

## A review of World species of the genus *Pleurochaetella* Vockeroth, 1965 (Diptera: Scathophagidae)

### Обзор видов рода *Pleurochaetella* Vockeroth, 1965 (Diptera: Scathophagidae) мировой фауны

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**ABSTRACT.** Flies of the genus *Pleurochaetella* Vockeroth, which includes two species, are reviewed. One of them, new to science, *Pleurochaetella barkalovi* Ozerov, is described and the other species, *P. simplicipes* (Becker, 1900), is redescribed. Genus diagnosis, keys for determination of species are given, and data on distribution are summarized.

**РЕЗЮМЕ.** Дан обзор двукрылых рода *Pleurochaetella* Vockeroth, в состав которого входят два вида. Приведено описание *Pleurochaetella barkalovi* Озеров, нового для науки вида, и переописание другого вида, *P. simplicipes* (Becker, 1900). Даны диагнозы рода и ключ для определения видов *Pleurochaetella*, а также суммированы данные по распространению видов.

#### Introduction

*Pleurochaetella* Vockeroth, 1965 is one of the small genera within the family Scathophagidae, which until the present time has comprised single Holarctic species — *P. simplicipes* [Becker, 1900]. The species of *Pleurochaetella* are sparsely distributed in arctic tundra. Engelmark [1997] defines *P. simplicipes* as “arctic species rarely found south of the tree line (euarctic and hemiarctic species)”. The American distribution is mapped in Vockeroth [1958]. Nothing is known about the biology of species.

Terminology follows McAlpine [1981] and Cumming et al [2009], except that “postpedicel” is used for antennal flagellomere 1 (third antennal segment) [Stuckenberg, 1999].

The following abbreviations are used for depositories of the studied specimens: ISEA — Siberian Zoological Museum, Institute for Systematics and Ecology of Animals, Siberian Branch of the Russian Academy of Sciences, Novosibirsk, Russia; MZH — Finnish Museum of Natural History, Helsinki, Finland;

OSU — Ohio State University, Ohio, Columbus, USA; ZISP — Russian Academy of Sciences, Zoological Institute, St. Petersburg, Russia; ZMUM — Zoological Museum, Moscow State University, Moscow, Russia.

Other abbreviations used: *a* — anterior; *d* — dorsal; *p* — posterior; *v* — ventral, and combinations of these latter four, all used for leg chaetotaxy.

