

A review of the genus *Microprosopa* Becker, 1894 (Diptera: Scathophagidae) of Russia

Обзор видов рода *Microprosopa* Becker, 1894 (Diptera: Scathophagidae) фауны России

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KEY WORDS: Diptera, Scathophagidae, *Microprosopa* Becker, Russia, review.

КЛЮЧЕВЫЕ СЛОВА: Diptera, Scathophagidae, *Microprosopa* Becker, Россия, обзор.

ABSTRACT. Flies of the genus *Microprosopa* Becker, 1894 of Russia, which includes 12 species, are reviewed. Generic and species descriptions and keys for determination of species are given, and data on distributions are summarized. One species, *Microprosopa taimyrica* **sp.n.**, is described as new to science. Lectotype is designated for *Cordylura melanura* Zetterstedt, 1838. Three new synonymies are proposed: *Microprosopa* Becker, 1894 = *Allomyella* Malloch, 1923, **syn.n.**, *Microprosopa pallidicauda* (Zetterstedt, 1838) = *Cordylura melanura* Zetterstedt, 1838, **syn.n.**, and *Microprosopa unguiculata* (Malloch, 1919) = *Allomyella borealis* Curran, 1927, **syn.n.**

РЕЗЮМЕ. Дан обзор двукрылых рода *Microprosopa* Becker, 1894 фауны России, включающего 12 видов. Приведены диагноз рода, описания видов и ключ для определения видов рода *Microprosopa* России, а также суммированы данные по распространению видов рода на территории России. Описан один новый для науки вид, *Microprosopa taimyrica* **sp.n.** Обозначен лектотип для *Cordylura melanura* Zetterstedt, 1838. Установлены 3 новых синонима: *Microprosopa* Becker, 1894 = *Allomyella* Malloch, 1923, **syn.n.**, *Microprosopa pallidicauda* (Zetterstedt, 1838) = *Cordylura melanura* Zetterstedt, 1838, **syn.n.**, и *Microprosopa unguiculata* (Malloch, 1919) = *Allomyella borealis* Curran, 1927, **syn.n.**

Introduction

Microprosopa Becker, 1894 is no large genus within the family Scathophagidae. The species from the genus *Allomyella* Malloch, 1923 are included in the genus *Microprosopa* in this work also, and *Allomyella* is considered as subgenus of *Microprosopa*. The division of species in the genera *Microprosopa* and *Allomyella* is based on the absence (*Microprosopa*) or pre-

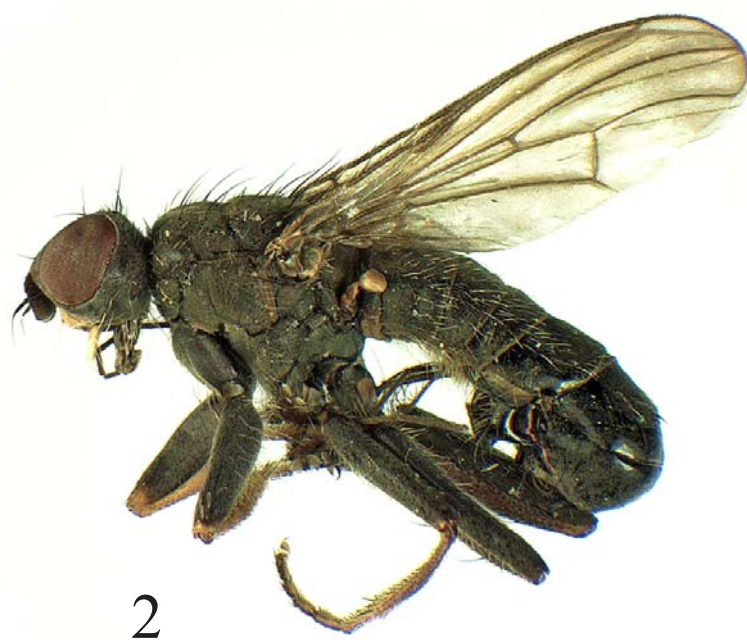
sence (*Allomyella*) of one or several hairs on anepimeron. However this character varies in some species of *Allomyella* [Vockerth, 1987]: for example, hairs may be present or absent in *A. unguiculata* (Malloch, 1919) or *A. frigida* (Holmgren, 1883). The other character to distinguish *Microprosopa* and *Allomyella* species is difference in structure of male sternite 5. *Microprosopa* spp. has sternite 5 symmetrical, with two simple lobes (Figs 28–33), while sternite 5 of *Allomyella* spp. has bifurcate or trifurcate lobes, symmetrical or asymmetrical (Figs 23–27, 34–38). Molecular analysis based on DNA sequences for *Microprosopa* or *Allomyella* has not been done yet.

Genus *Microprosopa* consists of 24 species distributed in the Northern Hemisphere (6 Nearctic, 11 Palaearctic, 7 Holarctic) [Vockerth, 1965, 1987; Gorodkov, 1986; Šifner, 2008, 2011, 2013; Ozerov, 2009; Ozerov & Krivosheina, 2013]. Fauna of Russia included 11 species [Gorodkov, 1986; Humala & Polevoi, 2009; Ozerov, 2009; Ozerov & Barkalov, 2014; Ozerov & Krivosheina, 2013, 2014], but no general works were fulfilled.

Very little is known about the biology of *Microprosopa*. Species of this genus are usually collected in marshy plots, at banks of lakes covered with *Carex* spp., in grass along spring banks. *Microprosopa lineata* (Zetterstedt, 1838) is often present on young branches of *Salix* spp. None of descriptions of larvae is published.

Material and methods

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



Figs 1–2. *Microprosopa pallidicauda* (Zetterstedt) (1) and *Microprosopa frigida* (Holmgren) (2), male habitus, lateral view.
Рис. 1–2. *Microprosopa pallidicauda* (Zetterstedt) (1) и *Microprosopa frigida* (Holmgren) (2), самец, сбоку.

sects, Ottawa, Canada (CNC), Finnish Museum of Natural History, Helsinki, Finland (MZH), and Lund University, Lund, Sweden (MZLU).

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

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

The terminology used in the generic descriptions, species diagnoses, description of the new species, and keys follows McAlpine [1981], Cumming et al. [2009], and Stuckenberg [1999].

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

Taxonomic part

Microprosopa Becker, 1894

Subgenus *Microprosopa* Becker, 1894: 147. Gender: feminine. Type-species: *Cordylura haemorrhoidalis* Meigen, 1826, by original designation.

Subgenus *Allomyella* Malloch, 1923: 199. Gender: feminine. Replacement name for *Allomyia* Malloch, 1919. Type-species: *Allomyia unguiculata* Malloch, 1919, automatic — **syn.n.**

Allomyia Malloch, 1919: 80. Gender: feminine. Junior homonym, preoccupied by *Allomyia* Banks, 1916. Type-species: *Allomyia unguiculata* Malloch, by monotypy.

Microprosopa species are small to medium-sized flies (3–10 mm long) (Figs 1, 2).

Head. Frontal vitta from reddish-yellow completely to almost completely black; fronto-orbital plate greyish dusted. Face, parafacial and gena yellow or black. Postcranium black, greyish dusted, covered with black setae in upper third and white hairs in lower part. 3 orbitals, 2–4 frontals, 1 ocellar, 1 small weakly divergent postocellar, 1 inner vertical, 1 outer vertical; 1–2 pairs of strong vibrissae present. Antenna from yellow to black. Postpedicel with slightly acute upper apical corner or rounded apically, about 2 times as long as wide. Arista black, bare. Palpus broadened towards apex, yellow.

Thorax black, greyish dusted, rare scutum with shining stripes and spots (*M. lineata*, Fig. 3). Acrostichals as hairs in two rows, dorsocentrals (3–5)+3, including a pair of erect setae on anterior margin of scutum, intra-alars 1+(1–2), supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 setae near lower margin. Proepimeron with 1–2 setae or setulae, sometimes with

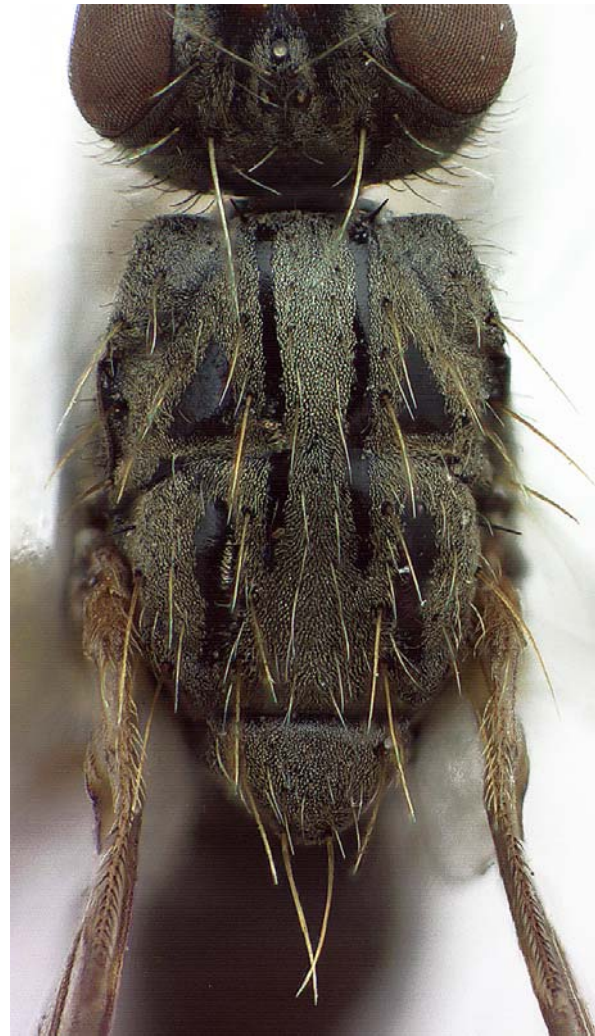


Fig 3. *Microprosopa lineata* (Zetterstedt), scutum.

Рис. 3. *Microprosopa lineata* (Zetterstedt), среднеспинка.

a few hairs only. Anepisternum covered with hairs in posterior half, with 1–4 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare or with a few hairs. Postmetacoxal bridge absent. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Legs. Coxae and fore femora yellow to black, tibiae usually always yellow, tarsi yellow. Fore femur simple, without numerous black short spinules ventrally (Fig. 4). Fore tibia with short black spinules ventrally, usually in two rows on whole length (Fig. 4), with 1 dorsal seta near middle, 1 preapical dorsal, 0–1 apical anterodorsal and usually with 1 apical posterior setae. Mid femur with irregular row of anterior setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal and 0–1 posterior setae near middle, and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2–3 anterodorsal, 1–2 posterodorsal and 1 preapical dorsal setae, also



Figs 4–6. Male legs of *Microprosopa*: 4 — *M. pallidicauda* (Zetterstedt), fore leg, anterior view; 5 — *M. crinipes* Ringdahl, hing tibia, anterodorsal view; 6 — *M. taimyrica* sp.n., HT, hind tibia, anterior view.

Рис. 4–6. Ноги самцов *Microprosopa*: 4 — *M. pallidicauda* (Zetterstedt), передняя нога, спереди; 5 — *M. crinipes* Ringdahl, голень задней ноги, антеродорсально; 6 — *M. taimyrica* sp.n., голотип, голень задней ноги, спереди.

with 0–1 apical anterodorsal and 1 apical anteroventral setae; in *M. crinipes* Ringdahl, 1928 and *M. taimyrica* sp.n. additionally with long setae on anteroventral surface in male (Figs 5, 6).

Wing clear or slightly darkened (Fig. 7–9), in *M. taimyrica* sp.n. darkened along longitudinal veins (Fig. 10); vein R_1 bare on apical third of dorsal surface. Calypters, margins of calypters, and halteres yellowish.

Abdomen cylindrical, black, greyish dusted, covered with rare yellow and black hairs. Tergites 3–6 each usually with a row of marginal setae. Male sternite 4 simple (Figs 11–22). Male sternite 5 with two lobes, each may be simple (Figs 28–33) or branchy (Figs 23–27, 34–38), symmetrical (Figs 23, 24, 28–33, 37, 38) or asymmetrical (Figs 25–27, 4–36). Male cerci small, simple; surstyli elongate (Figs 39–62).

Ovipositor short, cylindrical, with the proctiger shifted dorsally (Figs 65). Female tergite 7 divided medially into two sclerites, each triangular in lateral view; tergite 8 also divided medially into two sclerites, excluding *M. unguiculata* (Malloch, 1919). Sternite 7 simple (Fig. 64, 66, 68, 69, 71–77) or its lateral margins fused with lateral margins of sternite 7 forming sytergosternite as in *M. crinipes* (Fig. 63, 67) and *M. heteromyzina* (Zetterstedt, 1838) (Fig. 70). Sternite 8 divided medially into two sclerites.

Microprosopa (Allomyella) albipennis (Zetterstedt, 1838)

Figs 11, 23, 39, 40, 66, 78.

albipennis Zetterstedt, 1838: 729 (*Cordylura*). Type-locality: “Lapponia Umensi... in insula illa parva Dolpatie in lacu Stor-Uman... (Lappon)” (Sweden).

niveipalpis Zetterstedt, 1846: 2044 (*Cordylura*). Type-localities: “alpbis Darlecarlicis ... Jemtlandia ... Lapponia Lulensi ... Norwegia ... Suul Waerdaliae” (Sweden, Norway).

The species was mentioned by Gorodkov for the European part of Russia [Gorodkov, 1986: 24] and Siberia [Gorodkov, 1970: 455] without indicating a specific locality, also by Šifner [2008: 137] for Moscow Oblast.

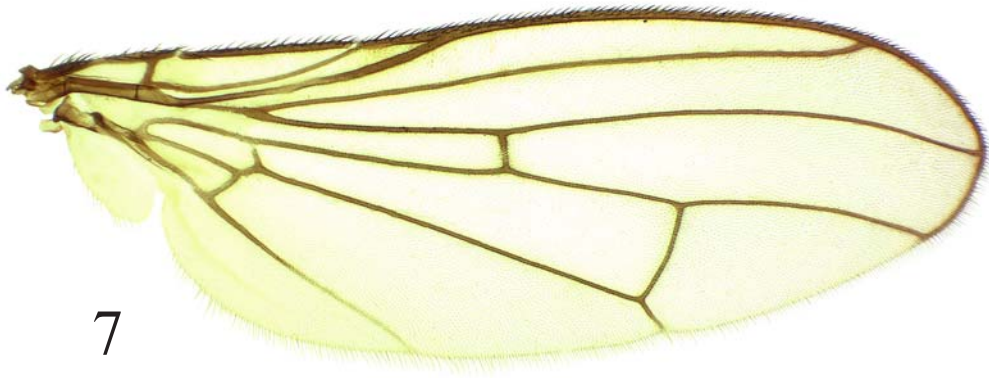
MATERIAL EXAMINED. **Karelia:** Puykolla (62.0509°N 30.6632°E), 15.V.–16.VI.1991, Polevoy (1 ♂, ZMUM); **Tyumen’ Oblast:** Sob’ env. (67.07N 65.46E), 26–31.VII.2011, K. Tomkovich (1 ♂, ZMUM);

ADDITIONAL MATERIAL EXAMINED. Holotype ♂ of *Microprosopa albipennis* (Zetterstedt), with labells: 1) small black tag, 2) “*C. albipennis* ♂ Dolpatie”, 3) “Holotypus *Cordylura albipennis* Zett. Labelled 1954 by J.R. Vockeroth” (MZLU). **Finland:** Kilpisjärvi, 10.VII.1935, Hellén (1 ♀, MZH).

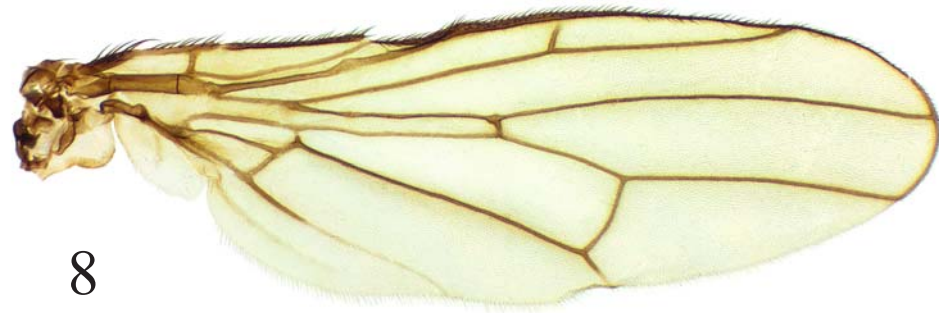
DESCRIPTION. Male, female. Small-sized flies (3.1–3.2 mm long).

