, Mednyy I. (54.709°N 167.709°E), 29.VII.1932, I. Barabash (2 ♂♂, ZISP); Esso (55.927°N 158.704°E), 4 and 5.VIII.1978, A. Zinov'ev (2 ♂♂, ZISP); Commander Islands, Preobrazhenskoe (54.790°N 167.578°E), 5.IX.1959, Gorodkov (2 ♂♂, 1 ♀, ZISP); **Karelia:** Gridino (65.920°N 34.669°E), 11.IX.1984, Gorodkov (1 ♀, ZISP); Kartesh (66.33°N 33.64°E), 18 and 21.VII.1975, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); Keret' (66.190°N 32.884°E), 8.IX.1984, Gorodkov (1 ♂, 1 ♀, ZISP); Pudozh (66.804°N 36.565°E), 17 and 19.VII.1982, Gorodkov (5 ♂♂, 2 ♀♀, ZISP); **Khabarovsk Krai:** Bulgino env. (59.371°N 143.147°E), 29.VIII.1987, Gorodkov (2 ♂♂, 1 ♀, ZISP); **Khakassia:** W Sayan pass (51.717°N 89.882°E), 2100 m, 9–12.VII.2017, N. Vikhrev (6 ♂♂, 1 ♀, ZMUM) **Komi:** Blagoievo (63.41°N 47.95°E), 12.VII.1996, Gorodkov (1 ♂, ZISP); Ust-Tsilma (65.440°N 52.153°E), 9.VIII.1978, Gorodkov (2 ♂♂, ZISP); Yaksha (61.823°N 56.821°E), 12.VIII.1989, Gorodkov (10 ♂♂, 4 ♀♀, ZISP); **Krasnoyarsk Krai:** Baykit (61.68°N 96.38°E), 23–25.VIII.1972, Gorodkov (16 ♂♂, 10 ♀♀, ZISP); Dudinka (69.404°N 86.182°E), 2–3.VII.1967, Gorodkov (2 ♂♂, ZISP); Igarka (67.457°N 86.598°E), River Yenisei, 30.VI and 1.VII.1967, Gorodkov (4 ♂♂, ZISP); Khatanga (71.981°N 102.483°E), 25.VIII.1971, Gorodkov (13 ♂♂, 8 ♀♀, ZISP); Turukhansk (65.797°N 87.958°E), 27–28.VI.1967, Gorodkov (6 ♂♂, 4 ♀♀, ZISP); **Leningrad Oblast:** Luga (ca. 58.73°N 29.84°E), 15.VII.1953, 16.VIII.1955, A. Stackelberg (1 ♂, 2 ♀♀, ZISP); Rakovichy (58.650°N 29.836°E), 7 and 31.V., 13–15.VI.1897, G. Pleske (5 ♂♂, 2 ♀♀, ZISP); Saint Petersburg (59.934°N 30.359°E), 29.VIII.1995, Gorodkov (6 ♂♂, 1 ♀, ZISP); Tolmachevo (58.856°N 29.895°E), 11.VI. and 7.VII.1935, Rohdendorf (5 ♂♂, 2 ♀♀, ZISP); Yashchera (58.894°N 29.820°E), 7.VI.1958, A. Stackelberg (1 ♂, ZISP); **Lipetsk Oblast:** Donskoe (52.618°N 38.978°E), 29.VIII.1978, Tryapitsyn (1 ♂, ZISP); **Magadan Oblast:** Chaybukha (61.80°N 160.413°E), 1.IX.1987, Gorodkov (2 ♂♂, 7 ♀♀, ZISP); Evensk (61.916°N 159.234°E), 9.IX.1987, Gorodkov (1 ♂, ZISP); Gizhiga (61.948°N



Figs 115–123. *Scathophaga stercoraria* (Linnaeus) (115–117), *S. taeniopa* (Rondani) (118–120) and *S. tinctinervis* (Becker) (121–123): 115, 118, 121 — male sternite 5; 116, 119, 122 — epandrium, cercal plate and surstyli, lateral view; 117, 120, 123 — same, dorsal view. 116, 117 — after Ozerov & Freidberg, 2011, figs 25, 26.

Рис. 115–123. *Scathophaga stercoraria* (Linnaeus) (115–117), *S. taeniopa* (Rondani) (118–120) и *S. tinctinervis* (Becker) (121–123): 115, 118, 121 — стернит 5 самца; 116, 119, 122 — эпандрий, церки и сурстили, сбоку; 117, 120, 123 — то же, сверху. 116, 117 — по Ozerov & Freidberg, 2011, figs 25, 26.



Figs 124–129. *Scathophaga varipes* (Holmgren) (124–126) and *S. yakutica* Ozerov (127–129): 124, 127 — male sternite 5; 125, 128 — epandrium, cercal plate and surstyli, lateral view; 126, 129 — same, dorsal view. 127–129 — after Ozerov, 2017, figs 1–3.

Рис. 124–129. *Scathophaga varipes* (Holmgren) (124–126) и *S. yakutica* Ozerov (127–129): 124, 127 — стернит 5 самца; 125, 128 — эпандрий, церки и сурстили, сбоку; 126, 129 — то же, сверху. 127–129 — по Ozerov, 2017, figs 1–3.

160.377°E), 5.IX.1987, Gorodkov (1 ♀, ZISP); Sokol (59.919°N 150.752°E), 25.VIII.1966, Gorodkov (4 ♂♂, 3 ♀♀, ZISP); **Moscow and Moscow Oblast:** Bittsa (55.641°N 37.570°E), 24–31.VII.1936, B. Rohdendorf (5 ♂♂, 1 ♀, ZMUM); Dmitrov env. (56.316°N 37.725°E), 8–15.IX.2006, 19.V., 21.VI., 8 and 10.VII., and 2.IX.2007, 18.V.2010, N. Vikhrev (13 ♂♂, 4 ♀♀, ZMUM); Golitsyno (55.649°N 37.011°E), 21.V.1977, 21.V.1978, 31.V. and 4–7.IX.1981, 5.VI.1982, A. Shatalkin (4 ♂♂, 4 ♀♀, ZMUM); Izmaylovo (55.800°N 37.832°E), 18.VI.1983, A.L. Ozerov (1 ♂, ZMUM); Zvenigorod env. (55.700°N 36.722°E), 24.V.1981, A.L. Ozerov (4 ♂♂, 1 ♀, ZMUM); **Murmansk Oblast:** Aleksandrovsk [= Polyarnyy] (69.198°N 33.456°E), IX.1923, Fridolin (1 ♀, ZISP); same place, 24–25.VIII.1923, V. Kuznetsov (2 ♂♂, 1 ♀, ZISP); Lake Vuduyavr Basin (ca. 67.646°N 33.644°E), 18 and 23–24.VI.1930, Fridolin (3 ♂♂, 1 ♀, ZISP); Dal'nie Zelentsy (69.117°N 36.062°E), 6 and 10.VIII.1981, 2.IX.1984, Gorodkov (7 ♂♂, 1 ♀, ZISP); Khibiny Station (67.673°N 33.212°E), 4.IX.1928, Cheburova (1 ♀, ZISP); Kirovsk env. (67.608°N 33.661°E), 6 and 9.VII.1975, Zinov'ev (1 ♂, 1 ♀, ZISP); Kovdor (67.563°N 30.477°E), 21.VIII.1995, Gorodkov (7 ♂♂, 4 ♀♀, ZISP); Krasnoshchel'e (67.351°N 37.045°E), 18.VIII.1981, Gorodkov (1 ♂, 2 ♀♀, ZISP); Sonostrov (66.172°N 34.233°E), 11.IX.1984, Gorodkov (1 ♂,