Head. Frontal vitta black, only in lower third or half yellow, matt; fronto-orbital plate and ocellar triangle black, greyish dusted. Face from whitish to blackish. Parafacial yellowish. Gena yellowish or brownish; postgena black, greyish dusted. Postcranium black, greyish dusted, covered with black setae in upper third and pale hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 1–2 pairs of pale vibrissae present. Antenna black, but pedicel sometimes partly brownish. Postpedicel rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

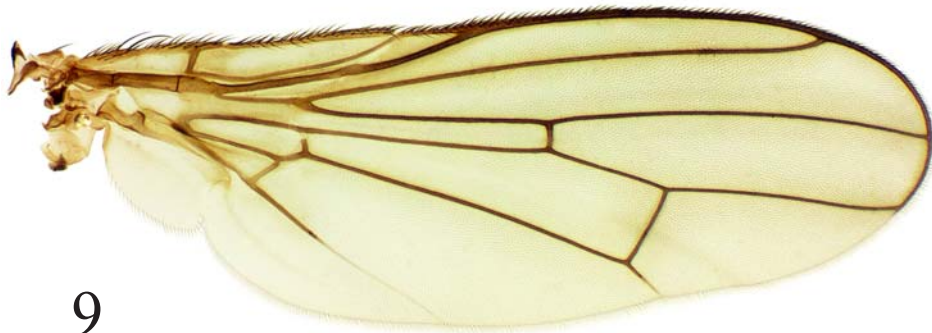
Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals 3+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2,



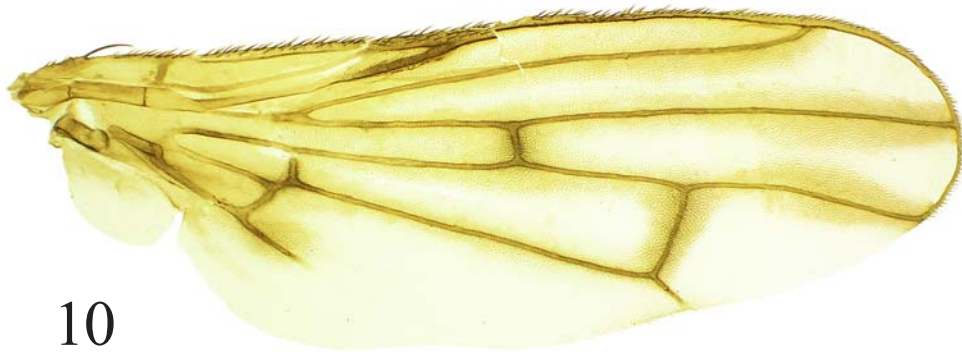
7



8



9



10

Figs 7–10. Wing of *Microprosopa*: 7 — *M. crinipes* Ringdahl; 8 — *M. frigida* (Holmgren); 9 — *M. pallidicauda* (Zetterstedt); 10 — *M. taimyrca* sp.n.

Рис. 7–10. Крыло *Microprosopa*: 7 — *M. crinipes* Ringdahl; 8 — *M. frigida* (Holmgren); 9 — *M. pallidicauda* (Zetterstedt); 10 — *M. taimyrca* sp.n.

postalars 2. Proepisternum with hairs in central part, with 1–2 pale setulae near lower margin. Proepimeron with one pale setula. Anepisternum covered with pale hairs in posterior half, with 1–2 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron usually with one or several hairs. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Coxae, trochanters and femora of all legs black; tibiae and tarsi of all legs yellow. Fore femur with a row of posterodorsal setae, with pale hairs posteroventrally. Fore tibia with short black spinules ventrally in two rows on whole length, with 1 dorsal seta near middle, and with 1 preapical dorsal seta. Mid femur with irregular row of pale setae anteriorly, with 1 preapical posterior and 0–1 preapical posterodorsal setae, also with pale hairs ventrally. Mid tibia with 1 anterodorsal and 0–1 posterodorsal setae near middle, also with a ring of apicals. Hind femur with a row of black or pale anterodorsal and a row of pale anteroventral setae. Hind tibia with 1–2 anterodorsal, 1 posterodorsal and 1 preapical dorsal setae, also with 1 apical anteroventral seta.

Wing clear or slightly milky; veins brownish. R_1 bare dorsally. Calypters, margins of calypters, and halteres whitish or yellowish.

Abdomen black, subshining, tergites 3–5 shining along lateral margins, female tergite 6 shining completely. Male sternite 4 rectangular, about 2 times as wide as long (Fig. 11). Male sternite 5 symmetrical, lobes bifurcate (Fig. 23). Epandrium and surstyli as in Figs 39, 40. Female sternites 5–7 as in Fig. 66.

DISTRIBUTION. Russia (Fig. 78): Karelia, Moscow Oblast, Tyumen' Oblast. — Europe (Scandinavia).

Microprosopa (Allomyella) crinipes Ringdahl, 1928
Figs 5, 7, 12, 24, 41, 42, 63, 67, 79.

crinipes Ringdahl, 1928: 21 (*Microprosopa*). Type-locality: "Ufer von Tjuonajaure im nördlichen Lappland in Regio arctica, 1000 M."

The species was recorded for Russia from Chukotka [Ozerov & Krivosheina, 2014: 206].

MATERIAL EXAMINED. **Chukotka:** Meynypil'gyno env. (62.555°N 177.0633°E), 29.VII.2015, P.S. Tomkovich (1 ♂, 1 ♀, ZMUM); **Krasnoyarsk Krai:** Agapa (ca. 71.412°N 89.2689°E), the Pyasina River, 15.VII.1967, Gorodkov (1 ♂, ZISP); Lake Engel'gardt (75.101°N 100.2344°E), 2.VIII.1967, Gorodkov (1 ♀, ZISP); Dikson I. (73.5042°N 80.3251°E), 30.VII.1948, Korotkevič (1 ♀, ZISP); Ust'-Tareya (73.2527°N 90.5962°E), 24.VII. and 4.VIII.1967, K. Gorodkov (11 ♂♂, 6 ♀♀, ZISP); **Tyumen' Oblast:** 85 km WSW of Antipayuta (ca. 68.8208°N 75.3442°E), 31.VII.1977, Gorodkov (1 ♂, 5 ♀♀, ZISP); the upper reaches of the Pura River (ca. 66.3202°N 77.989°E), 10 km NW of Lake Barasmu, 21.VII.1967, Gorodkov (3 ♂♂, 1 ♀, ZISP); **Yakutia:** Sukharnoe [=Ambarchik] env. (69.6258°N 162.3029°E), 13.VII.1905, Buturlin (1 ♂, ZISP); Stolb I. (72.3956°N 126.6588°E), Lena delta, 25.VII.1957, Gorodkov (1 ♂, ZISP); Pokhodsk (69.079°N 160.9615°E), 18.VII.1973, Vinokurov (1 ♂, 4 ♀♀, ZISP); Uryung-Khaya (72.8124°N 113.2316°E), 4 and 8.VIII.1988, Gorodkov (2 ♂♂, 3 ♀♀, ZISP); Chay-Tumus (72.3166°N 125.7333°E), 27.VII.1957, Gorodkov (1 ♂, ZISP); Chokurdakh (70.6187°N 147.8958°E), 12–13.VII.1966, 7.VIII.1972, Gorodkov (10 ♂♂, 9 ♀♀, ZISP).

DESCRIPTION. Male, female. Small or medium-sized flies (3.8–5.6 mm long).

Head. Frontal vitta black, only in lower third or quarter yellow, greyish dusted; fronto-orbital plate and ocellar triangle black, greyish dusted. Face yellowish completely or darkened in upper half. Parafacial yellow. Gena yellow, postgena black. Postcranium black, greyish dusted, covered with black setae in upper third and pale hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 1 or 2 pairs of vibrissae present. Antenna black. Postpedicel rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

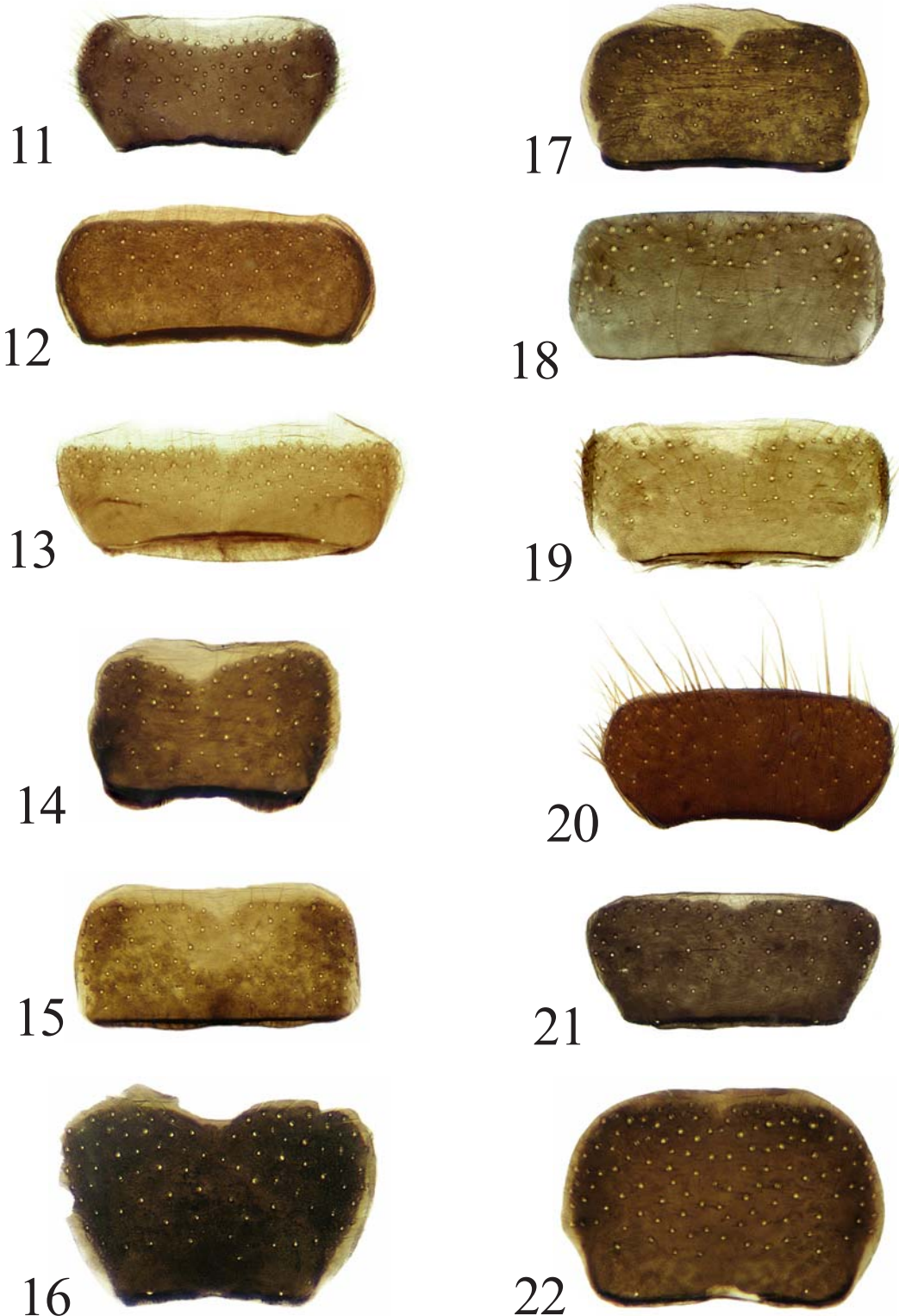
Thorax and scutellum black, greyish dusted. Acrostical hairs in two irregular rows, dorsocentrals (3–4)+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 long pale setae near lower margin. Proepimeron with 1–2 long pale setae. Anepisternum covered with pale hairs in posterior half, with 2–4 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron usually with a few hairs. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Legs black, but fore and mid tibiae, all tarsi, and sometimes hind tibia yellowish. Fore femur with rows of posterodorsal and posteroventral setae, with pale hairs posteriorly and posteroventrally. Fore tibia with short black spinules ventrally in two rows on whole length, with 1 dorsal and 1 posterior setae near middle, and with 1 preapical dorsal seta. Mid femur with irregular row of anterior setae in apical half and a row of posteroventral setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal, 1 posterodorsal and 1 posterior setae near middle, and a ring of apicals. Hind femur with a row of black or pale anterodorsal and rows of pale anteroventral and posteroventral setae. Hind tibia with 2 anterodorsal, 1–2 posterodorsal, 1 preapical dorsal, and 1 apical anteroventral setae; additionally with long setae on anterior, posterior and ventral surfaces in male (Fig. 5) and several short anteroventral setae at middle in female.

Wing clear or slightly darkened; veins blackish. R_1 bare dorsally (Fig. 7). Calypters, margins of calypters, and halteres yellowish.

Abdomen black greyish dusted, tergites 3–5 shining along lateral margins. Male sternite 4 rectangular, about 2.5 times as wide as long (Fig. 12). Male sternite 5 symmetrical, lobes bifurcate apically (Fig. 24). Epandrium and surstyli as in Figs 41, 42. Female sternites 5–7 as in Figs 63, 67; lateral margins of sternite 7 fused with lateral margins of sternite 7 forming syntergosternite; sternite 7 about 2 times as long as tergite 5.

DISTRIBUTION. Russia (Fig. 79): Chukotka, Krasnoyarsk Krai, Tyumen' Oblast, Yakutia. — Europe ([?]Andorra, Sweden), North America.



Figs 11–22. Male sternite 4 of *Microprosopa*: 11 — *M. albipennis* (Zetterstedt); 12 — *M. crinipes* Ringdahl; 13 — *M. frigida* (Holmgren); 14 — *M. haemorrhoidalis* (Meigen); 15 — *M. heteromyzina* (Zetterstedt); 16 — *M. lineata* (Zetterstedt); 17 — *M. pallidicauda* (Zetterstedt); 18 — *M. paveli* Ozerov et Krivosheina; 19 — *M. portenkoi* Stackelberg; 20 — *M. taimyrica* sp.n.; 21 — *M. unguiculata* (Malloch); 22 — *M. zlobini* Ozerov.

Рис. 11–22. Стернит 4 самца *Microprosopa*: 11 — *M. albipennis* (Zetterstedt); 12 — *M. crinipes* Ringdahl; 13 — *M. frigida* (Holmgren); 14 — *M. haemorrhoidalis* (Meigen); 15 — *M. heteromyzina* (Zetterstedt); 16 — *M. lineata* (Zetterstedt); 17 — *M. pallidicauda* (Zetterstedt); 18 — *M. paveli* Ozerov et Krivosheina; 19 — *M. portenkoi* Stackelberg; 20 — *M. taimyrica* sp.n.; 21 — *M. unguiculata* (Malloch); 22 — *M. zlobini* Ozerov.

Microprosopa (Allomyella) frigida (Holmgren, 1883)

Figs 2, 8, 13, 25–27, 43, 44, 68, 80.

frigida Holmgren, 1883: 176 (*Cordylura*). Type-locality: Matorchkin Schar (ca. 73.375°N 55.0964°E), Novaya Zemlya (Russia).

varitibia Becker, 1897: 400 (*Microprosopa*). Type-locality: Malye Karmakuly (72.3714°N 52.7415°E), Novaya Zemlya (Russia).

Besides type-locality (Novaya Zemlya) noted for Russia from Kola peninsula [Hackman, 1956: 58, as *M. portenkoi* (Stackelberg)], Krasnoyarsk Krai [Ozerov & Barkalov, 2014: 561 (as *Allomyella*)] and Yakutia [Engelmark, 1999: 159].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** Novaya Zemlya, Matorchkin Shar (ca. 73.375°N 55.0964°E), 1–5.VIII.1889, K. Nosilov (1 ♀, ZISP); same place, 29.VI.–1.VIII.1925, Vakulenko (4 ♂♂, 9 ♀♀, ZISP); Pushlakhta (64.8107°N 36.5779°E), 17.VII.1904, Sokolovskiy (1 ♂, ZISP); **Krasnoyarsk Krai:** 104 km NNW of Noril'sk, the Nizhnaya Agapa River (ca. 70.0972°N 86.6883°E), 24–25.VII.1973, Sukacheva, Zherikhin (2 ♂♂, ZISP); Agapa (ca. 71.412°N 89.2689°E), the Pyasina River, 14–15.VII.1967, Gorodkov (8 ♂♂, 3 ♀♀, ZISP); Taymyr, Lake Taymyr (74.0775°N 101.2808°E), west bank W of Baykura-Neru, 28.VII.1976, A. Rasnitsyn, I. Sukacheva (2 ♂♂, ZMUM); Taymyr, Taymyrskiy Reserve, Cordon Ary-Mas (72.5°N 101.94°E), 14 m, 9–10.VII.2010, A. Barkalov (9 ♂♂, ISEA and ZMUM); Ust'-Tareya (73.2527°N 90.5962°E), 24.VII.1967, Gorodkov (1 ♂, ZISP); **Tyumen' Oblast:** Neroyka env. (ca. 64.57°N 59.67°E), 950 m, 6.VII.1990, Malozemov (2 ♂♂, ZISP); **Yakutia:** Tiksi env. (71.6351°N 128.8579°E), 9.VII.1957, Gorodkov (1 ♂, ZISP).

DESCRIPTION. Male (Fig. 2), female. Small or medium-sized flies (3.6–4.3 mm long).

Head. Frontal vitta black, only in lower third or quarter yellow, matt; fronto-orbital plate and ocellar triangle black, greyish dusted. Face blackish in upper half and yellowish in lower half. Parafacial blackish. Gena black completely or yellow in lower half, postgena black, greyish dusted. Postcranium black, greyish dusted, covered with black setae in upper third and with pale hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 1–2 pairs of pale vibrissae present. Antenna black. Postpedicel more or less rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals (3–4)+3, intralargals 1+2, supra-alargals 1+2, postpronotals 2, notopleurals 2, postalargals 2. Proepisternum with hairs in central part, with 1–2 pale setulae near lower margin. Proepimeron with one pale setula. Anepisternum covered with pale hairs in posterior half, with 1–2 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron usually with one or several hairs, but sometimes bare. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Coxae, trochanters and femora of all legs black; tibiae and tarsi of all legs yellow, sometimes hind femur darkened. Fore femur with a row of posterodorsal setae in apical half, with pale hairs posteroventrally.