ZISP); Sosnovka (66.5073°N 40.583°E), 23.VIII.1981, Gorodkov (10 ♂♂, 2 ♀♀, ZISP); Tumanny (68.883°N 35.693°E), 4.VIII.1981, Gorodkov (3 ♂♂, 1 ♀, ZISP); Varzuga (66.394°N 36.596°E), 16.VIII.1995, Gorodkov (3 ♂♂, 1 ♀, ZISP); **Novgorod Oblast:** Novgorod env. (58.486°N 31.284°E), 1.X.1978, Gorodkov (1 ♂, 2 ♀♀, ZISP); Ramen'e (58.374°N 33.430°E), Okulovka env., 4.VI.1988, Gorodkov (4 ♂♂, 1 ♀, ZISP); **Novosibirsk Oblast:** Koynikha (54.568°N 83.252°E), 13.VIII.1977, Gorodkov (2 ♂♂, 1 ♀, ZISP); **Primorsky Krai:** Terney env. (45.043°N 136.634°E), 8.X.2016, M. Sergeev (1 ♀, ZMUM); **Ryazan' Oblast:** Kasimov env. (54.969°N 41.327°E), 21–24.VII.2013, N. Vikhrev (1 ♂, ZMUM); **Sakhalin Oblast:** Kunashir I., Kurilsky Nature Reserve, cordon Andreevsky (43.54°N 145.37°E), 6–8.VII.2014, I.A. Gomyranov (1 ♂, ZMUM); Kunashir I., Sernovodsk (43.912°N 145.641°E), 8.VI.1968, V. Richter (10 ♂♂, 8 ♀♀, ZISP); Kunashir I., Yuzhno-Kuril'sk (44.029°N 145.859°E), 16.VI.1968, V. Richter, (1 ♂, ZISP); same place, 5.VII.1979, A. Zinov'ev (1 ♂, ZISP); Paramushir I., Severo-Kuril'sk (50.679°N 156.132°E), 16.VIII.1978, A. Zinov'ev (1 ♂, ZISP); Shikotan I., Malokuril'sk (43.869°N 146.829°E), 24.IX.1968, Gorodkov (28 ♂♂, 8 ♀♀, ZISP); **Smolensk Oblast:** "Smolenskoe poozer'e" National Park (55.511°N 31.839°E), 29, 30.VII. and 9.VIII.1991, Zlobin (2 ♂♂, 1 ♀, ZISP);

**Tyumen' Oblast:** "Elizarovskoe, Tobol. gub." (=Elizarovo: 61.395°N 68.295°E), 7.VI.1907, M. Lagin (1 ♂, ZMUM); 75 km WSW of Samburg (ca. 67.035°N 76.541°E), 6–9.VIII.1976, Gorodkov (9 ♂♂, 8 ♀♀, ZISP); Labytnangi (66.657°N 66.391°E), 30.VI., 8–21.VII.1973, 28.VII.1981, V. Sychevskaya, G.A. Veselkin (11 ♂♂, 4 ♀♀, ZMUM); Cape Kamenny (68.495°N 73.582°E), 9.VIII.1967, Gorodkov (3 ♂♂, 3 ♀♀, ZISP); Neroyka (ca. 64.57°N 59.67°E), 650 m, 6.IX.1990, Malozemov (1 ♂, ZISP); same place, 450 m, 29.VI.1990, Malozemov (1 ♂, ZISP); Salekhard (66.53°N 66.613°E), 3.VIII.1961, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); same place, 4–5.VIII.1976, Gorodkov (3 ♂♂, 2 ♀♀, ZISP); Saranpaul' (64.257°N 60.917°E), 23.VI.1989, Malozemov (2 ♂♂, ZISP); Tarko-Sale (64.914°N 77.766°E), 1 and 2.IX.1982, Gorodkov (4 ♂♂, 5 ♀♀, ZISP); **Vologda Oblast:** Vologda env. (59.207°N 39.904°E), 8.IX.1981, Gorodkov (1 ♀, ZISP); **Yakutia:** Aykhal (65.944°N 111.495°E), 19.VIII.1988, Gorodkov (1 ♂, 1 ♀, ZISP); Batagay (67.653°N 134.635°E), 31.VII.2008, A. Ovchinnikov (1 ♀, ZISP); Bestyakh (65.281°N 124.120°E), 14.VI.1912, Naumov (1 ♀, ZISP); Khaptagay (61.787°N 129.795°E), 30.VI.1974, Nartshuk (1 ♂, ZISP); left bank of the River Yana opposite of Verkhoyansk (67.55°N 133.359°E), 21 and 23.VII.1974, Nartshuk (5 ♂♂, 3 ♀♀, ZISP); Lensk (60.727°N 114.943°E), 12 and 14.IX.1987, Gorodkov (1 ♂, 1 ♀, ZISP); Mikhaylovka, 60 km NE of Amga (61.214°N 132.681°E), 15.VIII.1984, Averinskiy (5 ♂♂, ZISP); Mirnyy (62.540°N 113.962°E), 22.VIII.1988, Gorodkov (1 ♂, ZISP); Neryuktyayinsk-1 (60.258°N 119.673°E), 11.VII. 2008, A. Ovchinnikov (2 ♂♂, 1 ♀, ZISP); Nyurba (63.285°N 118.331°E), 18.VI.1987, Zlobin (3 ♂♂, 1 ♀, ZISP); Oktemtsy env. (61.672°N 129.417°E), 18.VII.1977, Bagachanova (1 ♀, ZISP); Olekminsk (60.370°N 120.436°E), 29.VIII.1988, Gorodkov (2 ♂♂, 1 ♀, ZISP); Olenek (68.504°N 112.457°E), 9.VIII.1973, Gorodkov (10 ♂♂, 2 ♀♀, ZISP); Oleneksky Bay, Ystannakh-Khocho (72.58°N 121.42°E), 20.VIII.2010, A. Yadrenkin (1 ♂, ZMUM); Pokrovsk (61.467°N 129.101°E), 21.VII.1986, Makarkin (2 ♂♂, IBSS); River Yana, Stolby env. (67.531°N 134.087°E), 29.VII. 2008, A. Ovchinnikov (6 ♂♂, 1 ♀, ZISP); Saskylakh env. (71.966°N 114.094°E), 9.VIII.1988, Gorodkov (11 ♂♂, 1 ♀, ZISP); Srednekolymsk (67.460°N 153.710°E), 16.VIII.1974, Gorodkov (6 ♂♂, 3 ♀♀, ZISP); Tiksi env. (71.635°N 128.857°E), 30.VII.1990, Kaspyaryan (2 ♀♀, ZISP); Tolon (59.458°N 111.539°E), 14.VII.1987, Zlobin (1 ♂, ZISP); Tommot (58.963°N 126.282°E), 23.VIII.1969, Sychevskaya (1 ♀, ZISP); Udachnyy (66.405°N 112.2994°E), 21.VIII.1988, Gorodkov (1 ♂, ZISP); Verkhoyansk (67.548°N 133.396°E), 3.VIII.1969, Sychevskaya (3 ♂♂, 1 ♀, ZISP); Vilyuysk env. (63.750°N 121.637°E), 24.VIII.1988, Gorodkov (1 ♀, ZISP); Yakutsk env. (62.034°N 129.618°E), 3.VIII.2008, A. Ovchinnikov (1 ♂, ZISP); Zhigansk (66.766°N 123.372°E), 7–15.VIII.1973, Gorodkov (7 ♂♂, 5 ♀♀, ZISP); **Zabaikalsky Krai:** Chita (52.065°N 113.444°E), 10.IX.1974, Gorodkov (1 ♀, ZISP); Ingoda (51.851°N 113.097°E), 7.VII.1971, V. Richter (2 ♂♂, ZISP); Kyra (49.581°N 111.974°E), 17.VI.1975, V. Richter (1 ♂, ZISP); Olovyannaya (50.994°N 115.561°E), 9.VII.1971, V. Richter (1 ♂, ZISP). See also Ozerov & Krivosheina [2014: 218, as *S. suilla*] and Ozerov & Barkalov [2014: 564, as *S. suilla*].

**DESCRIPTION.** Male. Female. Body-length 3.8–7.7 mm.

**Head.** Frontal vitta yellow or reddish-yellow, matt; fronto-orbital plate blackish, greyish dusted. Face, parafacial and gena yellow, with delicate whitish reflection. Postcranium black in upper third or half and yellow in lower part. 3 orbital and 3–4 frontal setae present. Antenna reddish-yellow. Postpedicel approximately twice as long as wide. Arista pubescent or plumose, the longest hairs approximately equal or more than 1/2 width of postpedicel. Palpus yellow.

**Thorax** greyish dusted. Scutum black completely, only postpronotal lobe usually yellowish; pleural sclerites yellowish in ground color, but anatergite, katatergite and mediotergite always black. Acrostichals setulose

in two rows, but prescutellar pair stronger than other acrostichals, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Katepisternum posteriorly with yellow hairs and setulae and, as a rule, without black setulae. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs** yellow. Fore femur covered with hairs, but without conspicuous setae in male, with a row of thin dorsal setae in female. Fore tibia with 2 dorsal, 0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with 1 preapical seta in male and usually with a row of anterodorsal setae in female, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 1–2 posterodorsal, 1 anterodorsal setae and a ring of apicals. Hind femur without conspicuous setae in male and with a row of anterodorsal setae in female. Hind tibia with 2–3 anterodorsal, 2–3 posterodorsal, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anteroventral setae.

**Wing** tinged with brownish; crossveins r-m and dm-cu darkened.

**Abdomen** from yellowish to dark brownish, delicately greyish dusted, covered with not long hairs; female tergites with black marginal setulae. Female tergite 7 shiny. Male sternite 4 approximately 2 times as long as wide (Fig. 37); sternite 5 with a pair of narrow median processes (Fig. 112). Epandrium, cercal plate and surstyli as in Figs 113, 114.

**DISTRIBUTION.** Russia: throughout midland, north to southern tundra. — Europe (widespread), China, Japan, Kazakhstan, Mongolia, Syria [Šifner, 2008: 172], North America; a widespread and common species, but more abundant in the forest zone.

### *Scathophaga stercoraria* (Linnaeus, 1758)

Figs 2, 38, 115–117.

*stercoraria* Linnaeus, 1758: 599 (*Musca*). Type-locality: not given (?Sweden).

*merdaria* Fabricius, 1794: 344 (*Musca*). Type-locality: "Habitat Kiliae" [= Kiel, Germany].

*erythrostroma* Holmgren, 1883: 176 (*Scatomyza*). Type-locality: "Matotschkin Scharr" [Matochkin Schar, Novaya Zemlya] (Russia); [synonymized by Šifner, 2008: 170].

*asticha* Szilády, 1926: 594 (*Scatophaga*, as ab. of *merdaria*). Type-localities: "Budapest und Pusztapó, aus Tunis und aus dem Kaukasus" (Hungary, Tunisia, Russia).

*asticha* Szilády, 1926: 594 (*Scatophaga*, as ab. of *stercoraria*). Type-locality: "Topánfalva" [= Cîmpeni] Roumania.

*disticha* Szilády, 1926: 594 (*Scatophaga*, as ab. of *stercoraria*). Type-localities: "verschiedenen Gegenden Ungarns und aus Tomsk, Sibirien" (Hungary and Russia).

*nigricans* Szilády, 1926: 595 (*Scatophaga*, as var. of *stercoraria*). Type-locality: "Island" (Iceland).

*polysticha* Szilády, 1926: 594 (*Scatophaga*, as ab. of *merdaria*). Type-localities: "Ungarn und Tunis" (Hungary and Tunisia).

*alpestre* Sack, 1937: 58 (*Scopeuma*, as var. of *stercoraria*). Type-locality: not given.

**REMARKS.** This species was registered in Russia by many authors (e.g., Hendel [1930: 2], Gorodkov [1970: 451, 1986: 33], Sychevskaya [1972: 150], Veselkin [1985: 75], Verves *et al.* [1990: 141], Ovchin-

nikov [2004: 422], Ozerov [2009: 379], Ozerov & Krivosheina [2014: 218], Ozerov & Barkalov [2014: 564], Bagachanova *et al.* [2016: 782, 783], Ovchinnikov & Makarova [2016: 217], MacGowan *et al.* [2021: 17]).

Gorodkov published a map with the distribution area of this species on the territory of the former USSR and separately on its European part [Gorodkov, 1981: map 121], but without names of the points.

**MATERIAL EXAMINED.** About 4000 specimens taken from the majority of Regions of Russia were examined in the collections of ZMUM and ZISP, including published material [Ozerov & Krivosheina, 2014: 218, 219; Ozerov & Barkalov, 2014: 564].

**DESCRIPTION.** Male. Female (Fig. 2). Body-length 4.6–9.8 mm.

Color, length, and thickness of hairs on the body vary greatly, with males usually paler than females. As a rule, thorax, abdomen, and legs of male with dense, golden hairs, and females with less dense, greenish-yellow or black hairs. Chaetotaxy better seen in females (Fig. 00), and black setae in males often hidden among dense hairs. Pollination on thorax, abdomen, and legs varies from golden-yellow to greenish-grey in both sexes.

**Head.** Frontal vitta reddish-yellow, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena yellow, with delicate whitish or golden reflection. Postcranium black. 3 orbital and 3–6 frontal setae present. Antenna black. Postpedicel approximately 2 times as long as wide. Arista pubescent or plumose, the longest hairs approximately equal or more than 1/2 width of postpedicel. Palpus yellow.

**Thorax** black, densely greyish dusted, with dark stripes and fuzzy spots on scutum and scutellum. Acrostichals setulose in two rows, but prescutellar pair stronger than the other acrostichals, dorsocentrals 2+3, intralars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae, also with a pair of discal setulae.