Fore tibia with short black spinules ventrally in two rows on whole length, with 1 dorsal and 1 posterior setae near middle, with 1 preapical dorsal seta and 1 apical posterior seta. Mid femur with irregular row of anterior setae in apical half, with 1 preapical posterior and 1 preapical posterodorsal setae, also with pale hairs ventrally. Mid tibia with 1 anterodorsal, 1 posterodorsal, and 0–1 posterior setae near middle, also with a ring of apicals. Hind femur with a row of black anterodorsal and a row of pale anteroventral setae. Hind tibia with 2 anterodorsal, 1–2 posterodorsal, 1 preapical dorsal, and 1 preapical posteroventral setae, also with 1 apical anteroventral seta.

Wing (Fig. 8) slightly darkened; veins blackish. R₁ bare dorsally. Calypters, margins of calypters, and halteres whitish or yellowish.

Abdomen black, greyish dusted, sometimes male tergites 4–5 shining along lateral margins. Male sternite 4 rectangular, about 2.5 times as wide as long (Fig. 13). Male sternite 5 asymmetrical, left lobe with three horns, right lobe bifurcate (Figs 25–27). Epandrium and surstyli as in Figs 43, 44. Female sternites 5–7 as in Fig. 68; sternites 6 and 7 poorly sclerotized in median part.

DISTRIBUTION. Russia (Fig. 80): Arkhangelsk Oblast, Krasnoyarsk Krai, Tyumen' Oblast, Yakutia. — Europe (Sweden), North America.

Microprosopa (Microprosopa) haemorrhoidalis (Meigen, 1826)

Figs 14, 28, 45, 46, 69, 81.

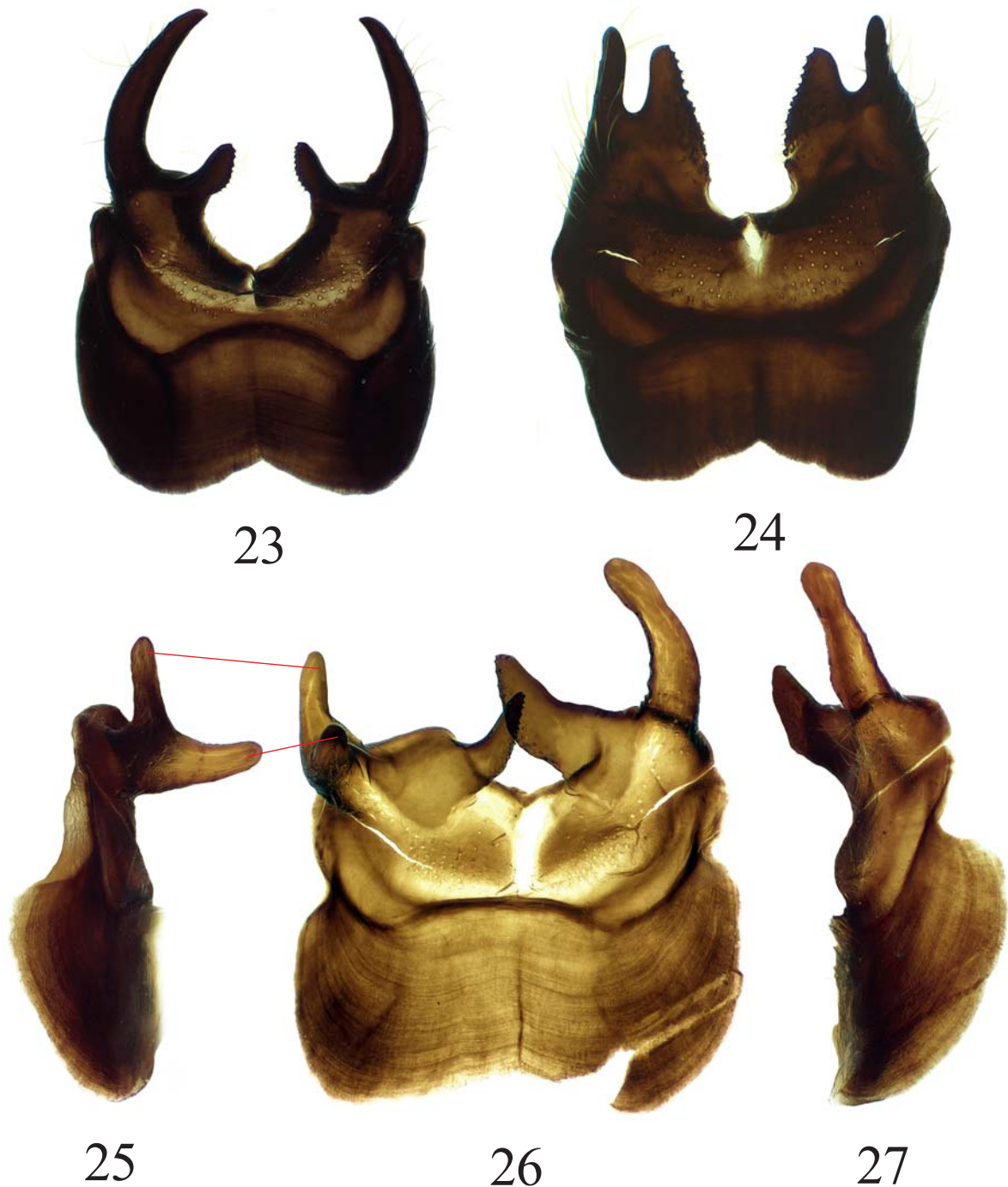
haemorrhoidalis Meigen, 1826: 237 (*Cordylura*). Type-locality: "Schweden".

pallipes Zetterstedt, 1838: 732 (*Cordylura*). Type-localities: "Lapponia passim; inter Tresiinda et Naestansjo ut et ad Lycksele, Lapponiae Umensis ... Jiickasjervi, Lapponiae Tornensis (Lapponia; Scania)".

lividipes Zetterstedt, 1846: 2042 (*Cordylura*). Type-locality: "Lapponia Lulensi ad Qvickjock" (Sweden).

Reported for Russia from Kola Peninsula [Hackman, 1956: 57], Siberia (Krasnoyarsk Krai, Sayan Mountains) and Far East [Gorodkov, 1986: 25; Ozerov & Barkalov, 2014: 562; Ozerov & Krivosheina, 2014: 213].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** Khal'mer'yu (ca. 67.5507°N 53.962°E), 19.VII.1962, Gorodkov (2 ♂♂, 1 ♀, ZISP); Nar'yan-Mar (67.6317°N 52.9857°E), 12.VII.2008, A.L. Ozerov (1 ♂, ZMUM); Nar'yan-Mar (67.6369°N 53.0316°E), 2 and 4.VIII.1978, Gorodkov (2 ♂♂, ZISP); **Buryatia:** Barguzinskiy Reserve (ca. 54.35°N 109.51°E), 23.VII.1965, Negrobov (1 ♀, ZISP); **Chukotka:** 20 km NNE of Iul'tin (67.7244°N 178.5158°W), 22.VII.1963, Gorodkov (1 ♂, 1 ♀, ZISP); 5 km N of Egvekinot (66.3637°N 179.1165°W), 26.VII.1963, Gorodkov (1 ♂, ZISP); bank of the Anadyr River (64.72°N 175.21°E), 25.VI.–19.VII.2014, A. Barkalov (1 ♂, in ISEA); Apapel'khin (ca. 69.7644°N 170.6176°E), 1.VII.1972, Gorodkov (1 ♀, ZISP); same place, 15.VII.1963, Gorodkov (2 ♂♂, 3 ♀♀, ZISP); Iul'tin (67.8669°N 178.7333°W), 20.VII.1963, Gorodkov (1 ♂, ZISP); Komsomol'skiy (69.1309°N 172.7358°E), 4–7.VII.1963, Gorodkov (20 ♂♂, 6 ♀♀, ZISP); Krasnoarmeyskiy (69.5435°N 171.9944°E), 3 and 8.VII.1963, Gorodkov (12 ♂♂, 4 ♀♀, ZISP); Pevek (69.7022°N 170.2982°E), 1, 11, and 12.VII.1963, 4.VIII.1972, Gorodkov (24 ♂♂, 10 ♀♀, ZISP); Polyarnyy mine (69.1635°N 178.7115°E), 2.VIII.1972, Gorodkov (2 ♂♂, 1 ♀, ZISP); Chaunskaya Bay, the mouth of the Ichun' River (68.8541°N 170.5476°E), 8.VI. and 3.VII.1963, Semenov (4 ♀♀, ZISP); **Irkutsk**



Figs 23–27. Male sternite 5 of *Microprosopa*: 23 — *M. albipennis* (Zetterstedt); 24 — *M. crinipes* Ringdahl; 25–27 — *M. frigida* (Holmgren).

Рис. 23–27. Стернит 5 самца *Microprosopa*: 23 — *M. albipennis* (Zetterstedt); 24 — *M. crinipes* Ringdahl; 25–27 — *M. frigida* (Holmgren).

Oblast: Tayshet (55.9328°N 97.9992°E), 13.VIII.1940, Barovskiy (1 ♂, ZISP); **Kamchatka Krai:** 20 km NO of Apuka (60.5534°N 169.7985°E), 13.VIII.1959, Gorodkov (2 ♂♂, ZISP); Kozyrevsk (56.0487°N 159.8703°E), 24.VII.1985, V. Zlobin (2 ♀♀, ZISP); Valley of Geysers (ca. 54.43°N 160.15°E), 12.VIII.1985, V. Zlobin (3 ♂♂, 1 ♀, ZISP); the upper reaches of the Bol'shaya River (61.0166°N 171.8333°E), 22.VII.1959, Gorodkov (2 ♂♂, 1 ♀, ZISP); Anaun volcano, 830 m (56.3089°N 158.8372°E), 25.VII.1929, Novograbenov (2 ♂♂, 1 ♀, ZISP); Polan [= Palana] (59.0849N

159.952°E), 6.VIII.1930, Novograbenov (5 ♀♀, ZISP); **Karelia:** Primorskiy (66.5463°N 33.1036°E), 3.VII.2010, A.L. Ozerov (3 ♂♂, 2 ♀♀, ZMUM); **Komi:** Sivaya Maska station (66.673°N 62.5676°E), 12.VII.1961, Gorodkov (2 ♂♂, ZISP); Shchel'yabozh (66.29°N 56.45°E), 13.VIII.1978, Gorodkov (1 ♂, ZISP); **Krasnoyarsk Krai:** Agapa (ca. 71.412°N 89.2689°E), the Pyasina River, 15.VII.1967, Gorodkov (1 ♂, 1 ♀, ZISP); Dudinka (69.4042°N 86.1822°E), 2.VII.1967, Gorodkov (5 ♂♂, 1 ♀, ZISP); same place, 22.VII.1907, Tolstova (1 ♂, ZISP); Igarka (67.457°N 86.598°E),



28



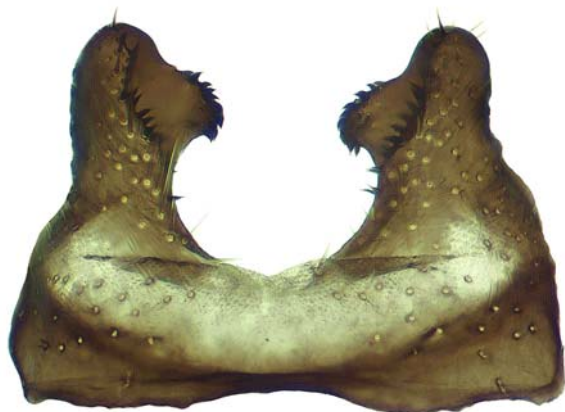
29



30



31



32



33

Figs 28–33. Male sternite 5 of *Microprosopa*: 28 — *M. haemorrhoidalis* (Meigen); 29 — *M. heteromyzina* (Zetterstedt); 30 — *M. lineata* (Zetterstedt); 31 — *M. pallidicauda* (Zetterstedt); 32 — *M. paveli* Ozerov et Krivosheina; 33 — *M. zlobini* Ozerov.
 Рис. 28–33. Стернит 5 самца *Microprosopa*: 28 — *M. haemorrhoidalis* (Meigen); 29 — *M. heteromyzina* (Zetterstedt); 30 — *M. lineata* (Zetterstedt); 31 — *M. pallidicauda* (Zetterstedt); 32 — *M. paveli* Ozerov et Krivosheina; 33 — *M. zlobini* Ozerov.



Figs 34–38. Male sternite 5 of *Microprosopa*: 34–36 — *M. portenkoi* Stackelberg; 37 — *M. taimyrica* sp.n.; 38 — *M. unguiculata* (Malloch).

Рис. 34–38. Стернит 5 самца *Microprosopa*: 34–36 — *M. portenkoi* Stackelberg; 37 — *M. taimyrica* sp.n.; 38 — *M. unguiculata* (Malloch).

the Enisey River, 1.VII.1967, Gorodkov (1 ♂, ZISP); Medvezhiy (69.2845°N 88.1488°E), Noril'sk env., 6.VII.1967, Gorodkov (1 ♀, ZISP); Noril'sk (69.3396°N 88.2147°E), 6 and 9.VII.1967, Gorodkov (13 ♂♂, 10 ♀♀, ZISP); Glubokoe Lake, 60 km O of Noril'sk (ca. 69.373°N 89.799°E), 8.VII.1967, Gorodkov (1 ♂, ZISP); Noril'sk env., Talnakh (69.5003°N 88.4476°E), 22.VIII.1973, Gorodkov (1 ♀, ZISP); Turukhansk (65.7971°N 87.9527°E), 28.VI.1967, Gorodkov (19 ♂♂, ZISP); Ust'-Tareya (73.2527°N 90.5962°E), 29.VII.1967, Gorodkov (1 ♂, ZISP); Khatanga (71.9815°N 102.4832°E), 25.VII.1971, Chelnokov (2 ♂♂, ZISP); same place, 25.VIII.1971, Gorodkov (17 ♂♂, 2 ♀♀, ZISP); **Leningrad Oblast:**

Gatshina (59.56°N 30.13°E), 15.V.1903, Barovskiy (1 ♀, ZISP); Jukki (ca. 60.11°N 30.29°E), 11.VI.1931, 12.VI.1932, A. Stackelberg (2 ♂♂, 1 ♀, ZISP); Sablino (ca. 59.63°N 30.76°E), 18–19.VI.1923, A. Stackelberg (3 ♂♂, 4 ♀♀, ZISP); Terioki [= Zelenogorsk] (60.1954°N 29.6999°E), without data, Yu. Vagner (1 ♂, 3 ♀♀, ZISP); Tolmachevo (58.8565°N 29.8956°E), 2.VII.1955, A. Stackelberg (1 ♀, ZISP); **Magadan Oblast:** Gizhiga (61.9487°N 160.3772°E), 5.IX.1987, Gorodkov (1 ♂, 1 ♀, ZISP); Madaun (60.6063°N 150.6963°E), 2.VII.1971, Gorodkov (3 ♂♂, 1 ♀, ZISP); Sokol (59.9193°N 150.7527°E), 25.VIII.1966, Gorodkov (1 ♂, ZISP); Chaybukha (61.8016°N 160.4132°E), 1.IX.1987, Gorodkov