**Legs** densely greyish dusted. All coxae black; all femora black, except apex; all tibiae and tarsi yellow. Fore femur covered with hairs, with a row of thin ventral setae in both sexes, additionally with a row of dorsal setae in female. Fore tibia with 2–3 dorsal, 1–2 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with a row of anterodorsal setae, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 3–4 posterodorsal, 3 anterodorsal, 1–2 anteroventral, 1 posteroventral setae and a ring of apicals. Hind femur with 2–5 anterodorsal setae in apical third or half in male and a row of anterodorsal setae in female. Hind tibia with 3–4 anterodorsal, 3–4 posterodorsal, 1–2 anterior, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anterior and 1 apical anteroventral setae in both sexes, additionally with 2–3 anteroventral setae in female.

**Wing** tinged with brownish; crossvein r-m slightly to distinctly darkened, crossveins r-m as a rule not darkened.

**Abdomen** black, densely greyish dusted, covered with dense hairs in male; in female tergites with black marginal setulae. Male sternite 4 approximately 2 times as long as wide (Fig. 38); sternite 5 with short lateral lobes and a pair of short median processes (Fig. 115). Epanthrium, cercal plate and surstyli as in Figs 116, 117.

Description and figures of female ovipositor are given by Ovchinnikov [2009: 625, 626].

**DISTRIBUTION.** Throughout Holarctic region; Oriental region: China, India, Nepal [Vockeroth, 1977: 438], Vietnam [Ozerov, Krivosheina, 2011: 3]; Haiti [Vockeroth, 2010: 1269]; the commonest species.

*Scathophaga taeniopa* (Rondani, 1866)  
Figs 4, 39, 118–120.

*taeniopa* Rondani, 1866: 27; 1867: 111 (*Scatophaga*). Type-locality: “in collibus agri parmensis” (vicinity of Parma, Italy).

*ordinata* Becker, 1894: 168 (*Scatophaga*). Type-locality: “St. Moritz” (Switzerland).

**REMARK.** This species was recorded in Russia from Sayan Mountains and Kuban [Gorodkov, 1970: 451], Komi and Caucasus [Gorodkov, 1986: 34], Yakutia [Veselkin, 1985: 75; Bagachanova *et al.*, 2016: 783], Far East [Ozerov, Krivosheina, 2014: 219].

**MATERIAL EXAMINED.** **Altai:** “Rodonovy istochnik”, 2412 m, Lake Muzdy-Bulak (49.46°N 88.05°E), 5.VII.2008, A. Barkalov (2 ♂♂, 2 ♀♀, ISEA); Bol’shoy Yaloman (50.489°N 86.416°E), 9.VII.1967, R. Kamenskaya (1 ♂, ISEA); Chusky ridge, 2185–2600 m (49.65°N, 88.22°E), 12–13.VII.2009, A. Barkalov (1 ♂, 7 ♀♀, ISEA); Kosh-Agach, plateau Ukok, 2400 m, Lake Muzdy-Bulak, env. (49.26°N, 87.65°E), 10.VII.2008, A. Barkalov (1 ♀, ISEA); Onguday env. (50.77°N 86.09°E), 8–13.VII.2016, N. Vikhrev (1 ♂, ZMUM); Tigirek Vill. (51.13°N 83.05°E), 550 m, 9–12.VII.2014, I. Shamshev (1 ♀, ZISP); **Amur Oblast:** Bol’shoy Never (53.978°N 124.150°E), 8.IX.1974, Gorodkov (3 ♂♂, 4 ♀♀, ZISP); **Buryatia:** Khamney (50.402°N 103.868°E), 28.VI.1971, V. Richter (1 ♂, ZISP); Lake Baykal, Pokoyniki env. (53.713°N 109.049°E), 21.VII.1962, Gorodkov (2 ♂♂, 1 ♀, ZISP); Mondy env. (51.675°N 100.992°E), 17–18.VIII.1962, 18–19.VII., 24.VII. and 4.VIII.1965, Gorodkov (9 ♂♂, 8 ♀♀, ZISP); **Chelyabinsk Oblast:** Kyshtym (55.715°N 60.551°E), 23.VII.–2.VIII.1929, Burakova (1 ♀, ZISP); **Irkutsk Oblast:** Listvyanka (51.863°N 104.866°E), 24.VI. and 6.VII.1965, Negrobov (2 ♂♂, ZISP); Irkutsk: (52.332°N 104.249°E), 5.VII.1912, Kornakova (1 ♂, ZISP); **Kirov Oblast:** Kirov env. (58.596°N 49.663°E), 28.VIII.1962, Kalinkova (1 ♀, ZISP); **Komi:** Shchel’yayur (65.33°N 53.43°E), 12.VIII.1978, Gorodkov (4 ♂♂, 1 ♀, ZISP); **Krasnodar Krai:** River Tsetse (ca. 44.614°N 39.548°E), 13 and 16.VI.1903, Filipchenko (1 ♂, 1 ♀, ZISP); Teberdinskiy Nature Reserve, (43.443°N 41.738°E), 3.IX.1965, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); Teberdinskiy Nature Reserve, “Severnnyy priyut” (43.252°N 41.829°E), 25.VIII.1980, Tanasiychuk (1 ♂, 1 ♀, ZISP); **Krasnoyarsk Krai:** Buyba (52.815°N 93.294°E), 3.VIII.1963, Grunin (3 ♂♂, ZISP); Lake Il’chir env. (51.973°N 100.993°E), 2.VIII.1965, Gorodkov (20 ♂♂, 15 ♀♀, ZISP); **Moscow and Moscow Oblast:** Kosino (55.721°N 37.847°E), 8.VIII.1912, E. Smirnov (1 ♀, ZMUM); **North Ossetia – Alania:** Tsey (43.793°N 43.922°E), 16.IX.1989, A. Shatalkin (1 ♂, 1 ♀, ZMUM); **Omsk Oblast:** Omsk (54.969°N 73.360°E), 26.VI.2008, O. Kosterin (1 ♀, ZMUM); **Primorsky Krai:** Gornotaezhnoe (43.697°N 132.156°E), 17.VI.1993, M. Mikhaylovskaya (3 ♂♂, 4 ♀♀, ZISP); Primorsky (43.097°N 131.587°E), 26.VIII.1980, Kireychuk (1 ♀, ZISP); **Smolensk Oblast:** “Smolenskoe poozer’e” National Park (55.511°N 31.839°E), 12.VIII.1991, Zlobin (1 ♀, ZISP); **Yakutia:** 20 km above of the mouth of the River Biryuk (60.434°N 119.497°E), 15.VII. 2008, A. Ovchinnikov (2 ♂♂, 1 ♀, ZISP); Abaga (61.049°N 132.280°E), 19.VII. 2008, A. Ovchinnikov (3 ♂♂, 2 ♀♀, ZISP); Aldan env. (58.609°N