(2 ♂♂, ZISP); **Murmansk and Murmansk Oblast:** Vud'yavr Lake Basin (ca. 67.6464°N 33.6449°E), 26.VI.1930 and 13.VII.1935, Fridolin (1 ♂, 2 ♀♀, ZISP); Laplandskiy Reserve (67.6464°N 33.6449°E), 19.VII.–3.VIII.1975, Sychevskaya (1 ♂, 2 ♀♀, ZISP); Laplandskiy Reserve (67.9268°N 32.0526°E), 10.VII.1976, V. Sychevskaya (1 ♀, ZMUM); Lovozero (68.005°N 35.0175°E), VIII.1933, Serebryanskiy (1 ♀, ZISP); Murmansk env. (68.9798°N 33.1148°E), 21.VII.2011, A. Ozerov (1 ♂, ZMUM); Imandra station (67.8502°N 33.2588°E), 9.VIII.1923, Fridolin (1 ♂, ZISP); Khibiny station (67.6736°N 33.2126°E), 13–18.VIII.1928, Cheburova (4 ♀♀, ZISP); Olen'ya station [= Olenegorsk] (68.1365°N 33.2985°E), 15.VIII.1923, V. Kuznetsov (1 ♂, 4 ♀♀, ZISP); Murmansk env. (68.96°N 33.08°E), 8–10.VII.1930, Cheburova (1 ♀, ZISP); **Tuva:** Mondy env. (51.6758°N 100.9925°E), 18–20.VII.1965, Gorodkov (4 ♂♂, 1 ♀, ZISP); Il'chir Lake env. (51.9762°N 100.9877°E), 31.VII.1965, Gorodkov (1 ♂, ZISP); **Tyumen' Oblast:** (63.818°N 59.562°E), 1–4.VII.2010, K. Tomkovich (1 ♂, ZMUM); 80 km W of Samburg (ca. 67.0357°N 76.5411°E), 28.VII.1977, Gorodkov (1 ♂, ZISP); same place, 7–9.VIII.1976, D. Kasparyan (2 ♂♂, ZISP); the Sob' River Basin (ca. 66.9376°N 65.6706°E), 30.VII.1925, Fridolin (2 ♂♂, 1 ♀, ZISP); Labytnangi (66.6579°N 66.3919°E), 24.VII.1973, R. Kamenskaya (1 ♂, 1 ♀, ZMUM); Labytnangi (66.6611°N 66.3945°E), 14.VIII.1985, Gorodkov (1 ♂, ZISP); same place, 30.VI., 6–10.VII., 4–16.VIII.1973, 2–11.VII., 2 and 18.VIII.1974, 22.VIII.1978, Sychevskaya (15 ♂♂, 8 ♀♀, ZISP); Labytnangi env. (66.6611°N 66.3945°E), VII.1971, Ol'shvang (5 ♂♂, ZISP); Neroyka (ca. 64.57N 59.67E), 650 m, 11.VI.1989, Malozemov (13 ♂♂, 5 ♀♀, ZISP); the Khadyta River (66.873°N 74.0574°E), 9.VII.1974 and 8.VIII.1974, Bogacheva (3 ♂♂, 1 ♀, ZISP); Salekhard (66.53°N 66.6135°E), 3.VIII.1961, 20.VIII.1972, Gorodkov (2 ♂♂, ZISP); **Yakutia:** 144 km NW of Tiksi (72.758°N 123.197°E), 10–17.VIII.2009, I. Sendersky (1 ♂, ZMUM); Aykhal (65.945°N 111.4961°E), 19.VIII.1988, Gorodkov (1 ♂, 1 ♀, ZISP); airport Sasyklakh (71.9345°N 114.083°E), 24.VII.1988, Gorodkov (5 ♂♂, ZISP); Verkhoyansk (67.5483°N 133.3961°E), 12.VIII.1972, Gorodkov (2 ♂♂, 2 ♀♀, ZISP); Kular-pristan', the Yana River (70.5665°N 134.9821°E), 2.VIII.1988, Gorodkov (1 ♂, ZISP); Kyusyur (70.6874°N 127.366°E), 13–19.VII.1957, Gorodkov (10 ♂♂, 9 ♀♀, ZISP); Nel'kan (57.6548°N 136.163°E), 1–2.VIII.1903, Popov (1 ♂, ZISP); Sevast'yan Lake, 12 km S of Tiksi (71.5377°N 128.8569°E), 18.VII.1957, Kapitono (1 ♀, ZISP); Stolb I. (72.3956°N 126.6588°E), the Lena delta, 25.VII.1957, Gorodkov (1 ♂, ZISP); Teplyy Klyuch (62.7836°N 136.8096°E), 21.VIII.1974, Gorodkov (1 ♂, ZISP); Tiksi (71.6351°N 128.8579°E), 2–9.VII. and 11–17.VIII.1957, Gorodkov (13 ♂♂, 3 ♀♀, ZISP); Udachnyy (66.4057°N 112.2994°E), 20–21.VII.1988, Gorodkov (4 ♂♂, 2 ♀♀, ZISP); Uryung-Khaya (72.8124°N 113.2316°E), 7.VIII.1988, Gorodkov (1 ♀, ZISP); Chay-Tumus (72.3166°N 125.7333°E), 25.VII.1957, Gorodkov (2 ♂♂, 4 ♀♀, ZISP); Chekurovka (71.0469°N 127.5255°E), 24.VII.1957, Gorodkov (1 ♀, ZISP); Cherskiy (68.7503°N 161.3321°E), 4.VII.1971, Gorodkov (5 ♂♂, 5 ♀♀, ZISP); Chokurdakh (70.6187°N 147.8958°E), 13.VII.1966 and 21.VIII.1971, Gorodkov (1 ♂, 1 ♀, ZISP); same place, 19.VII.1971, Chelnokov (1 ♂, ZISP); Ebelyakh, the Anabar River (70.8849°N 113.5704°E), 22.VII.1988, Gorodkov (1 ♀, ZISP).

DESCRIPTION. Male, female. Small or medium-sized flies (3.6–5.6 mm long).

Head. Frontal vitta reddish-yellow, matt; fronto-orbital plate black in upper half and reddish-yellow in lower half, greyish dusted. Ocellar triangle black, with grey pollen. Face and parafacial black in male, completely white in female. Gena and postgena usually black in upper half and yellow in lower half in male, completely white in female. Postcranium black, greyish dusted, covered with black setae in upper third and white hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 2–3 pairs of vibrissae present. Scape and pedicel from brown to black. Postpedicel black, rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals (4–5)+(3–4), intralalars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 long pale setae near lower margin. Proepimeron with one pale or black seta and several small hairs. Anepisternum covered with pale hairs in posterior half, with 3–5 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

Legs yellow, only mid and hind coxae black. Fore femur with a row of posterodorsal setae, with numerous hairs anteriorly and ventrally. Fore tibia with short black ventral spinules in two rows on whole length, with 1 dorsal seta near middle, with 1 preapical dorsal seta and usually with 1 apical posterior seta. Mid femur with irregular row of anterior setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal seta near middle, and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2 anterodorsal, 1–2 posterodorsal and 1 preapical dorsal setae, also with 1 apical anterodorsal and 1 apical anteroventral setae.

Wing slightly darkened; veins brownish. R_1 bare dorsally. Calypters, margins of calypters, and halteres yellowish.

Abdomen black, greyish dusted; female abdominal tergites 6–8 reddish. Male sternite 4 rectangular, slightly wider than long (Fig. 14). Male sternite 5 symmetrical; lobes simple, narrow, sharpen apically (Fig. 28). Epandrium and surstyli as in Figs 45, 46. Female sternites 5–7 as in Fig. 69; sternite 5 rectangular, not wider than sternite 6 and sternite 7; sternite 7 ovoid, wider than long.

DISTRIBUTION. Russia (Fig. 81): Arkhangelsk Oblast, Buryatia, Chukotka, Irkutsk Oblast, Kamchatka Kray, Karelia, Komi, Krasnoyarsk Kray, Leningrad Oblast, Magadan Oblast, Murmansk Oblast, Tuva, Tyumen' Oblast, Yakutia. — Europe, North America.

Microprosopa (Microprosopa) heteromyzina (Zetterstedt, 1838)

Figs 15, 29, 47, 48, 70, 82.

heteromyzina Zetterstedt, 1838: 723 (*Scatomyza*). Type-locality: "Lapponia Umensi... Lycksele" (Sweden).

Noted by Ozerov & Krivosheina [2014: 213] from Far East. Reporting of the species for Siberia (Krasnoyarsk Kray) [Ozerov & Barkalov, 2014: 562] is incorrect, both specimens proved to be *M. haemorrhoidalis*.

MATERIAL EXAMINED. **Altay:** Seminskiy pass, 1252 m (51.05°N 85.62°E), 30.VI.2009, A. Barkalov (2 ♂♂, ISEA and ZMUM); Seminskiy pass, the Sarlyk River (51.11°N 85.60°E), 1200 m, 28–30.VI.2016, N. Vikhrev (3 ♂♂, ZMUM); **Karelia:** Paanayarvi (66.1625°N 30.5436°E), 1.VII.1998, Polevoy (1 ♂, ZMUM).

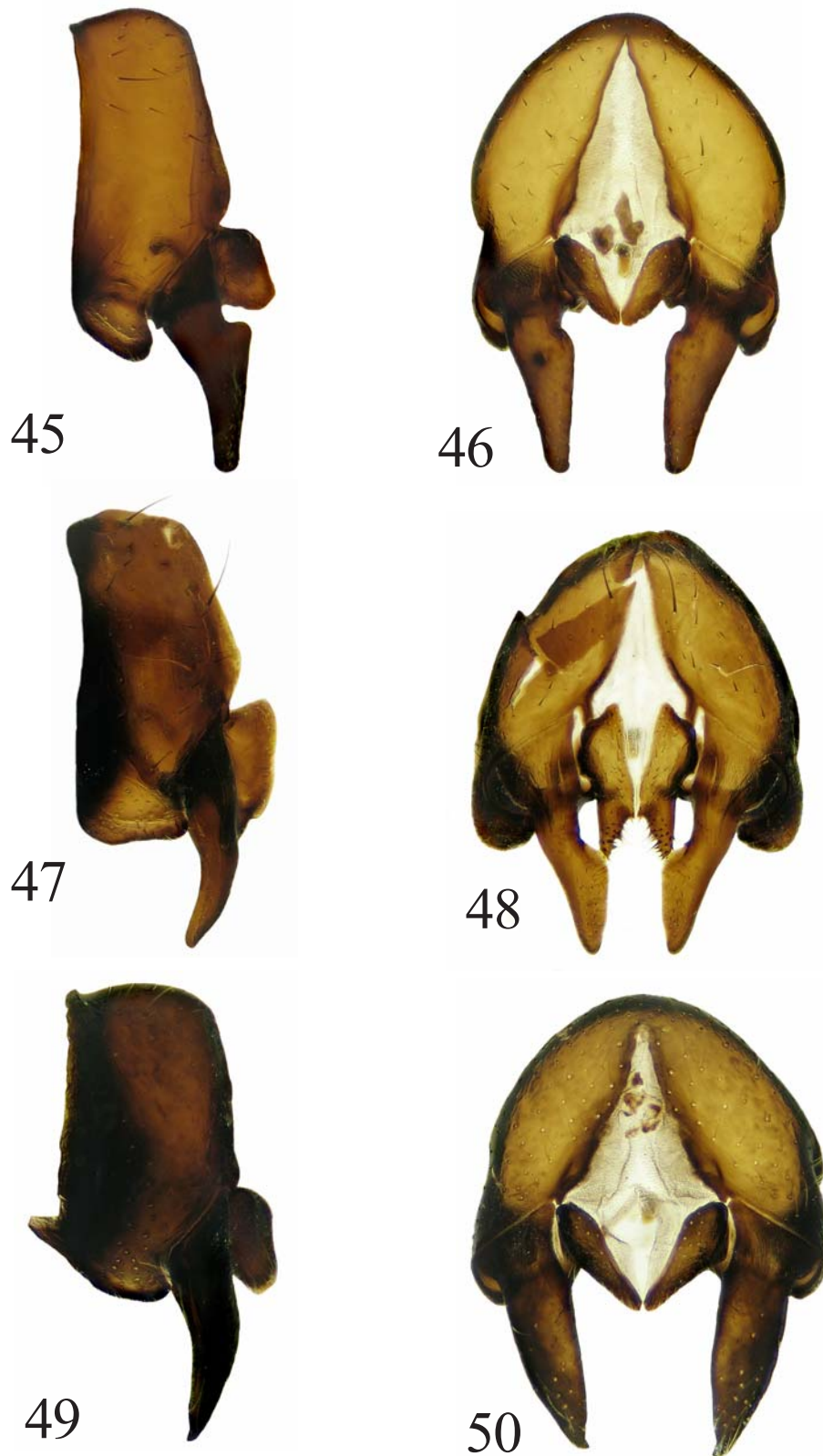
ADDITIONAL MATERIAL EXAMINED. Holotype ♀ of *Microprosopa heteromyzina* (Zetterstedt), with labells: 1) small black tag, 2) "S. *heteromyzina* ♀ Lycks", 3) "Holotypus *Scatomyza heteromyzina* Zett. Labelled 1954 by J.R. Vockeroth" (MZLU).

DESCRIPTION. Male, female. Medium-sized flies (4.2–5.3 mm long).



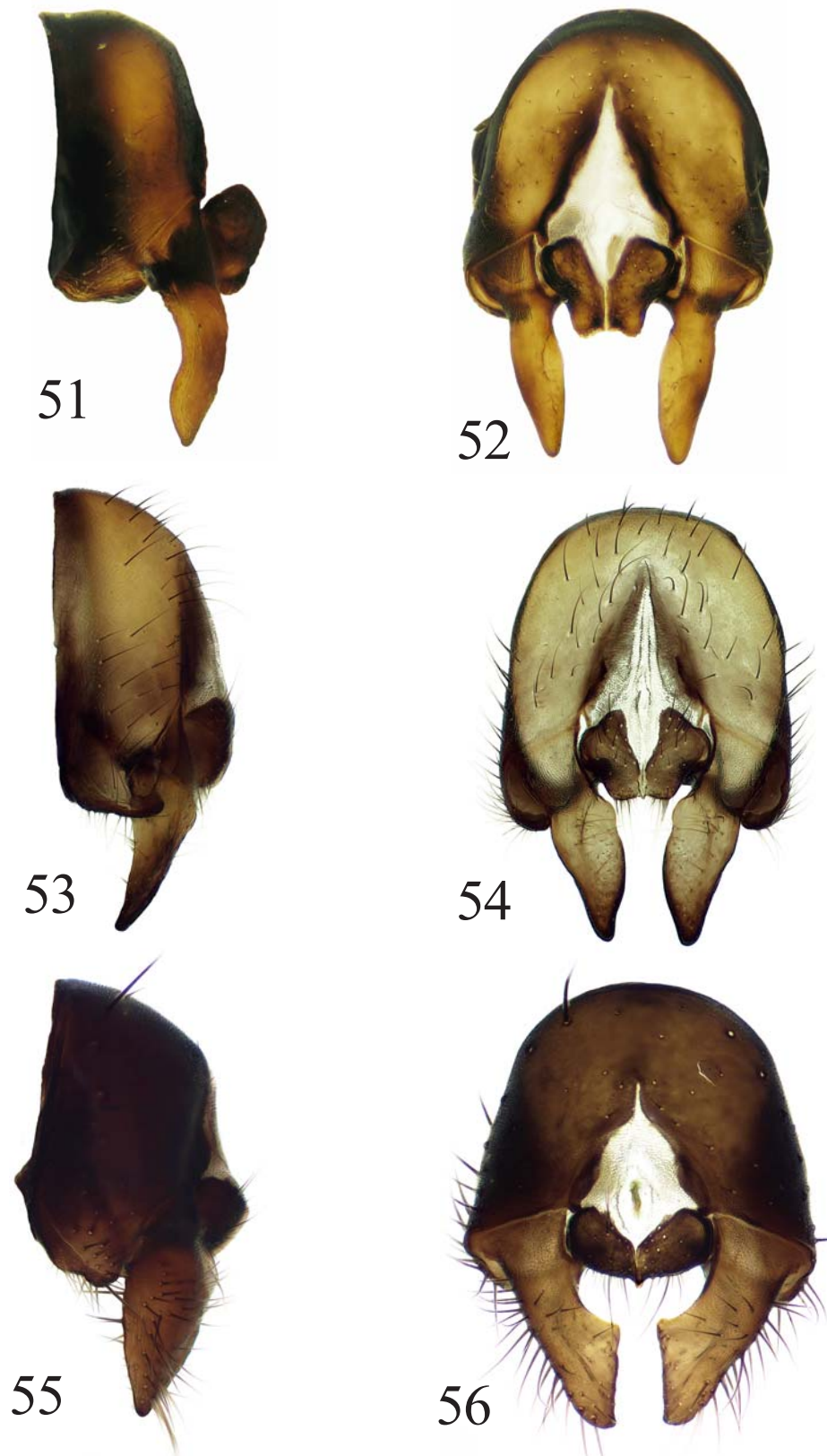
Figs 39–44. Epandrium and surstyli of *Microprosopa*: 39 — *M. albipennis* (Zetterstedt), lateral view; 40 — same, dorsal view; 41 — *M. crinipes* Ringdahl; 42 — same, dorsal view; 43 — *M. frigida* (Holmgren), lateral view; 44 — same, dorsal view.

Рис. 39–44. Эпандрий и сурстили *Microprosopa*: 39 — *M. albipennis* (Zetterstedt), сбоку; 40 — то же, сверху; 41 — *M. crinipes* Ringdahl, сбоку; 42 — то же, сверху; 43 — *M. frigida* (Holmgren), сбоку; 44 — то же, сверху.



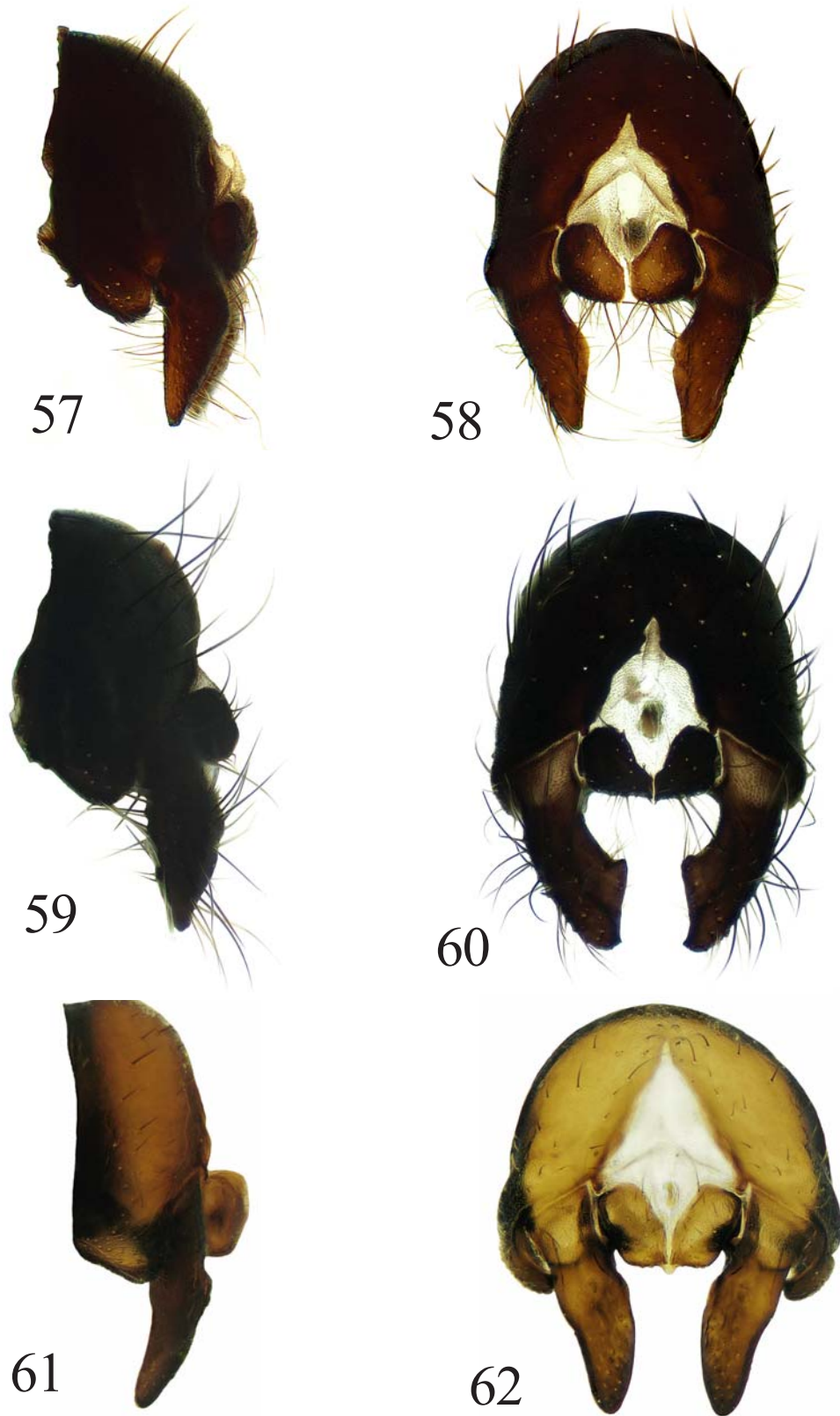
Figs 45–50. Epandrium and surstyli of *Microprosopa*: 45 — *M. haemorrhoidalis* (Meigen), lateral view; 46 — same, dorsal view; 47 — *M. heteromyzina* (Zetterstedt); 48 — same, dorsal view; 49 — *M. lineata* (Zetterstedt), lateral view; 50 — same, dorsal view.

Рис. 45–50. Эпандрий и сурстили *Microprosopa*: 45 — *M. haemorrhoidalis* (Meigen), сбоку; 46 — то же, сверху; 47 — *M. heteromyzina* (Zetterstedt), сбоку; 48 — то же, сверху; 49 — *M. lineata* (Zetterstedt), сбоку; 50 — то же, сверху.



Figs 51–56. Epandrium and surstyli of *Microprosopa*: 51 — *M. pallidicauda* (Zetterstedt), lateral view; 52 — same, dorsal view; 53 — *M. paveli* Ozerov et Krivosheina; 54 — same, dorsal view; 55 — *M. portenkoi* Stackelberg, lateral view; 56 — same, dorsal view.

Рис. 51–56. Эпандрий и сурстили *Microprosopa*: 51 — *M. pallidicauda* (Zetterstedt), сбоку; 52 — то же, сверху; 53 — *M. paveli* Ozerov et Krivosheina, сбоку; 54 — то же, сверху; 55 — *M. portenkoi* Stackelberg, сбоку; 56 — то же, сверху.



Figs 57–62. Epandrium and surstyli of *Microprosopa*: 57 — *M. taimyrica* sp.n., lateral view; 58 — same, dorsal view; 59 — *M. unguiculata* (Malloch), lateral view; 60 — same, dorsal view; 61 — *M. zlobini* Ozerov, lateral view; 62 — same, dorsal view.

Рис. 57–62. Эпандрий и сурстии *Microprosopa*: 57 — *M. taimyrica* sp.n., сбоку; 58 — то же, сверху; 59 — *M. unguiculata* (Malloch), сбоку; 60 — то же, сверху; 61 — *M. zlobini* Ozerov, сбоку; 62 — то же, сверху.

Head. Frontal vitta reddish-yellow completely or blackish in upper half, matt; fronto-orbital plate black, greyish dusted. Ocellar triangle black, with grey pollen. Face and parafacial from black to yellow in male, completely pale yellow in female. Gena and postgena pale yellow. Postcranium black in upper part and yellow in lower quarter, greyish dusted, covered with black setae in upper third and white hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; usually 2 pairs of pale vibrissae present. Scape and pedicel from brown to black. Postpedicel black, rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals 3+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 long pale setae near lower margin. Proepimeron with one pale or black seta. Anepisternum covered with pale hairs in posterior half, with 3 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

Legs yellow, only mid and hind coxae brown or black. Fore femur with irregular row of posterodorsal setae, with numerous hairs anteriorly and ventrally. Fore tibia with short black ventral spinules in two rows on whole length, with 1 dorsal seta near middle, with 1 preapical dorsal seta and usually with 1 apical posterior seta. Mid femur with a row of anterior setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal and 1 posterodorsal setae near middle, and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 1–2 anterodorsal, 1–2 posterodorsal and 1 preapical dorsal setae, also with 1 apical anterodorsal and 1 apical anteroventral setae.

Wing slightly darkened; veins brownish. R_1 bare dorsally. Calypters, margins of calypters, and halteres yellowish.

Abdomen black in male and usually yellow in female, greyish dusted. Male sternite 4 rectangular, about 2 times as wide as long (Fig. 15). Male sternite 5 symmetrical; lobes simple, wide, rounded apically (Fig. 29). Epandrium and surstyli as in Figs 47, 48. Female sternites 5–7 as in Fig. 70; lateral margins of sternite 7 fused with lateral margins of sternite 7 forming syntergosternite; sternite 7 as long as sternite 5.

DISTRIBUTION. Russia (Fig. 82): Altay, Karelia. — Europe, North America.

Microprosopa (Microprosopa) lineata (Zetterstedt, 1838)

Figs 3, 16, 30, 49, 50, 71, 83.

lineata Zetterstedt, 1838: 732 (*Cordylura*). Type-locality: “Laponia Tornensi... ad Juckasjärvi...” (Sweden, Juckasjärvi).

The species was recorded for Russia by Gorodkov [1986: 24] from the European part without indicating a

specific locality, also from Arkhangelsk Oblast [Engelmark, 1999: 159] and Krasnoyarsk Krai (Taymyr) [Ozerov & Barkalov, 2014: 562].

MATERIAL EXAMINED. **Arkhangelsk Oblast:** Nar’yan-Mar (67.6370°N 52.0214°E, 67.6317°N 52.9857°E), 6–13.VII.2008, N.E. Vikhrev, A.L. Ozerov (7 ♂♂, 10 ♀♀, ZMUM); **Chukotka:** bank of the Anadyr River (64.72°N 175.21°E), 25.VI.–19.VII.2014, A. Barkalov (1 ♂, ISEA); the lower reaches of the Anadyr’ River (64.83°N, 175.96°E); **Komi:** Vorkuta (67.5°N 64.0°E), 19–25.VII.2010, N. Vikhrev (2 ♀♀, ZMUM); **Krasnoyarsk Krai:** Agapa (ca. 71.412°N 89.2689°E), the Pyasina River, 16–19.VII.1967, Gorodkov (8 ♂♂, 8 ♀♀, ZISP); Dudinka (69.4°N 86.2°E), 26–29.VII.2011, N. Vikhrev (1 ♀, ZMUM); Glubokoe Lake, 60 km O of Noril’sk (ca. 69.373°N 89.799°E), 8.VII.1967, Gorodkov (1 ♂, ZISP); **Murmansk Oblast:** the Kola River (68.8869°N 33.0236°E), 19.VII.2011, A. Ozerov (2 ♂♂, 2 ♀♀, ZMUM); **Tyumen’ Oblast:** 85 km SW of Antipayuta (ca. 68.8208°N 75.3442°E), 31.VII.1977, Gorodkov (1 ♂, 1 ♀, ZISP); **Yakutia:** the Atyrayana River near Zhigansk (66.7635°N 123.329°E), 4.VII.1875, Chekanovskiy (1 ♀, ZISP).

DESCRIPTION. Male, female. Small or medium-sized flies (4.0–5.7 mm long). Almost all setae on head, thorax and legs pale.

Head. Frontal vitta mostly reddish-yellow, only in upper third darkened, matt; fronto-orbital plate and ocellar triangle black, greyish dusted. Face, parafacial, gena and postgena pale yellow. Postcranium black, greyish dusted, covered with hairs. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 2 pairs of vibrissae present. Antenna black, but pedicel sometimes brownish. Postpedicel rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

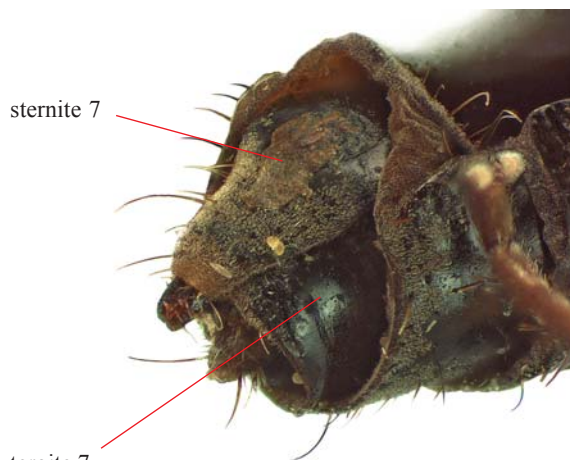
Thorax and scutellum black, greyish dusted. Scutum with two shining narrow stripes medially and fore shining spots (Fig. 3). Acrostical hairs in two rows, dorsocentrals 3+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 setulae near lower margin. Proepimeron with one setula. Anepisternum covered with hairs in posterior half, with 2–4 setae along posterior margin. Katepisternum covered with hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Fore coxa brown or blackish, mid and hind coxae black; femora, tibiae and tarsi of all legs yellow. Fore femur with rows of posterodorsal and posteroventral setae, with numerous hairs posteriorly and posteroventrally. Fore tibia with short black spinules ventrally in two irregular rows on whole length, with 1 dorsal seta near middle, with 1 preapical dorsal and apical posterior setae. Mid femur with irregular row of anterior setae, with 1 preapical posterior and 1 preapical posterodorsal setae, also with pale hairs ventrally. Mid tibia with 1 anterodorsal and 1 posterodorsal setae near middle, also with a ring of apicals. Hind femur with a rows of anterodorsal and anteroventral setae, also with numerous hairs posteriorly and posteroventrally. Hind tibia with 2–3 anterodorsal, 1–2 posterodorsal, 1 preapical dorsal, and 0–1 preapical posteroventral setae, also with 1 apical anteroventral seta.



syntergosternite 7

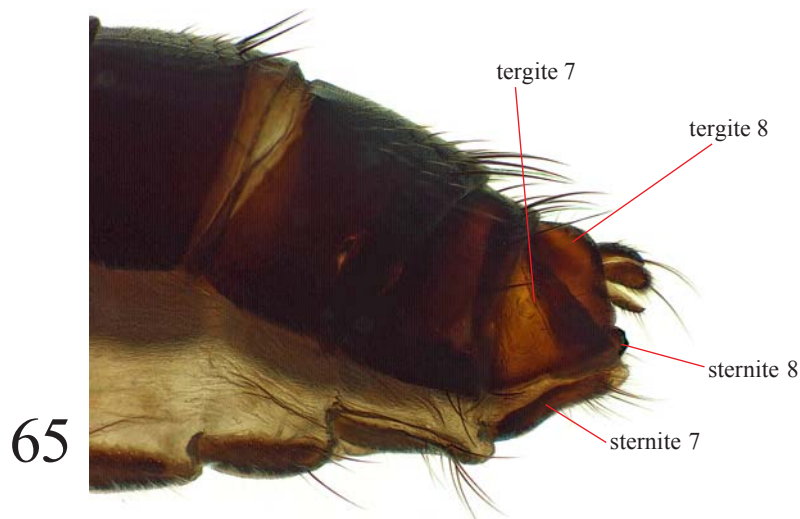
63



sternite 7

tergite 7

64



65

tergite 7

tergite 8

sternite 8

sternite 7

Figs 63–65. End of *Microprosopa* females abdomen: 63 — *M. crinipes* Ringdahl; 64 — *M. taimyrica* sp.n.; 65 — *M. pallidicauda* (Zetterstedt).

Рис. 63–65. Конец брюшка самок *Microprosopa*: 63 — *M. crinipes* Ringdahl; 64 — *M. taimyrica* sp.n.; 65 — *M. pallidicauda* (Zetterstedt).

Wing slightly darkened; veins blackish. R_1 bare dorsally. Calypters, margins of calypters, and halteres whitish or yellowish.

Abdomen black, greyish dusted, sometimes male tergites 3–6 shining along lateral margins. Male sternite 4 trapezoid, slightly wider than long (Fig. 16). Male sternite 5 symmetrical; lobes simple, narrow (Fig. 30). Epandrium and surstyli as in Figs 49, 50. Female sternites 5–7 as in Fig. 71; sternite 5 rectangular, not wider than sternite 6 and sternite 7; sternite 7 ovoid, as long as wide.

DISTRIBUTION. Russia (Fig. 83): Arkhangelsk Oblast, Chukotka, Komi, Krasnoyarsk Krai, Murmansk Oblast, Tyumen' Oblast, Yakutia. — Europe, North America.

Microprosopa (Microprosopa) pallidicauda (Zetterstedt, 1838)

Figs 1, 4, 9, 17, 31, 51, 52, 65, 72, 84.

pallidicauda Zetterstedt, 1838: 733 (*Cordylura*). Type-locality: "Lycksele Lapponiae Umensis ... Juckasjervi Lapponiae Tornensis... (Lapponia Suecica et sylvatica)" (Sweden).

melanura Zetterstedt, 1838: 731 (*Cordylura*). Type-locality: "Kengis Lapponiae Tornensis... Stensele, Umenae, Wilhelmina et Åsele, Lapponia Umensis" (Sweden) — **syn.n.**¹
pallidicauda, error

¹ *C. melanura* was described from an unspecified number of both sexes from "Lycksele Lapponiae Umensis ... Juckasjervi Lapponiae Tornensis... (Lapponia Suecica et sylvatica)", Sweden. Later Zetterstedt supposed this species to be identical to *Cordylura pallipes* Zetterstedt, 1838 [Zetterstedt, 1846: 1993, footnote] and marked these specimens in such way (see below). Becker [1905: 18] synonymized this species with *Microprosopa haemorrhoidalis* Meigen. Gorodkov mentioned this species as the synonym of *M. haemorrhoidalis* [Gorodkov, 1986: 25] at the same time as the synonym of *Okeniella caudata* (Zetterstedt, 1838) [Gorodkov, 1986: 22].

2 syntypes of *C. melanura* were discovered in Zetterstedt's collection in Lund. One of them labelled 1) small black tag, 2) "*C. pallipes* ♂. *melanura* olim", 3) "Lectotypus *Cordylura melanura* Zett. Designated by Vockeroth 19" [not published designation], 4) "*Microprosopa pallidicauda* Zett. Det. J.R. Vockeroth 1963" was studied by me, designated it herewith and labelled it as lectotype of *Cordylura melanura*. It is conspecific with *Microprosopa pallidicauda* (Zetterstedt, 1838). The second specimen has label "*C. caudatum* ♀ (*C. melanura* Ins. L.) Lycksele" [personal comm. by Rune Bygebjerg], not studied.

Noted for Russia from Kola Peninsula and Arkhangelsk Oblast [Hackman, 1956: 58; Humala & Polevoi, 2009: 72], Siberia [Gorodkov, 1986: 25 (without indicating a specific locality)], and Far East [Ozerov & Krivosheina, 2014: 214].