125.373°E), 30.VIII.1974, Gorodkov (21 ♂♂, 13 ♀♀, ZISP); same place, 3.VIII.1977, G. Veselkin (15 ♂♂, 1 ♀, ZMUM); Arka (60.077°N 142.335°E), 26.VIII.1987, Gorodkov (1 ♂, ZISP); Khaptagay (61.785°N 129.797°E), 23.VI–4.VII.1974, L. Zimina, R. Kamenskaya (12 ♂♂, 9 ♀♀, ZMUM); Khaptagay (61.787°N 129.795°E), 29.VI.1974, Nartshuk (4 ♂♂, 6 ♀♀, ZISP); Kutana (62.713°N 117.579°E), 4.VII.1987, Zlobin (2 ♂♂, 1 ♀, ZISP); Kyachchi env. (60.348°N 120.084°E), 20.VII.2008, A. Ovchinnikov (1 ♂, 2 ♀♀, ZISP); left bank of the River Yana opposite of Verkhoyansk (67.55°N 133.359°E), 23.VII.1974, Nartshuk (1 ♂, ZISP); Lensk (60.727°N 114.943°E), 14.IX.1987, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); Mikhaylovka (61.214°N 132.681°E), 1.VIII.1987, V. Zlobin (1 ♂, ZISP); same place, 2 and 4.VIII.1984, 4.VIII.1986, 8.VIII.1987, Bagachanova, Averinskiy (6 ♀♀, ZISP); Neryuktyayinsk-1 (60.258°N 119.673°E), 11, 17 and 18.VII. 2008, A. Ovchinnikov (8 ♂♂, 11 ♀♀, ZISP); Oktemtsy env. (61.672°N 129.417°E), 4–7.VII.2008, A. Ovchinnikov (6 ♀♀, 1 ♀, ZISP); Olekminsk (60.370°N 120.436°E), 6.VIII.1974, Nartshuk (1 ♂, ZISP); same place, 29–31.VIII.1988, Gorodkov (3 ♂♂, 8 ♀♀, ZISP); River Biryuk, 4 km below the mouth of the River Melichan (ca. 60.434°N 119.495°E), 14.VII.2008, A. Ovchinnikov (2 ♂♂, 1 ♀, ZISP); the mouth of the River Olekmy (60.366°N 120.667°E), 3.VIII.1974, Nartshuk (1 ♂, 1 ♀, ZISP); Tommot (58.963°N 126.282°E), 23.VIII.1969, Sychevskaya (1 ♂, 2 ♀♀, ZISP); Tyungyulyu (62.201°N 130.676°E), 21.VIII.1989, Vinokurova (3 ♂♂, 1 ♀, ZISP); same place, 30.VIII.2003, Dedyukina (2 ♀♀, ZISP); Yakutsk (62.034°N 129.618°E), 21.VII.1987, Zlobin (4 ♂♂, 2 ♀♀, ZISP); Zhigansk (66.766°N 123.372°E), 15.VIII.1973, Gorodkov (1 ♀, ZISP); **Zabaikalsky Krai:** Baley (51.580°N 116.638°E), 18.VII.1971, V. Richter (1 ♀, ZISP); Ingoda (51.851°N 113.097°E), 7.VII.1971, V. Richter (1 ♀, ZISP); Elizavetino (51.658°N 113.605°E), 26.VIII.1981, V. Zherikhin (1 ♂, ZMUM). See also Ozerov & Krivosheina [2014: 219].

**DESCRIPTION.** Male. Female. Body-length 7.1–9.6 mm.

**Head** (Fig. 4). Frontal vitta yellow or reddish-yellow, with delicate whitish reflection; fronto-orbital plate blackish, greenish grey dusted. Face, parafacial and gena yellow, with delicate golden reflection. Postcranium black in upper third or half and yellow in lower part. 3 orbital and 4–6 frontal setae present. Antenna reddish-yellow. Postpedicel approximately twice as long as wide. Arista pubescent or plumose, the longest hairs approximately equal or more than 1/2 width of postpedicel. Palpus yellow.

**Thorax** black in ground colour, greyish dusted, but usually postpronotal lobe yellowish. Acrostichals not differentiated from the other hairs on scutum or setulose in two irregular rows, but prescutellar pair stronger than the other acrostichals, dorsocentrals 2+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Katepisternum posteriorly besides yellow hairs and setulae, as a rule also with several black setulae. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs** yellow. Fore femur covered with hairs, but without conspicuous setae. Fore tibia with 2 dorsal, 0–1 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with 1 preapical seta in male and usually with a row of anterodorsal setae in female, also with 1 preapical posterior and 1 preapical posterodorsal setae in both sexes. Mid tibia with 2 posterodorsal, 1 anterodorsal setae and a ring of apicals. Hind femur with 1–2 preapical anterodorsal setae in male and with a row of anterodorsal setae in female. Hind tibia with 3–4 anterodorsal, 2–3 posterodorsal,

1 preapical dorsal, 1 preapical anterodorsal, 1 apical anteroventral setae.

**Wing** tinged with brownish; crossveins r-m and dm-cu slightly darkened.

**Abdomen** from yellowish to dark brownish, delicate greyish dusted, covered with not long hairs, female tergites with black marginal setulae. Female tergite 7 shiny. Male sternite 4 approximately 2 times as long as wide (Fig. 39); sternite 5 with a pair of median processes (Fig. 118). Epandrium, cercal plate and surstyli as in Figs 119, 120; surstylus broad in median part.

Photo of female ovipositor was given by Ovchinnikov [2009: 636, fig. 30].

**DISTRIBUTION.** Russia: throughout midland, north to northern subarctic tundra. — Europe, Kazakhstan, Mongolia, China.

### *Scathophaga tinctinervis* (Becker, 1894)

Figs 40, 121–123, 137.

*tinctinervis* Becker, 1894: 178 (*Coniosternum*). Type-locality: locality not stated.

**REMARK.** This species was recorded in Russia from Leningrad Oblast [Gorodkov, 1986: 34] and Primorsky Krai [Ozerov, Krivosheina, 2014: 219].

**MATERIAL EXAMINED.** **Amur Oblast:** Klimoutsy (51.470°N 127.599°E), 25.IX.1958, Zinov'ev (1 ♂, ZISP); **Leningrad Oblast:** Gatchina (59.56°N 30.13°E), 9.V.1954, A. Stackelberg (1 ♂, ZISP); **Moscow Oblast:** Golitsyno (55.649°N 37.011°E), 17 and 24.X.1981, A. Shatalkin (1 ♂, 1 ♀, ZMUM); Naro-Fominsk (55.357°N 36.736°E), 1.IV.2008, D. (1 ♀, ZMUM); **Novosibirsk Oblast:** Evsino env. (54.53°N 83.38°E), 20.VI.2015, O. Kosterin (1 ♂, ZMUM); Novosibirsk (54.825°N 83.114°E), 27.IV.2008, O. Kosterin (2 ♂♂, ZMUM). See also Ozerov & Krivosheina [2014: 219].

**ADDITIONAL MATERIAL EXAMINED.** **Mongolia:** 25 km WSW of Ikhtamir (ca. 47.4937°N 100.9143°E), 30.VIII.1967, Zaitzev (8 ♂♂, 10 ♀♀, ZISP) [determined by Gorodkov as *S. grisea* Malloch, 1920].

**DESCRIPTION.** Male. Female. Body-length 5.4–6.8 mm.

**Head.** Frontal vitta yellow, with delicate whitish reflection; fronto-orbital plate blackish, densely greyish dusted. Face, parafacial and gena yellow, with whitish reflection. Postcranium blackish. 3 orbital and 4–5 frontal setae present. Antenna black; postpedicel about twice as long as wide. Arista bare. Palpus yellow.

**Thorax** black, densely greyish dusted, with dark stripes and fuzzy spots on scutum and scutellum. Acrostichals not differentiated from the other hairs on scutum, dorsocentrals 2+3, intra-alars 1+2 (posterior small), supra-alars 1+2, postpronotals 2. Anepimeron with several hairs. Scutellum greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

**Legs.** All coxae black, greyish dusted. All femora greyish dusted, black, except yellow apical quarter or third. All tibiae and all tarsi yellow. Fore femur covered with whitish hairs, with 3–4 dorsal setae or setulae in apical third. Fore tibia with 2–4 dorsal, 2–4 posterodorsal, 1–2 posterior, 1 preapical dorsal, 1 preapical anterodorsal, and 1 posterior apical setae.

Mid femur with a row of anterior setae, 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1–2 anterodorsal, 1–2 posterodorsal, 0–1 anteroventral, 0–1 posterior setae, also with a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2–3 posterodorsal, 2–3 anterodorsal, 0–1 anteroventral, 0–1 posterior setae, 1 preapical dorsal, 1 preapical anterodorsal and 1 apical anteroventral setae.

*Wing* clear; crossveins r-m and d-m not darkened.

*Abdomen* black, densely pale grey dusted, covered with short whitish hairs; tergites 2–6 each in both sexes with a row of marginal setulae. Male sternite 4 about 1.5 times as long as wide (Fig. 40). Male sternite 5 with moderately wide lateral lobes (Fig. 121). Cercal plate shorter than surstyli (Figs 122, 123). Aedeagus as in Fig. 137.

**DISTRIBUTION.** Russia: throughout midland. — Europe, Mongolia [Gorodkov, 1974: 391, as *S. grisea*]).

*Scathophaga varipes* (Holmgren, 1883)

Figs 41, 124–126.

*varipes* Holmgren, 1883: 175 (*Scatomyza*). Type-locality: “Novaya Semlia” (Russia: Novaya Zemlya).

*septentrionalis* Becker, 1897: 397 (*Scatophaga*). Type-locality: Mt. Chernyshev, Novaya Zemlya (Russia).

**REMARK.** The species was recorded in Russia from Novaya Zemlya, Dolgii I., Kolguev I. [Holmgren, 1883: 175; Becker, 1897: 397; Gorodkov, 1970: 451, 1986: 34; Ovchinnikov, Makarova, 2016: 217], Taimyr Peninsula [Ozerov, Barkalov, 2014: 564], Yakutia [Bagachanova *et al.*, 2016: 783], Chukotka, including Vrangeli I. [Gorodkov, 1986: 34; Ozerov, Krivosheina, 2014: 219], arctic zone of European part, Siberia and Yakutia [Engelmark, 1999: 158, 159].

**MATERIAL EXAMINED.** **Arkhangelsk Oblast:** Novaya Zemlya, Matochkin Shar (73.349°N 55.354°E), 1–5.VIII.1889, K. Nosilov (10 ♂♂, 8 ♀♀, ZISP); Matochkin Shar (73.349°N 55.354°E), Pan'kovskaya lowland, 11–12.VIII.1889, K. Nosilov (14 ♂♂, 9 ♀♀, ZISP); Matochkin Shar (73.349°N 55.354°E), Nochev stream, 11.VII.–1.VIII.1925, Vakulenko (11 ♂♂, 8 ♀♀, ZISP); **Chukotka:** Koluychik I. (67.464°N 174.617°W), 25–27.VII.1938, Druzhinin (1 ♂, ZISP); Shmidt (68.870°N 179.374°W), 18–19.VII.1963, 17.VII.1966, 11–17.VII.1971, 3.VII.1972, Gorodkov (2 ♂♂, ZISP); **Krasnoyarsk Krai:** Dikson (73.508°N 80.529°E), 8.VIII.1967, Gorodkov (6 ♂♂, 3 ♀♀, ZISP); Dikson I. (73.504°N 80.325°E), 29.VII.1948, Korotkevich (4 ♂♂, 1 ♀, ZISP); Lake Engel'gardt (75.101°N 100.234°E), 2.VIII.1967, Gorodkov (6 ♂♂, 3 ♀♀, ZISP); Khatanga Distr. (75.951°N 103.652°E), 10.VII.–10.IX.2010, A. Shmanyak (2 ♂♂, 1 ♀, ZMUM); **Yakutia:** Anabarsky Bay (ca. 73.502°N 113.551°E), 28.VI.1959 (1 ♂, ZMUM); Novosibirskie Islands, Blizhniy I. [= Bol'shoy Lyakhovsky I. (73.585°N 142.163°E)], 30.VII.–12.VIII.1912, Starokadomsky (56 ♂♂, 37 ♀♀, ZISP). See also Ozerov & Krivosheina [2014: 219] and Ozerov & Barkalov [2014: 564].

**DESCRIPTION.** Male. Female. Body-length 4.3–7.0 mm.

*Head.* Frontal vitta yellowish-red, with delicate whitish reflection; fronto-orbital plate black, greyish dusted. Face, parafacial and gena yellow, with golden reflection. Postcranium black, densely greenish-grey dusted, but median occipital sclerite usually with blackish reflection. 3 orbital and 3–5 frontal setae present. Scapus and

pedicel reddish, but blackish dorsally. Postpedicel black, but reddish basally or black completely, approximately 2 times as long as wide. Arista bare. Palpus yellow.

*Thorax* black, densely greenish-grey dusted. Acrostichals setulose in two rows, dorsocentrals (2–3)+4, intra-alars 1+2, supra-alars 1+2, postpronotals 2. Anepimeron covered with hairs. Scutellum black, greenish-grey dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae, also with a pair of discal setulae.

*Legs* delicately greyish dusted. All coxae black; all femora black, but reddish apically or reddish completely; all tibiae and tarsi yellow. Male and female fore femur, mid and hind male femora without conspicuous setae. Male fore tibia without conspicuous setae. Female fore tibia with 2–3 anterodorsal, 0–2 posterodorsal, 1–2 posterior, 1 preapical dorsal, and 1 posterior apical setae. Female mid femur with a row of anterodorsal setae, also with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 2–3 posterodorsal, 2 anterodorsal, 1–2 anteroventral/ventral, 1–2 posterior setae and a ring of apicals in both sexes. Female hind femur with a row of anterodorsal setae and a row of anteroventral setae in apical half. Hind tibia with 3–4 anterodorsal, 2–4 posterodorsal, 3–4 anteroventral, 1 preapical dorsal, 1 preapical anterodorsal, 1 apical anterior, 1 apical anteroventral, and 1 apical ventral setae in both sexes.

*Wing* tinged with brownish; crossveins r-m and d-m strongly darkened.

*Abdomen* black, greenish-grey dusted, covered with hairs in male, without marginal setae or setulae in both sexes. Male sternite 4 about 1.5 times as long as wide (Fig. 41); sternite 5 with wide triangular lateral lobes, without median processes (Fig. 124). Epandrium, cercal plate and surstyli as in Figs 125, 126.

**DISTRIBUTION.** Russia: northern tundra from Siberia to Chukotka; Novaya Zemlya. — North America.

*Scathophaga yakutica* Ozerov, 2017

Figs 42, 127–129.