MATERIAL EXAMINED. **Altay:** Kosh-Agach env. (50.01°N 88.66°E), 1750 m, 2–4.VII.2016, N. Vikhrev (1 ♀, ZMUM); Seminsky pass (51.06°N 85.59°E), 1650 m, 27–30.VI.2016, N. Vikhrev (10 ♂♂, 4 ♀♀, ZMUM); Seminsky pass, the Turala River (50.99°N 85.68°E), 1350 m, 8–12.VII.2016, N. Vikhrev (1 ♂, ZMUM); **Arkhangelsk Oblast:** Khal'mer'yu (ca. 67.5507°N 53.962°E), 18.VII.1962, Gorodkov (1 ♂, ZISP); 70 km N of Nar'yan-Mar (ca. 68.2045°N 53.6278°E), 18.VIII.1978, Gorodkov (3 ♂♂, 1 ♀, ZISP); 73 km NW of Nar'yan-Mar (ca. 67.9814°N 51.6083°E), 3.VIII.1978, Gorodkov (7 ♂♂, 1 ♀, ZISP); Nar'yan-Mar (67.6271°N 53.0003°E, 67.6317°N 52.9857°E, 67.6344°N 52.99721°E), 7–13.VII.2008, N.E. Vikhrev, A.L. Ozerov (24 ♂♂, 11 ♀♀, ZMUM); Nar'yan-Mar (67.6369°N 53.0316°E), 2 and 20.VIII.1978, Gorodkov (5 ♂♂, 2 ♀♀, ZISP); Nenetskiy Reserve, Cordon "Bol'shoy Gusinets" (68.1759°N 53.6453°E), 9–10.VII.2008, A.L. Ozerov (3 ♂♂, 3 ♀♀, ZMUM); Nizhnyaya Peshya (66.7518°N 47.7605°E), 22–23.VIII.1978, Gorodkov (3 ♂♂, ZISP); the lower reaches of the Pechora River, Kashin I. (68.242°N 53.8567°E), 10.VII.2008, A.L. Ozerov (3 ♂♂, ZMUM); Nar'yan-Mar env. (67.6428°N 53.1963°E), 6.VII.2008, A.L. Ozerov (1 ♂, ZMUM); Solovetskie I. (65.0805°N 35.6863°E), 15 and 28.VI.1925, Birulya (3 ♂♂, 2 ♀♀, ZISP); Solovetskie I., Rebolda (65.144°N 35.8282°E), 26.VI.1896, Birulya (1 ♀, ZISP); **Buryatia:** Barguzinskiy Reserve (ca. 54.35°N 109.51°E), 23 and 24.VII.1965, Negrobov (2 ♂♂, 1 ♀, ZISP); Mondy env. (51.6758°N 100.9925°E), 22 and 23.VII.1965, Gorodkov (1 ♂, 2 ♀♀, ZISP); **Kamchatka Kray:** Apuka env. (60.4437°N 169.6022°E), 1–2.VIII.1959, Gorodkov (2 ♂♂, ZISP); Valley of Geysers (ca. 54.43°N 160.15°E), 30.VII. and 12.VIII.1985, V. Zlobin (1 ♂, 2 ♀♀, ZISP); **Karelia:** Poyakonda (66.5898°N 33.8210°E), 8.VII.2010, A.L. Ozerov (8 ♂♂, 3 ♀♀, ZMUM); **Komi:** Seida (67.05°N 63.09°E), 23.VII.2010, N. Vikhrev (1 ♂, ZMUM); Vil'gort (60.5606°N 56.4652°E), 11.VII.1957, Gabova (2 ♂♂, ZISP); Vorkuta (67.5°N 64.0°E), 19–25.VII.2010, N. Vikhrev (6 ♂♂, 1 ♀, ZMUM); Shchel'yabozh (66.29°N 56.45°E), 15.VIII.1978, Gorodkov (4 ♂♂, ZISP); Shchel'yayur (65.33°N 53.43°E), 12.VIII.1978, Gorodkov (1 ♂, ZISP); **Krasnoyarsk Kray:** 104 km NNW of Noril'sk, the Nizhnyaya Agapa River (ca. 70.0972°N 86.6883°E), 16.VII.1973, Sukacheva, Zherikhin (1 ♂, ZISP); Turuchansk (65.7972°N 87.9586°E), 28.VI.1967, Gorodkov (2 ♂♂, ZISP); Dudinka (69.4042°N 86.1822°E), 3.VII.1967, Gorodkov (3 ♂♂, ZISP); Igarka (67.457°N 86.598°E), the Enisey River, 30.VI.1967, Gorodkov (6 ♂♂, 1 ♀, ZISP); Glubokoe Lake, 60 km E of Noril'sk (ca. 69.373°N 89.799°E), 8.VII.1967, Gorodkov (1 ♂, 1 ♀, ZISP); **Leningrad Oblast:** Tolmachevo (58.8565°N 29.8956°E), 2.VII.1955, A. Stackelberg (1 ♀, ZISP); **Magadan Oblast:** Koni Peninsula, Ploskiy Cape (59.1612798°N 151.6436005°E), 16.VII.2015, N. Tridrikh (1 ♀, collection of Magadanskiy Reserve); **Murmansk and Murmansk Oblast:** Teriberka (69.1641°N 35.1403°E), 3.VII.2008, V. Semenov (2 ♂, 1 ♀, ZMUM); Murmansk env. (68.96°N 33.08°E), 15.VIII.1923, Fridolin (1 ♀, ZISP); **Sakhalin Oblast:** Iturup I., Rybaki (45.2093°N 147.8519°E), 22.VI.1968, V. Richter (2 ♂♂, ZISP); **Tuva:** the upper reaches of the Mogun-Buren' River (ca. 50.0419°N 89.8724°E), 25.VII.1964, Narchuk (2 ♂♂, ZISP); **Tyumen' Oblast:** (63.766°N 59.716°E), 1–4.VII.2010, K. Tomkovich (1 ♀, ZMUM); (63.818°N 59.562°E), 6–8.VII.2010, K. Tomkovich (2 ♂♂, 2 ♀♀, ZMUM); Krasnoselkup (65.7061°N 82.4632°E), 16.VIII.1992, D. Kasparyan (3 ♂♂, ZISP); the It'yakh River (61.85°N 69.06°E, 61.73°N 71.03°E), 21 and 22.VII.2010, K. Tomkovich (2 ♂♂, ZMUM); Sob' env. (67.07°N 65.46°E), 26–31.VII.2011, K. Tomkovich (1 ♂, ZMUM); the Voykar River Basin (ca. 65.7206°N 64.3244°E), 20.VIII.1925, Fridolin (3 ♂♂, ZISP); the Sob' River Basin (ca. 66.9376°N 65.6706°E), 4–31.VII.1925, 4.IX.1925, Fridolin (7 ♂♂, 3 ♀♀, ZISP); the Sob' River Basin (ca. 66.9376°N 65.6706°E), the mouth of the Bol'shaya Pay-Pudyna River, 28.VII.1961, Gorodkov (7 ♂♂, 1 ♀, ZISP); Neroyka (ca. 64.57°N 59.67°E), 30.VI.–6.VII.1990, Malozemov (2 ♂♂, ZISP); Varcha-ty Lake (66.1078°N 63.9871°E), 31.VIII., 1 and 4.IX.1925, Fridolin (1 ♂, 2 ♀♀, ZISP); Labytngani (66.6579°N

66.3919°E), 28.VII.1973, R. Kamenskaya (1 ♂, ZMUM); **Yakutia:** Vilyuysk env. (63.7503°N 121.637°E), 24.VIII.1988, Gorodkov (1 ♀, ZISP); Tiksi (71.6351°N 128.8579°E), 9.VII.1957, Gorodkov (1 ♂, ZISP).

DESCRIPTION. Male (Fig. 1), female. Small or medium-sized flies (3.7–6.2 mm long).

Head. Frontal vitta reddish-yellow, matt; fronto-orbital plate black in upper half and reddish-yellow in lower half, greyish dusted. Ocellar triangle black, with grey pollen. Face and parafacial black to pale yellow in male, completely pale yellow in female. Gena and postgena pale yellow. Postcranium black, greyish dusted, covered with black setae in upper third and white hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; usually 2 pairs of vibrissae present. Antenna black. Postpedicel rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

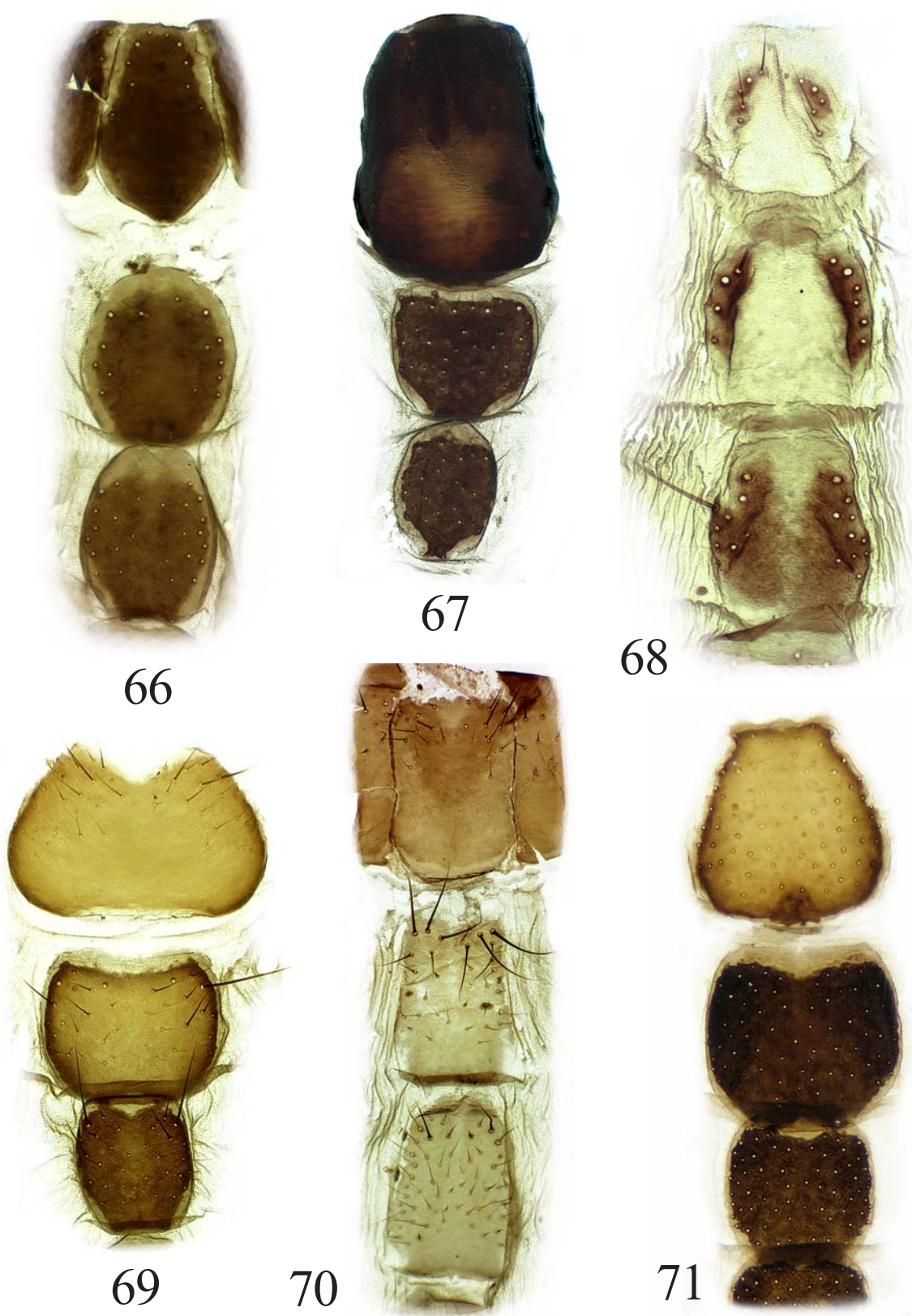
Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals (3–4)+3, intralars 1+(1–2), supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 long pale setae near lower margin. Proepimeron with one pale seta and usually with several small hairs. Anepisternum covered with pale hairs in posterior half, with 1–3 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

Legs yellow, only mid and hind coxae black. Fore femur with a row of posterodorsal setae, with numerous hairs anteriorly and ventrally (Fig. 4). Fore tibia with short black ventral spinules in two rows on whole length, with 1 dorsal seta near middle, with 1 preapical dorsal seta and usually with 1 apical posterior seta (Fig. 4). Mid femur with irregular row of anterior setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal and 0–1 posterodorsal setae near middle, and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2 anterodorsal, 1–2 posterodorsal and 1 preapical dorsal, 0–1 preapical posteroventral setae, also with 1 apical anterodorsal and 1 apical anteroventral setae.

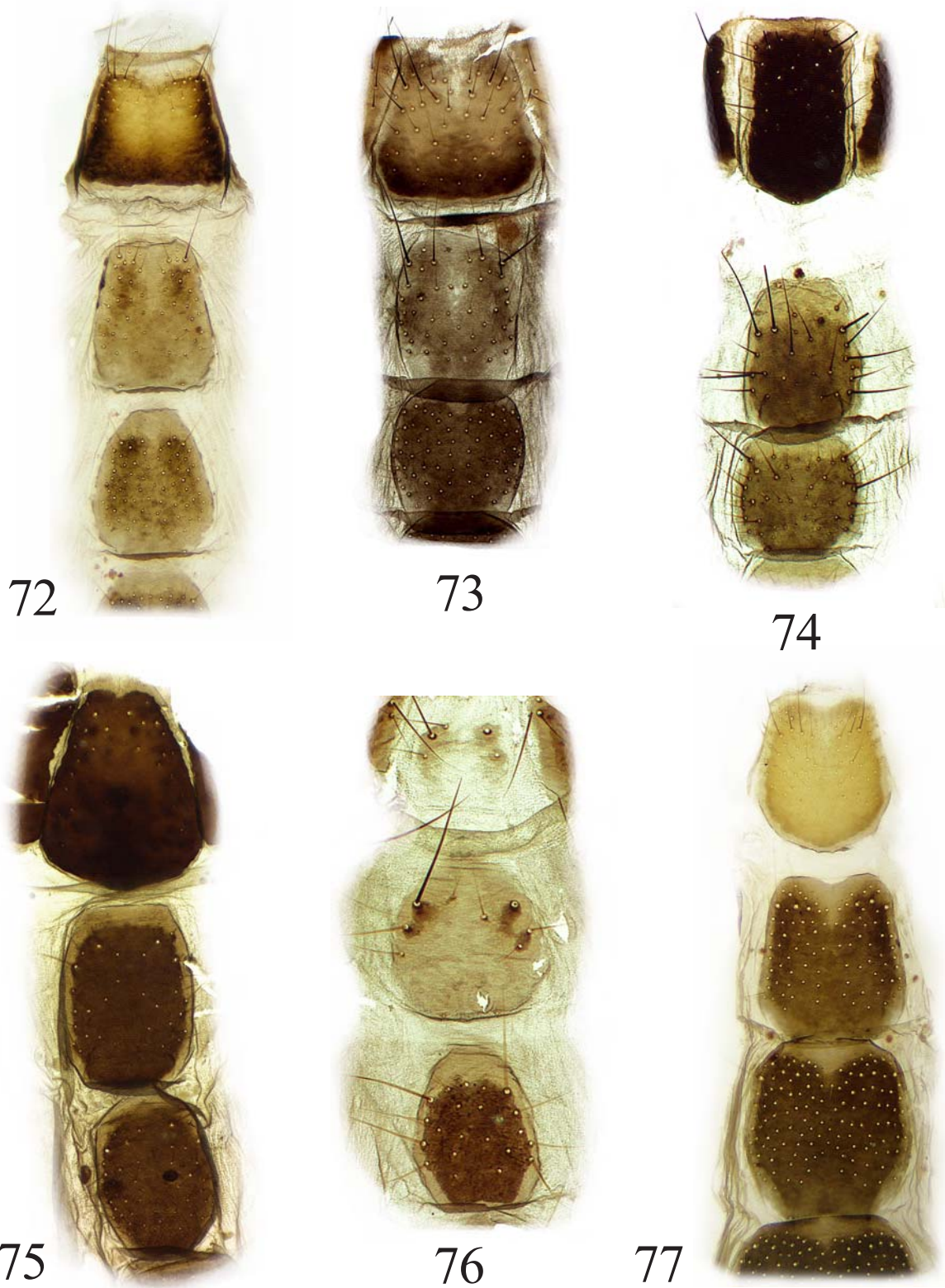
Wing (Fig. 9) slightly darkened; veins brownish. R_1 bare dorsally. Calypters, margins of calypters, and halteres yellowish.

Abdomen black, greyish dusted; female abdominal tergites 6 and 7 sometimes reddish. Male sternite 4 rectangular, about 2 times as wide as long (Fig. 17). Male sternite 5 symmetrical; lobes simple, wide basally, with one row of spinules on inside margin (Fig. 31). Epandrium and surstyli as in Figs 51, 52. Female sternites 5–7 as in Fig. 72; sternite 5 egg-form, narrower than sternite 7.

DISTRIBUTION. Russia (Fig. 84): Arkhangelsk Oblast, Buryatia, Kamchatka Kray, Karelia, Komi, Krasnoyarsk Kray, Leningrad Oblast, Magadan Oblast, Murmansk Oblast, Sakhalin Oblast, Tuva, Tyumen' Oblast, Yakutia. — Europe, North America.



Figs 66–71. Female abdominal sternites 5–7 of *Microprosopa*: 66 — *M. albipennis* (Zetterstedt); 67 — *M. crinipes* Ringdahl; 68 — *M. frigida* (Holmgren); 69 — *M. haemorrhoidalis* (Meigen); 70 — *M. heteromyzina* (Zetterstedt); 71 — *M. lineata* (Zetterstedt).
 Рис. 66–71. Стерниты 5–7 брюшка самки *Microprosopa*: 66 — *M. albipennis* (Zetterstedt); 67 — *M. crinipes* Ringdahl; 68 — *M. frigida* (Holmgren); 69 — *M. haemorrhoidalis* (Meigen); 70 — *M. heteromyzina* (Zetterstedt); 71 — *M. lineata* (Zetterstedt).