*yakutica* Ozerov, 2017: 132 (*Scathophaga*). Type-locality: Aldan Plateau, right bank of the River Russkaya (ca. 58.56°N, 126.56°E), 60 km SE of Tommot (Russia: Yakutia).

**REMARK.** This species was recorded in Russia from type locality only [Ozerov, 2017: 132].

**MATERIAL EXAMINED.** **Buryatia:** Barguzinsky Nature Reserve (ca. 54.35°N 109.51°E), 16.VII.1965, Negrobov (1 ♀, ZISP); **Tyumen' Oblast:** Neroyka (ca. 64.57°N 59.67°E), 450 m, 5.IX.1990, Malozemov (1 ♂, ZISP).

**DESCRIPTION.** Male. Female. Body-length 6.5–7.6 mm.

*Head.* Frontal vitta yellow or reddish-yellow, with delicate whitish reflection; fronto-orbital plate blackish, greyish dusted. Face, parafacial and gena yellow, with whitish reflection. Postcranium black in upper quarter or third and yellow in lower part. 3 orbital and 3 frontal setae present. Scapus and pedicel reddish-yellow. Postpedicel black, approximately twice as long as wide. Arista bare. Palpus yellow.



*Thorax* greyish dusted. Scutum black completely or postpronotal lobe yellowish; pleural sclerites yellowish in ground color, but anatergite, katatergite, and mediotergite always black. Acrostichals setulose in two rows, but prescutellar pair stronger than other acrostichals, dorsocentrals 2+3, intra-alars 1+2, supra-alars (0+1)+2, postpronotals 2. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

*Legs.* Coxae from yellow to brown. Femora, tibiae, and tarsi yellowish, in male fore femur darkened posteriorly or posterodorsally. Fore femur with whitish hairs, longer ventrally, in female with a row of dorsal/posterodorsal setae, in male with 4–5 dorsal/posterodorsal setae in apical third. Fore tibia with 2 dorsal, 1–2 posterior, 1 preapical dorsal, and 1 posterior apical setae. Mid femur with a row of anterior setae, also with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 3 posterodorsal, 2 anterodorsal setae and a ring of apicals in both sexes, additionally with 1 ventral seta in female. Hind femur with a row of anterodorsal setae, and with 0–1 preapical anterior seta. Hind tibia with 3–4 anterodorsal, 3 posterodorsal, 1 preapical anterodorsal, 1 preapical posterodorsal and apical anterior setae in both sexes, additionally with 2 preapical anterior setae in female.

*Wing* tinged with brownish; crossveins r-m and dm-cu darkened.

*Abdomen* from yellowish to dark brownish, covered with not long hairs, tergites with black marginal setulae. Male sternites 4 approximately as long as wide, with median excision (Fig. 42); sternite 5 with narrow pointed apically lateral lobes (Fig. 127). Epandrium, cercal plate and surstyli as in Figs 128, 129.

**DISTRIBUTION.** Russia: Siberia (Buryatia, Tyumen' Oblast, Yakutia).

#### KEY TO SPECIES OF THE GENUS *SCATHOPHAGA* MEIGEN

1. Wing well-developed, long and slender (e.g., Figs 1–3, 8, 9) ..... 2  
— Wing strongly reduced (Fig. 7). Male sternites 4 and 5, cercal plate and surstyli as in Figs 21, 64–66 .....  
..... *S. exalata* Ozerov
2. Anepimeron covered with several hairs ..... 3  
— Anepimeron bare ..... 15
3. Arista pubescent or plumose, the longest hairs approximately equal or more than 1/2 width of postpedicel (e.g., Fig. 4). Male sternites 4 and 5, cercal plate and surstyli as in Figs 38, 115–117 ..... *S. stercoraria* (Linnaeus)  
— Arista bare or nearly bare (e.g., Figs 1, 3), longest hairs not exceeding greatest diameter of arista ..... 4
4. Palpus black completely or in apical half ..... 5  
— Palpus yellow completely, if palpus dark brown or with black apex, than body and legs covered with dense and crinkly hairs (*S. dasythrix*) ..... 6
5. Tibiae black. Palpus black completely. Fronto-orbital plate besides orbital and frontal setae additionally with numerous setulae along margin of eye (Fig. 5). Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 33, 100–102, 135 ..... *S. nigripalpis* (Becker)  
— Tibiae yellow. Palpus often yellow in basal half. Fronto-orbital plate with orbital and frontal setae only, without additional setulae (e.g., Fig. 4). Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 31, 94–96, 134 ..... *S. mollis* (Becker)
6. Crossveins r-m and dm-cu strongly darkened (e.g., Fig. 9) ..... 7  
— Crossvein dm-cu, usually also crossvein r-m not darkened (e.g., Fig. 8) ..... 8
7. Postcranium black, densely greenish-grey dusted, but median occipital sclerite usually with blackish reflection. Gena black in posterior half. Male sternites 4 and 5, cercal plate and surstyli as in Figs 41, 124–126 .....  
..... *S. varipes* (Holmgren)  
— Postcranium densely greyish dusted, without blackish reflection below ocellar triangle. Gena yellow. Male sternites 4 and 5, cercal plate and surstyli as in Figs 35, 106–108 ..... *S. obscurinervis* (Becker)
8. Scutum with hair-like acrostichals, not differentiated from the other hairs on scutum and not forming rows ..... 9  
— Scutum with setulose or well-developed acrostichals, which form two good visible rows ..... 10
9. Scutum with intra-alar setae absent. Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 34, 103–105, 136 ..... *S. obscura* (Fallén)  
— Scutum with intra-alar setae present. Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 40, 121–123, 137 ..... *S. tinctinervis* (Becker)
10. Tibiae black or dark brown ..... 11  
— Tibiae at least of hind legs yellow ..... 13
11. Scutellum with 3–4 pairs of strong setae. Body and legs covered with dense and crinkly hairs. Male sternites 4 and 5, cercal plate and surstyli as in Figs 19, 58–60 .....  
..... *S. dasythrix* (Becker)  
— Scutellum with 2 pairs of strong setae. Body and legs covered with short or moderately long, as a rule straight hairs ..... 12
12. Male tergites 6–8 and epandrium covered with black setae (Fig. 139). Male sternites 4 and 5, cercal plate and surstyli as in Figs 27, 82–84 ..... *S. karelica* Ozerov  
— Male tergites 6–8 and epandrium without such setae (Fig. 138). Male sternites 4 and 5, cercal plate and surstyli as in Figs 29, 88–90 ..... *S. litorea* (Fallén)
13. Male hind tibia with 3–4 pairs of setae. Female: distance between rows of dorsocentral and acrostichal setae approximately equal to the distance between rows of acrostichal setae ..... 14  
— Male hind tibia often without setae, or with 1–2 pairs of setae hidden among dense hairs. Female: rows of acrostichals closer to each other than to rows of dorsocentral setae. Male sternites 4 and 5, cercal plate and surstyli as in Figs 16, 49–51 ..... *S. calida* (Haliday)
14. Femora of all legs black. Frontal vitta often blackish in upper part. Scapus and pedicel black. Male sternites 4 and 5, cercal plate and surstyli as in Figs 29, 88–90 .....  
..... *S. litorea* Fallén  
— Femora of all legs often mostly yellow. Frontal vitta yellow completely. Scapus and pedicel as a rule yellowish. Male sternites 4 and 5, cercal plate and surstyli as in Figs 26, 79–81 ..... *S. intermedia* (Walker)
15. Arista pubescent or plumose, the longest hairs approximately equal to 1/2–3/4 width of postpedicel (e.g., Fig. 4) ..... 16  
— Arista bare or nearly bare (e.g., Fig. 1, 3), longest hairs not exceeding greatest diameter of arista ..... 22



Figs 130–137. Aedeagus of *Scathophaga* spp., lateral view: 130 — *S. buryatica* Ozerov et Krivosheina; 131 — *S. decipiens* (Haliday); 132 — *S. incompleta* Ozerov et Krivosheina; 133 — *S. lapponica* (Ringdahl); 134 — *S. mollis* (Becker); 135 — *S. nigripalpis* (Becker); 136 — *S. obscura* (Fallén); 137 — *S. tinctinervis* (Becker). 130 — after Ozerov & Krivosheina, 2019, fig. 2; 131, 132 — after Ozerov & Krivosheina, 2020, figs 5, 11.