Figs 72–77. Female abdominal sternites 5–7 of *Microprosopa*: 72 — *M. pallidicauda* (Zetterstedt); 73 — *M. paveli* Ozerov et Krivosheina; 74 — *M. portenkoi* Stackelberg; 75 — *M. taimyrica* sp.n.; 76 — *M. unguiculata* (Malloch); 77 — *M. zlobini* Ozerov.
 Рис. 72–77. Стерниты 5–7 брюшка самки *Microprosopa*: 72 — *M. pallidicauda* (Zetterstedt); 73 — *M. paveli* Ozerov et Krivosheina; 74 — *M. portenkoi* Stackelberg; 75 — *M. taimyrica* sp.n.; 76 — *M. unguiculata* (Malloch); 77 — *M. zlobini* Ozerov.

Microprosopa (Microprosopa) paveli Ozerov et Krivosheina, 2013

Figs 18, 32, 53, 54, 73, 78.

paveli Ozerov et Krivosheina, 2013: 4 (*Microprosopa*). Type-locality: Meynypil'gino (62.5385N 177.0519E) (Russia, Chukotka).

The species was known only from the type-locality.

MATERIAL EXAMINED. **Chukotka:** Meynypil'gino env. (62.6283°N 176.9766°E), 14.VII.2015, P.S. Tomkovich (2 ♂♂, ZMUM); **Tyumen' Oblast:** Neroyka (ca. 64.57°N 59.67°E), 29.VI and 6–9.VII.1990, Malozemov (6 ♂♂, 1 ♀, ZISP).

DESCRIPTION. Male, female. Small or medium-sized flies (4.2–5.0 mm long).

Head. Frontal vitta reddish-yellow, but in upper part blackish, matt; fronto-orbital plate black, greyish dusted. Ocellar triangle black, with grey pollen. Face, including pale yellow part near lower margin and parafacial black in male, completely pale yellow in female. Gena and postgena yellow. Postcranium black, greyish dusted, covered with black setae in upper third and white hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 1–2 pairs of vibrissae present. Antenna black. Postpedicel rounded apically, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals (3–4)+3, intralars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 long pale setae near lower margin. Proepimeron with one pale seta. Anepisternum covered with pale hairs in posterior half, with 3–4 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

Legs yellow, fore coxa from yellow to black, mid and hind coxae black, fore femur sometimes darkened posteriorly. Fore femur with a row of posterodorsal setae, with numerous hairs anteriorly and ventrally. Fore tibia with short black ventral spinules in two rows on whole length, with 1 dorsal seta near middle, with 1 preapical dorsal and 1 apical posterior setae. Mid femur with irregular row of anterior setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal seta near middle, and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 1–2 anterodorsal, 1 posterodorsal and 1 preapical dorsal setae, also with 1 apical anterodorsal and 1 apical anteroventral setae.

Wing clear or slightly darkened; veins brownish. R₁ bare dorsally. Calypters, margins of calypters, and halteres yellowish.

Abdomen black, greyish dusted. Male sternite 4 rectangular, about 2 times as wide as long (Fig. 18). Male sternite 5 symmetrical; lobe inside widening and with two rows of spinules (Fig. 32). Epandrium and

surstyli as in Figs 53, 54. Female sternites 5–7 as in Fig. 73; sternite 5 rectangular, not wider than sternite 6 and sternite 7; sternite 7 as long as wide.

DISTRIBUTION. Russia (Fig. 78): Chukotka, Tyumen' Oblast.

Microprosopa (Allomyella) portenkoi Stackelberg, 1952

Figs 19, 34–36, 55, 56, 74, 78.

portenkoi Stackelberg, 1952: 406 (*Microprosopa*). Type-locality: Wrangel I., Aternon-Rogers (70.9832N 178.4166E) (Russia).

For Russia this species was known only from the type-locality.

MATERIAL EXAMINED. **Chukotka:** 55 km N of Egvekinot (66.7956°N 181.00052°E), 29.VII.1963, Gorodkov (2 ♂♂, ZISP); **Krasnoyarsk Krai:** Noril'skie Mt. (69.2332°N 88.2545°E), the Savel'evka River, 28.VII.1967, Grunin (1 ♂, ZISP).

DESCRIPTION. Male, female. Small-sized flies (3.2–4.1 mm long).

Head. Frontal vitta black, only in lower third or quarter yellow, matt; fronto-orbital plate and ocellar triangle black, greyish dusted. Face blackish, yellowish along margin of mouth only. Parafacial blackish. Gena yellow, postgena black, greyish dusted. Postcranium black, greyish dusted, covered with black setae in upper third and pale hairs in lower part. 3 orbitals, 2–4 frontals, 1 ocellar, 1 postocellar, 1 inner vertical, 1 outer vertical; 1–2 pairs of vibrissae present. Antenna black. Postpedicel with slightly acute upper apical corner, 1.5–2.0 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals (3–4)+3, intralars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 pale setulae near lower margin. Proepimeron with one pale seta. Anepisternum covered with pale hairs in posterior half, with 1–3 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron usually with a few hairs, but sometimes bare. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Coxae, trochanters and femora of all legs black; tibiae and tarsi of all legs from yellow to blackish. Fore femur with a row of posterodorsal setae, with pale hairs posteroventrally. Fore tibia with short black spinules ventrally in two rows on whole length, with 1 dorsal and 1 posterior setae near middle, with 1 preapical dorsal seta and 1 apical posterior seta. Mid femur with irregular row of anterior setae in apical half or 2/3, with 1 preapical posterior and 1 preapical posterodorsal setae, also with pale hairs ventrally. Mid tibia with 1 anterodorsal, 0–1 posterodorsal, and 1 posterior setae near middle, also with a ring of apicals. Hind femur with a row of black anterodorsal and a row of usually pale anteroventral setae. Hind tibia with 2 anterodor-

sal, 1–2 posterodorsal and 1 preapical dorsal, 0–1 preapical posterodorsal setae, also with 1 apical anteroventral seta.

Wing slightly darkened, sometimes darkened along r-m and dm-cu crossveins; veins blackish. R_1 bare dorsally. Calypters, margins of calypters, and halteres whitish or yellowish.

Abdomen black, tergites 3–6 greyish dusted medially and shining along lateral margins; female tergite 6 shining along basal margin. Male sternite 4 rectangular, about 2 times as wide as long (Fig. 19). Male sternite 5 asymmetrical, lobes bifurcate apically (Figs 34–36). Epanthrium and surstyli as in Figs 55, 56. Female sternites 5–7 as in Fig. 74; sternites 6 and 7 sclerotized completely.

DISTRIBUTION. Russia (Fig. 78): Chukotka, Krasnoyarsk Krai. — North America.

Microprosopa (Allomyella) taimyrica sp.n.

Figs 6, 10, 20, 37, 57, 58, 64, 75, 78.

MATERIAL EXAMINED. Holotype ♂, Krasnoyarsk Krai, Lake Engel'gardt (75.101°N 100.2344°E), 2.VIII.1967, Gorodkov (ZISP). Paratype ♀, same labels (ZMUM).

DESCRIPTION. Male, female. Small-sized flies (4.3–4.4 mm long).

Head. Frontal vitta black, only in lower third (male) or quarter (female) yellow, greyish dusted; fronto-orbital plate and ocellar triangle black, greyish dusted. Face and parafacial yellow. Gena yellow, postgena black. Postcranium black, greyish dusted, covered with black setae in upper third and pale hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 1 or 2 pairs of vibrissae present. Antenna yellow, postpedicel in female darkened apically and along anterior margin. Postpedicel rounded apically, approximately 2 times as long as wide. Arista yellowish (male) or brown (female), basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two irregular rows, dorsocentrals (3–4)+3, intra-alars 1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with 1–2 long pale setae near lower margin. Proepimeron with 1 long pale seta. Anepisternum covered with pale hairs in posterior half, with 1–3 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Coxae and femora of all legs black, tibiae and tarsi yellow. Fore femur with rows of posterodorsal and posteroventral setae, with pale hairs posteriorly and posteroventrally. Fore tibia with short black spinules ventrally in two rows on whole length, with 1 dorsal and 1 posterior setae near middle, with 1 preapical dorsal and 1 apical anterior setae. Mid femur with irregular row of anterior setae in apical half and a row of posteroventral

setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal and 1 posterior setae near middle, and a ring of apicals. Hind femur with rows of anterodorsal, anteroventral and posteroventral setae. Hind tibia with 2 anterodorsal, 1 preapical dorsal, and 1 apical anteroventral setae; additionally with long setae on anteroventral surface in male (Fig. 6) and several short anteroventral setae at middle in female.

Wing slightly yellowish, darkened along longitudinal veins (Fig. 10). Crossveins r-m and dm-cu also distinctly darkened. Veins brown. R_1 bare dorsally. Calypters, margins of calypters, and halteres yellowish.

Abdomen black greyish dusted, tergites 3–5 shining along lateral margins. Male sternite 4 rectangular, about 2 times as wide as long (Fig. 20). Male sternite 5 symmetrical, lobes bifurcate apically (Fig. 37). Epanthrium and surstyli as in Figs 57, 58. Female sternites 5–7 as in Fig. 75; sternite 7 ovoid, longer than wide.

COMPARISON. The new species resembles *Microprosopa crinipes* Ringdahl, 1928. The differences between these species are given in the identification key below.

DISTRIBUTION. Russia (Fig. 78): Krasnoyarsk Krai (Taimyr).

Microprosopa (Allomyella) unguiculata (Malloch, 1919)

Figs 21, 38, 59, 60, 76, 85.

unguiculata Malloch, 1919: 80 (*Allomyia*). Type-locality: Chantry Island, Bernard Harbour, Dolphin and union strait, Northwest Territories (Canada).

borealis Curran, 1927: 260 (*Allomyella*). Type-locality: Cape Prince of Wales, Alaska (USA) — **syn.n.**

The species was recorded by Ozerov & Barkalov [2014: 561 (as *Allomyella*)] from Krasnoyarsk Krai (Taymyr).

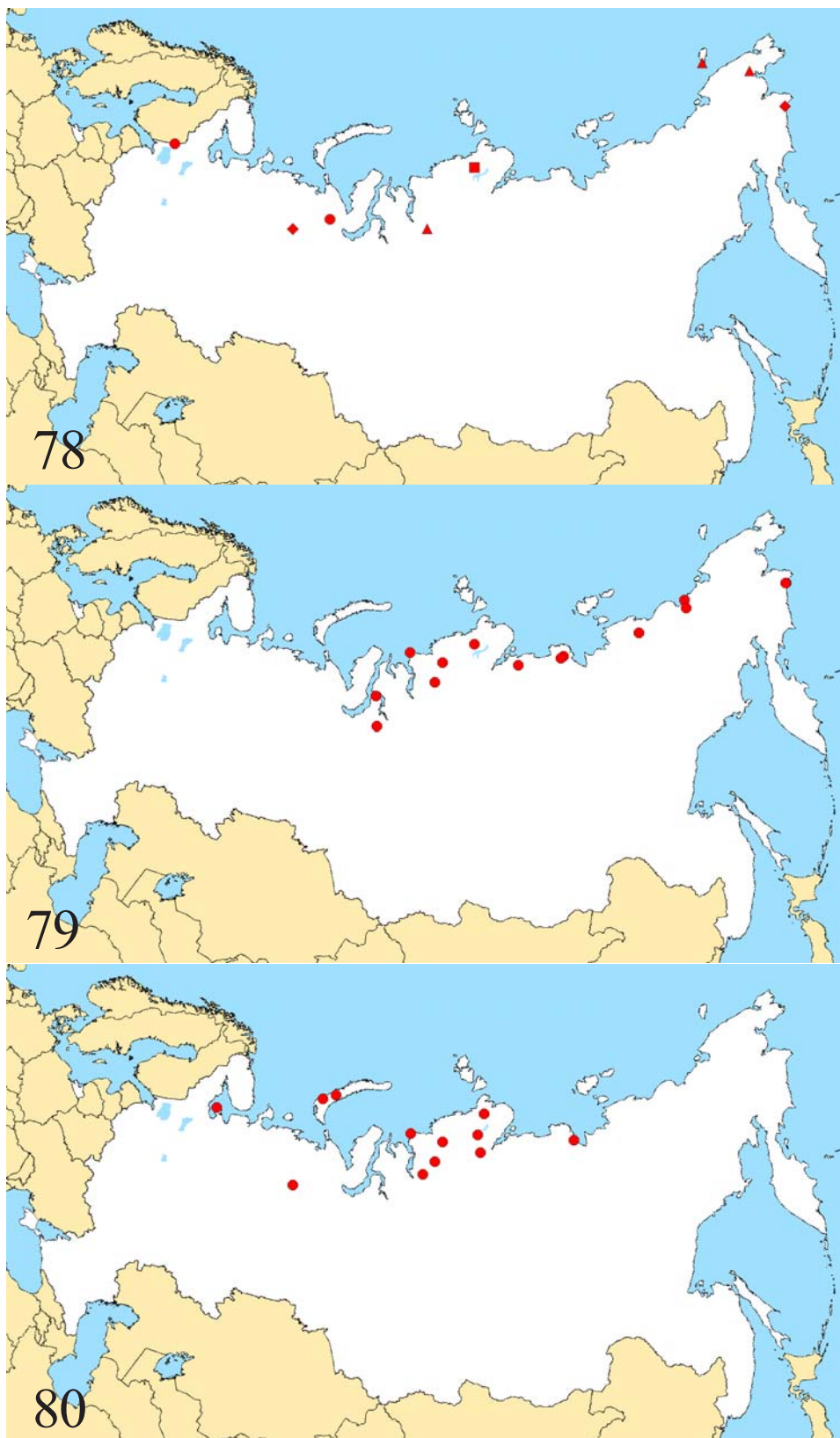
MATERIAL EXAMINED. **Yakutia**: airport Saskylakh (71.9345°N 114.083°E), 24.VII.1988, Gorodkov (1 ♂, ZISP);

ADDITIONAL MATERIAL EXAMINED. Holotype of *Allomyella borealis* Curran, ♀, with labels: 1) "C. Prince Wales Alaska 27 VI 1926 D Jenness", 2) "*Allomyella borealis* Curran ♀ TYPE No.2619" (CNC). Abdomen was dissected for study abdominal sternites and found to be conspecific with *Microprosopa unguiculata* (Malloch, 1919).

DESCRIPTION. Male, female. Small-sized flies (3.3–3.6 mm long).

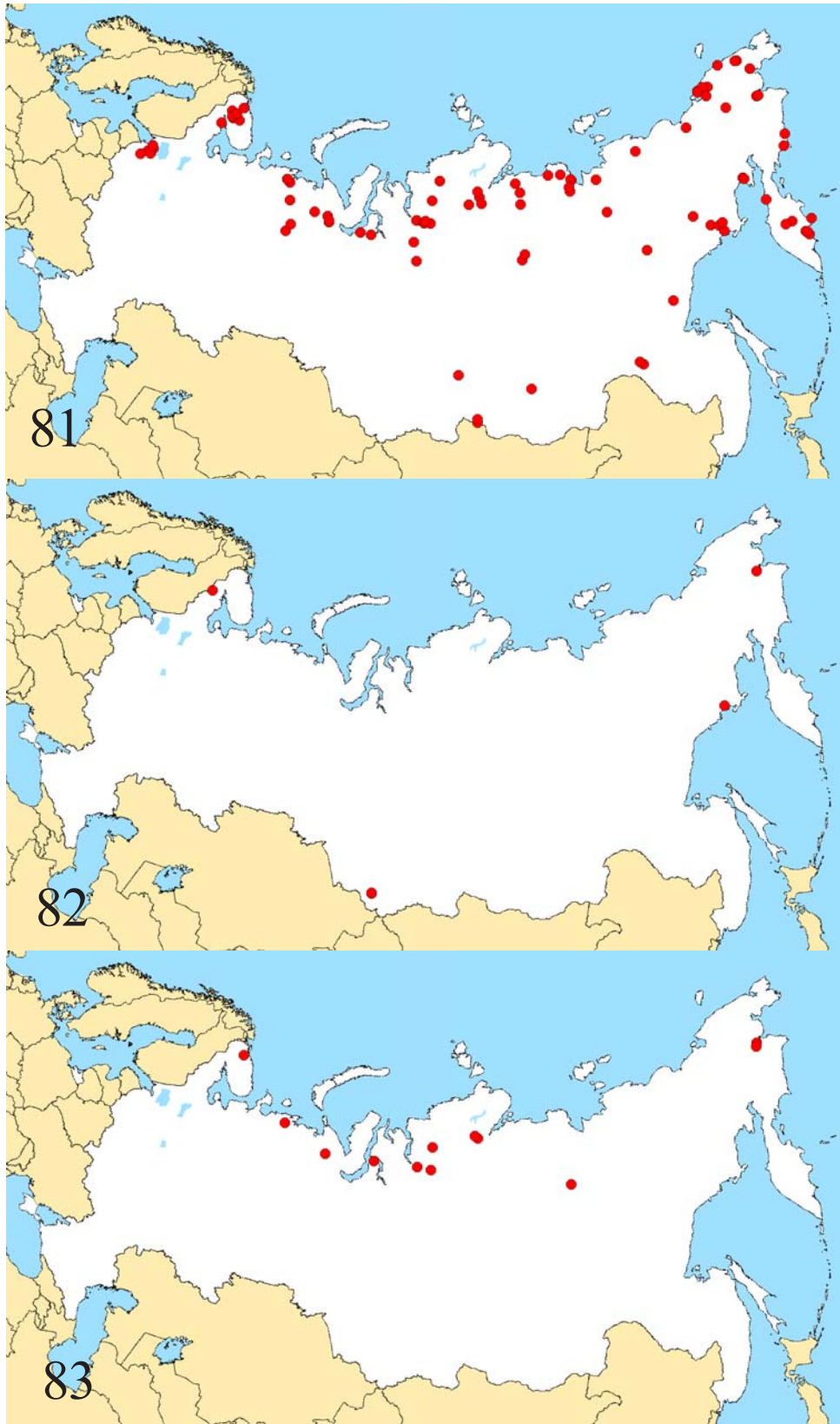
Head. Frontal vitta black, only in lower quarter yellow, greyish dusted; fronto-orbital plate and ocellar triangle black, greyish dusted. Face blackish in upper half and yellowish in lower half. Parafacial blackish. Gena black, greyish dusted. Postcranium black, greyish dusted, covered with black setae in upper third and pale hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 small postocellar, 1 inner vertical, 1 outer vertical; 1 pair of vibrissae present. Antenna black. Postpedicel with slightly acute upper apical corner, approximately 2 times as long as wide. Arista black, basally thickened, bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals 4+3, intra-alars