Рис. 130–137. Эдеагус *Scathophaga* spp., сбоку: 130 — *S. buryatica* Ozerov et Krivosheina; 131 — *S. decipiens* (Haliday); 132 — *S. incompleta* Ozerov et Krivosheina; 133 — *S. lapponica* (Ringdahl); 134 — *S. mollis* (Becker); 135 — *S. nigripalpis* (Becker); 136 — *S. obscura* (Fallén); 137 — *S. tinctinervis* (Becker). 130 — по Ozerov & Krivosheina, 2019, fig. 2; 131, 132 — по Ozerov & Krivosheina, 2020, figs 5, 11.



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Figs 138–141. *Scathophaga litorea* (Fallén) (138), *S. karelica* Ozerov (139), *S. apicalis* (Curtis) (140) and *S. multisetosa* (Holmgren) (141): 138, 139 — end of male abdomen; 140, 141 — hind tibia, dorsal view. 138, 139 — after Ozerov, 2013, figs 11, 12.

Рис. 138–141. *Scathophaga litorea* (Fallén) (138), *S. karelica* Ozerov (139), *S. apicalis* (Curtis) (140) и *S. multisetosa* (Holmgren) (141): 138, 139 — конец брюшка самца; 140, 141 — голень задней ноги, сверху. 138, 139 — по Ozerov, 2013, figs 11, 12.

- 16. Postpedicel black. Legs black ..... 17
- Postpedicel yellow, if darkened, then legs partly or completely yellow ..... 18
- 17. Frontal vitta black. Scutum with well-developed acrostichals, which form two clearly visible rows. Postpedicel slightly longer than pedicel. Male sternites 4 and 5, cercal plate and surstyli as in Figs 18, 55–57 .....  
..... *S. crinita* (Coquillett)
- Frontal vitta reddish. Scutum with hair-like acrostichals, not differentiated from the other hairs on scutum and not

- forming rows. Postpedicel twice as long as pedicel. Male sternites 4 and 5, cercal plate and surstyli as in Figs 17, 52–54 ..... *S. cordylurina* (Holmgren)
- 18. Hind femur with 0–2 preapical anterodorsal setae in male and with a row of anterodorsal setae in female. Female abdominal tergite 7 shiny, different from dusted tergites 5 and 6 ..... 19
- Hind femur with a row of anterodorsal setae in both sexes. Female abdominal tergite 7 dusted as well as tergites 5 and 6 ..... 21

19. Katepisternum posteriorly besides yellow hairs and setulae, as a rule also with several black setulae ..... 20  
 — Katepisternum posteriorly with yellow hairs and setulae, but as a rule without black setulae. Male sternites 4 and 5, cercal plate and surstyli as in Figs 37, 112–114 .....  
 ..... *S. spurca* (Meigen)
20. Crossveins *r-m* and *dm-cu* strongly darkened (Fig. 9). Male sternites 4 and 5, cercal plate and surstyli as in Figs 23, 70–72 ..... *S. incola* (Becker)  
 — Crossvein *dm-cu*, usually also crossvein *r-m* not darkened (e.g., Fig. 8). Male sternites 4 and 5, cercal plate and surstyli as in Figs 39, 118–120 .....  
 ..... *S. taeniopa* (Rondani)
21. Katepisternum posteriorly besides yellow hairs and setulae, as a rule also with several black setulae. Male sternites 4 and 5, cercal plate and surstyli as in Figs 30, 91–93 ..... *S. lutaria* (Fabricius)  
 — Katepisternum posteriorly with yellow hairs and setulae, but as a rule without black setulae. Male sternites 4 and 5, cercal plate and surstyli as in Figs 25, 76–78 .....  
 ..... *S. inquinata* (Meigen)
22. Mid and hind femora yellow completely. As a rule crossvein *dm-cu*, usually also crossvein *r-m* darkened (e.g., Fig. 9) ..... 23  
 — Mid and hind femora black at middle or completely. Crossveins *r-m* and *dm-cu* not darkened (e.g., Fig. 8) ..... 27
23. Postpedicel yellow, sometimes partly darkened (Fig. 3). Male sternites 4 and 5, cercal plate and surstyli as in Figs 22, 67–69 ..... *S. furcata* (Say)  
 — Postpedicel black ..... 24
24. Coxae of fore legs black, if yellow than postcranium black completely (*S. apicalis* (Curtis)) ..... 25  
 — Coxae of fore legs yellow ..... 26
25. Hind tibia with 2–3 posterodorsal setae, which are as strong as anterodorsal ones (Fig. 140). Male sternites 4 and 5, cercal plate and surstyli as in Figs 14, 43–45 .....  
 ..... *S. apicalis* (Curtis)  
 — Hind tibia without posterodorsal setae (males), or with posterodorsal setae which are noticeably thinner than the anterodorsal setae and almost indistinguishable from the hairs (females) (Fig. 141). Male sternites 4 and 5, cercal plate and surstyli as in Figs 32, 97–99 .....  
 ..... *S. multisetosa* (Holmgren)
26. Postcranium black in upper quarter or third and yellow in lower part (look at the side). Male sternites 4 and 5, cercal plate and surstyli as in Figs 42, 127–129 .....  
 ..... *S. yakutica* Ozerov  
 — Postcranium black in upper half and yellow in lower half (look at the side). Male sternites 4 and 5, cercal plate and surstyli as in Figs 36, 109–111 .....  
 ..... *S. pictipennis* (Oldenberg)
27. Cercal plate longer than surstyli (e.g., Figs 62, 63, 74, 75) ..... 28  
 — Cercal plate equal to surstyli (e.g., Figs 47, 48, 86, 87) ...  
 ..... 29
28. Scutum with slender posterior postsutural intra-alar seta or without it. Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 24, 73–75, 132 .....  
 ..... *S. incompleta* Ozerov et Krivosheina  
 — Scutum with two strong postsutural intra-alar setae. Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 20, 61–63, 131 ..... *S. decipiens* (Haliday)
29. Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 28, 85–87, 133 .....  
 ..... *S. lapponica* (Ringdahl)

- Male sternites 4 and 5, cercal plate, surstyli and aedeagus as in Figs 15, 46–48, 130 .....  
 ..... *S. buryatica* Ozerov et Krivosheina

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