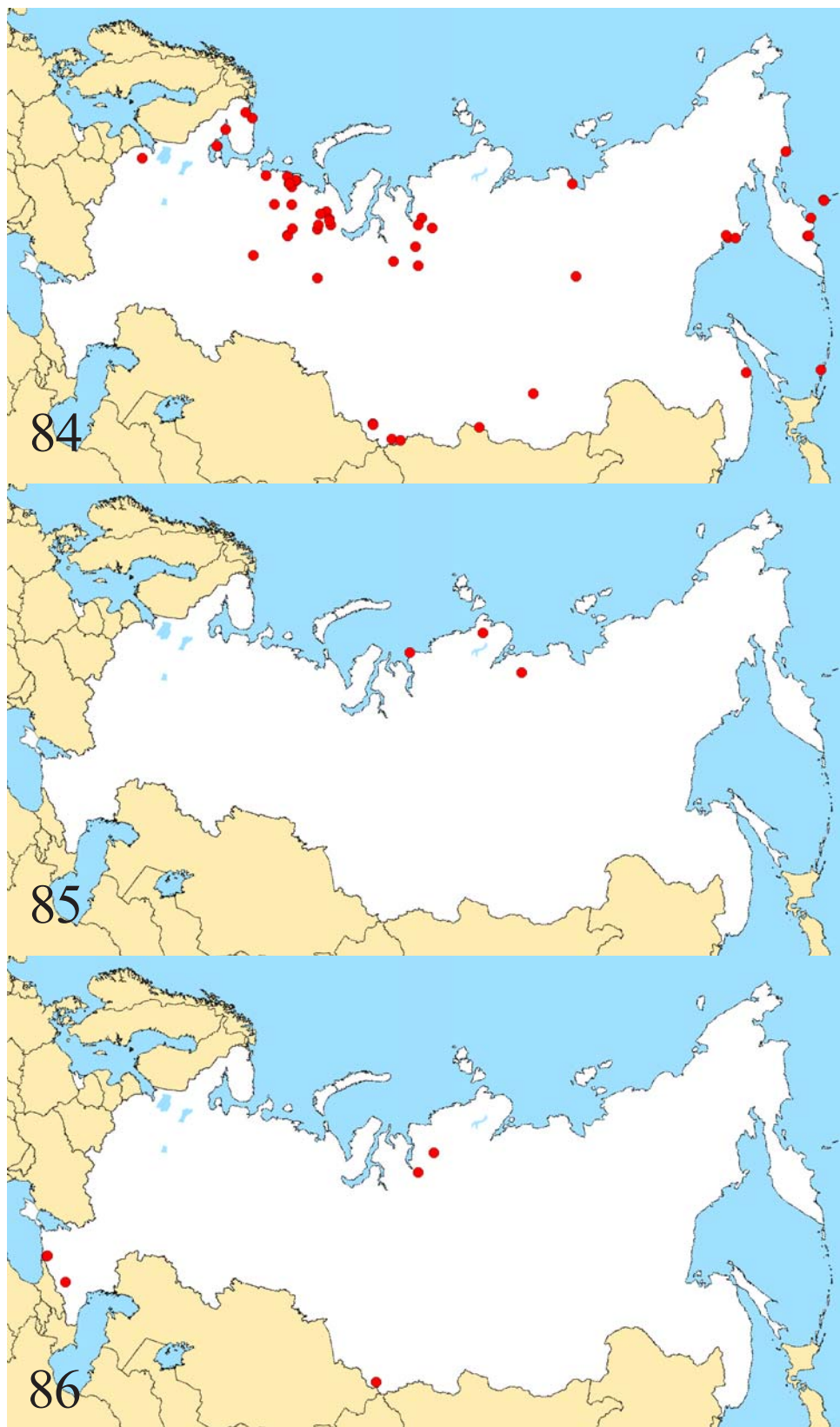
Figs 78–80. Distribution maps of *Microprosopa*: 78 — *M. albipennis* (Zetterstedt) (●), *M. pavli* Ozerov et Krivosheina (◆), *M. portenkoi* Stackelberg (▲) and *M. taimyrica* sp.n. (■); 79 — *M. crinipes* Ringdahl; 80 — *M. frigida* (Holmgren).

Рис. 78–80. Распространение видов рода *Microprosopa*: 78 — *M. albipennis* (Zetterstedt) (●), *M. pavli* Ozerov et Krivosheina (◆), *M. portenkoi* Stackelberg (▲) and *M. taimyrica* sp.n. (■); 79 — *M. crinipes* Ringdahl; 80 — *M. frigida* (Holmgren).



Figs 81–83. Distribution maps of *Microprosopa*: 81 — *M. haemorrhoidalis* (Meigen); 82 — *M. heteromyzina* (Zetterstedt); 83 — *M. lineata* (Zetterstedt).

Рис. 81–83. Распространение видов рода *Microprosopa*: 81 — *M. haemorrhoidalis* (Meigen); 82 — *M. heteromyzina* (Zetterstedt); 83 — *M. lineata* (Zetterstedt).



Figs 84–86. Distribution maps of *Microprosopa*: 84 — *M. pallidicauda* (Zetterstedt); 85 — *M. unguiculata* (Malloch); 86 — *M. zlobini* Ozerov.

Рис. 84–86. Распространение видов рода *Microprosopa*: 84 — *M. pallidicauda* (Zetterstedt); 85 — *M. unguiculata* (Malloch); 86 — *M. zlobini* Ozerov.

1+2, supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with long pale seta near lower margin. Proepimeron with one long pale hair and a few small hairs. Anepisternum covered with pale hairs in posterior half, with 2–4 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron usually with a few hairs, but sometimes bare. Scutellum black, greyish dusted, with a pair of basal scutellar and a pair of apical scutellar setae.

Legs black, but fore tibia, usually mid tibia and all tarsi yellowish. Fore femur with a row of posterodorsal setae, with long pale hairs posteroventrally. Fore tibia with short black spinules ventrally in two rows on whole length, with 1 dorsal and 1 posterior setae near middle, 1 preapical dorsal seta, and also with apical anterodorsal and apical posterior setae. Mid femur with irregular row of anterior setae in apical half, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal and 1 posterodorsal setae near middle, 1–2 posterior setae in apical third, and a ring of apicals. Hind femur with a row of black anterodorsal and a row of pale anteroventral setae. Hind tibia with 2 anterodorsal, 1–2 posterodorsal and 1 preapical dorsal, 1 preapical posteroventral setae, also with 1 apical anterodorsal and 1 apical anteroventral setae.

Wing slightly darkened; veins blackish. R_1 bare dorsally. Calypters, margins of calypters, and halteres whitish or yellowish.

Abdomen black, greyish dusted; female tergites 7 and 8 shining. Male sternite 4 rectangular, about 2.5 times as wide as long (Fig. 21). Male sternite 5 symmetrical, lobes bifurcate apically (Fig. 38). Epandrium and surstyli as in Figs 59, 60. Female tergite 8 as whole semicircular sclerite, not divided medially on two sclerites. Female sternite 6 circular; sternite 7 small, circular, poorly sclerotized in median part (Figs 76).

DISTRIBUTION. Russia (Fig. 85): Krasnoyarsk Kray, Yakutia. — North America.

Microprosopa (Microprosopa) zlobini Ozerov, 2009
Figs 22, 33, 61, 62, 77, 86.

zlobini Ozerov, 2009: 421 (*Microprosopa*). Type-locality: North Ossetia, environs of Buron (Tsey gorge [42.793055N, 43.922161E, alt. 1764 m]) (Russia).

For Russia this species was known only from the type-locality [Ozerov, 2009: 421, 422].

MATERIAL EXAMINED. **Altay:** Kuzuyak pass (50.115556°N 86.410833°E), 26.VI.2007, O. Kosterin (1 ♂, ZMUM); **Krasnodar Kray:** Lagonaki (44.01°N 39.99°E), 1500–1900 m, 5–9.VI.2015, N. Vikhrev (1 ♂, ZMUM); Lagonaki (44.093°N 40.019°E), 1725 m, 26–28.VI.2009, K. Tomkovich (1 ♀, ZMUM); **Krasnoyarsk Kray:** Agapa (ca. 71.412°N 89.2689°E), the Pyasina River, 14.VII.1967, Gorodkov (2 ♂♂, 1 ♀, ZISP); Dudinka (69.4042°N 86.1822°E), 3.VII.1967, Gorodkov (1 ♂, ZISP); **North Ossetia – Alania:** Buron env. (43.7932°N 43.9225°E), 6.VI.1989 and 3–5.VII.1990, A.L. Ozerov (12 ♂♂, 3 ♀♀, ZMUM).

DESCRIPTION. Male, female. Small or medium-sized flies (3.8–5.9 mm long).

Head. Frontal vitta reddish-yellow, matt; fronto-orbital plate greyish dusted. Ocellar triangle black, with grey pollen. Face blackish in upper half and white in lower half in male, completely white in female. Parafacial blackish in male and white in female. Gena pale yellow, matt. Postcranium black, greyish dusted, covered with black setae in upper third and white hairs in lower part. 3 orbitals, 2–3 frontals, 1 ocellar, 1 postocellar, 1 inner vertical, 1 outer vertical; 1–2 pairs of vibrissae present. Scape and pedicel dark brown to black. Postpedicel black, rounded apically, approximately 2 times as long as wide. Arista black, basally thickened and very short haired, apically bare. Clypeus and proboscis black. Palpus broadened towards apex, yellow.

Thorax and scutellum black, greyish dusted. Acrostical hairs in two rows, dorsocentrals (4–5)+3, intra-alars 1+(1–2), supra-alars 1+2, postpronotals 2, notopleurals 2, postalars 2. Proepisternum with hairs in central part, with long pale seta near lower margin. Proepimeron with one long pale hair and several small hairs. Anepisternum covered with pale hairs in posterior half, with 2–3 black setae along posterior margin. Katepisternum covered with pale hairs in posterior half and 1 strong seta in upper posterior corner. Anepimeron bare. Scutellum black, greyish dusted, with a pair of strong basal scutellar and a pair of strong apical scutellar setae.

Legs yellow. Fore femur with a row of posterodorsal setae, with numerous small hairs anteriorly and ventrally. Fore tibia with short black spinules ventrally in two rows on whole length, with 1 dorsal seta near middle, with 1 preapical dorsal seta and apical anterodorsal and apical posterior setae. Mid femur with irregular row of anterior setae, with 1 preapical posterior and 1 preapical posterodorsal setae. Mid tibia with 1 anterodorsal and 0–1 posterior setae near middle, and a ring of apicals. Hind femur with a row of anterodorsal setae. Hind tibia with 2–3 anterodorsal, 1–2 posterodorsal and 1 preapical dorsal setae, also with 1 apical anterodorsal and 1 apical anteroventral setae.

Wing slightly darkened; veins brownish. R_1 bare dorsally. Calypters, margins of calypters, and halteres yellowish.

Abdomen black, greyish dusted. Male sternite 4 rectangular, about 1.5 times as wide as long (Fig. 22). Male sternite 5 symmetrical, lobes with double row of spinules (Fig. 33). Epandrium and surstyli as in Figs 61, 62. Female sternites 5–7 as in Fig. 77; sternite 5 oval, width approximately equal to width of sternite 7.

DISTRIBUTION. Russia (Fig. 86): Altay, Krasnodar Kray, Krasnoyarsk Kray, North Ossetia–Alania. — Europe (Switzerland) [Ozerov, 2009: 422].

KEY TO THE SPECIES OF *MICROPROSOPA* OF RUSSIA

1. Scutum with two shining narrow stripes medially and fore shining spots (Fig. 3). Male sternites 4 and 5 as in Figs 16, 30; epandrium, cerci and surstyli as in Figs 49, 50. Female sternites 5–7 as in Fig. 71 *M. lineata* (Zetterstedt)

- Scutum without shining narrow stripes medially, as a rule grey dusted completely 2
2. Femora of all legs yellow. Lobes of male sternite 5 symmetrical, simple (Fig. 28–33) 3
- Femora of all legs black. Lobes of male sternite 5 symmetrical or asymmetrical, bifurcate apically or with three horns (Fig. 23–27, 34–38) 6
3. Postcranium yellow in lower quarter. Abdomen in female usually yellow completely. Male sternites 4 and 5 as in Figs 15, 29; epandrium, cerci and surstyli as in Figs 47, 48. Female sternites 5–7 as in Fig. 70 *M. heteromyzina* (Zetterstedt)
- Postcranium entirely black. Female abdomen dark brown or black, tergite 6 only sometimes yellow 4
4. Male sternites 4 and 5 as in Figs 14, 28. Epandrium, cerci and surstyli as in Figs 45, 46. Female abdominal tergite 6 yellow; sternite 7 wide, broader than long (Fig. 69) *M. haemorrhoidalis* (Meigen)
- Male sternites 4 and 5 as in Figs 17, 18, 22, 31–33. Female abdominal tergite 6 yellow (some specimens of *M. pallidicauda*) or black; sternite 7 narrow, longer than wide (Fig. 72, 73, 77) 5
5. Width of male sternite 4 about 2 times as wide as long (Fig. 17); lobes of sternite 5 with one row of spinules (Fig. 31). Epandrium, cerci and surstyli as in Figs 51, 52. Female sternites 5–7 as in Fig. 72; sternite 5 egg-form, narrower than sternite 7 *M. pallidicauda* (Zetterstedt)
- Width of male sternite 4 about 1.5 times as wide as long (Fig. 22), lobes of sternite 5 wide, with two rows of spinules (Fig. 33). Epandrium, cerci and surstyli as in Figs 61, 62. Female sternites 5–7 as in Fig. 77; sternite 5 oval, width approximately equal to width of sternite 7 ... *M. zlobini* Ozerov
- Width of male sternite 4 about 2 times as wide as long (Fig. 18), lobes of sternite 5 narrow, with two rows of spinules (Fig. 32). Epandrium, cerci and surstyli as in Figs 53, 54. Female sternites 5–7 as in Fig. 73; sternite 5 egg-form, wider than sternite 7 *M. paveli* Ozerov
6. Male hind tibia with long hairs anteroventrally (Figs 5, 6). Female hind tibia with several short anteroventral setae at middle 7
- Male hind tibia without long hairs anteroventrally. Female hind tibia with 0–1 anteroventral seta only 8
7. Antennae yellow. Anepisternum bare. Wing slightly yellowish, darkened along longitudinal veins (Fig. 10), crossveins r-m and dm-cu also distinctly darkened. Male sternites 4 and 5 as in Figs 20, 37. Epandrium, cerci and surstyli as in Figs 57, 58. Female sternite 7 as separate sternite (Fig. 64, 75) *M. taimyrica* Ozerov, sp.n.
- Antennae black. Anepisternum with a few fine hairs. Wing clear or slightly darkened, crossveins r-m and dm-cu not darkened (Fig. 7). Male sternites 4 and 5 as in Figs 12, 24. Epandrium, cerci and surstyli as in Figs 41, 42. Lateral margins of female sternite 7 fused with lateral margins of sternite 7 forming syntergosternite (Fig. 63, 67) *M. crinipes* Ringdahl
8. Mid tibia without seta posteriorly. Male sternites 4 and 5 as in Figs 11, 23. Epandrium, cerci and surstyli as in Figs 39, 40. Female sternites 5–7 as in Fig. 66 *M. albipennis* (Zetterstedt)
- Mid tibia with posterior seta 9
9. Lobes of male sternite 5 symmetrical (Fig. 38). Female sternite 6 sclerotized completely, sternite 7 medially sclerotized weakly (Fig. 76). Male sternite 4 as in Fig. 21. Epandrium, cerci and surstyli as in Figs 59, 60 *M. unguiculata* (Malloch)

- Lobes of male sternite 5 asymmetrical (Figs 25–27, 34–36). Both female sclerites 6 and 7 medially sclerotized weakly (Fig. 68) or both these sclerites sclerotized completely (Fig. 74) 10
10. Left lobe of male sternite 5 with three horns (Fig. 26). Female sternites 6 and 7 medially sclerotized weakly (Fig. 68). Male sternite 4 as in Fig. 13. Epandrium, cerci and surstyli as in Figs 43, 44 *M. frigida* (Holmgren)
- Left lobe of male sternite 5 with two horns (Fig. 35). Female sternites 6 and 7 sclerotized completely (Fig. 74). Male sternite 4 as in Fig. 19. Epandrium, cerci and surstyli as in Figs 55, 56 *M. portenkoi* Stackelberg

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