#### Taxonomic part

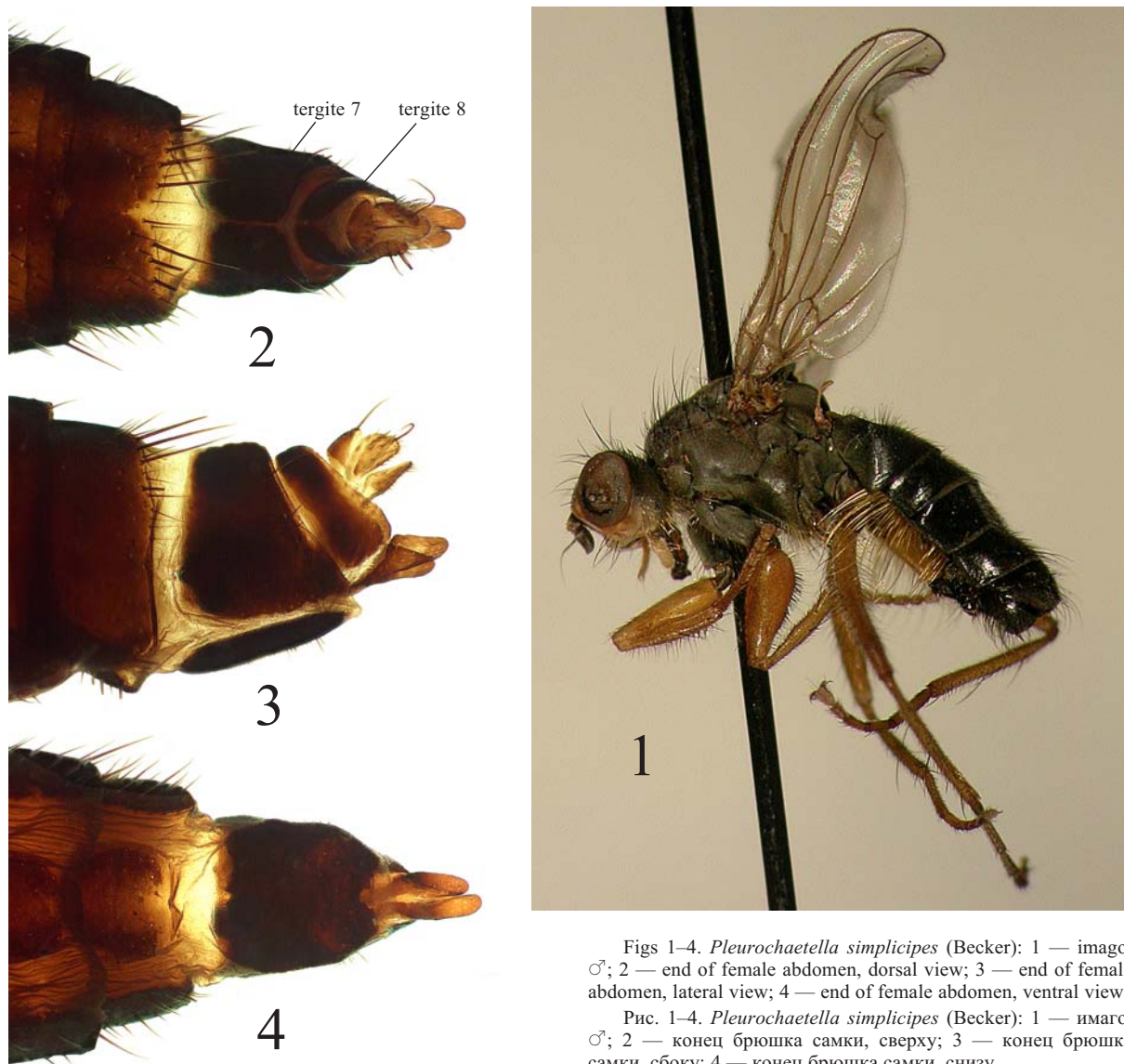
##### *Pleurochaetella* Vockeroth

*Pleurochaeta* Becker, 1915: 63. Gender: feminine. Junior secondary homonym, preoccupied by *Pleurochaeta* Beddard, 1883. Type-species: *Pleurochaeta fulvisetis* Becker, 1915 [= *simplicipes* (Becker, 1900)], by monotypy.

*Pleurochaetella* Vockeroth, 1965: 834. Gender: feminine. New name for *Pleurochaeta* Becker. Type-species: *Pleurochaeta fulvisetis* Becker, 1915 [= *simplicipes* (Becker, 1900)], automatic.

**DIAGNOSIS.** Postpedicel with acute upper apical corner. Arista bare. Palpus distinctly spatulate. Proepisternum covered with hair-like setulae at middle or in anterior part. Anepisternum covered with setulae usually along dorsal margin and in posterior part only, without setulae posterior to anterior spiracle. Anepimeron bare. Katepisternum with 1 strong seta in posterodorsal corner.

Postmetacoxal (= postcoxal, metepimeral) bridge absent. Scutellum with 2 pairs of strong setae: basal and apical. Fore tibia of both sexes with posteroventral rows of short setae. Wing membrane emarginate between  $M_1$  and  $CuA_1$  in male margin here with long fringe of hairs (Figs 5, 6). Male sternites 3 and 4 laterally with pale hairs (Figs 9, 16). Male sternite 5 symmetrical (Figs 10–11, 17–18). Cerci simple, symmetrical (Figs 13, 20); surstyli asymmetrical (Figs 12–14, 19–21). Ovipositor short, slightly flattened laterally (Figs 2–4), tergites 7 and 8 divided medially (Fig. 2).



Figs 1–4. *Pleurochaetella simplicipes* (Becker): 1 — imago, ♂; 2 — end of female abdomen, dorsal view; 3 — end of female abdomen, lateral view; 4 — end of female abdomen, ventral view.

Рис. 1–4. *Pleurochaetella simplicipes* (Becker): 1 — имаго, ♂; 2 — конец брюшка самки, сверху; 3 — конец брюшка самки, сбоку; 4 — конец брюшка самки, снизу.

*Pleurochaetella simplicipes* (Becker)

Figs 1–5, 8–14.

*simplicipes* Becker, 1900: 50 (*Cosmetopus*). Type-locality: Dudinka (Russia, Krasnoyarskiy Krai); LT ♂, by designation of Andersson, 1974: 101, in MZH.

*fulvisetis* Becker, 1915: 64 (*Pleurochaeta*). Type-locality: “ausdem Polaren Ural” (Russia); HT ♂, in ZISP.

*dissimilis* Malloch, 1920a: 286 (*Microprosopa*). Type-locality: “Katmai, Alaska” (USA); HT ♀, in OSU.

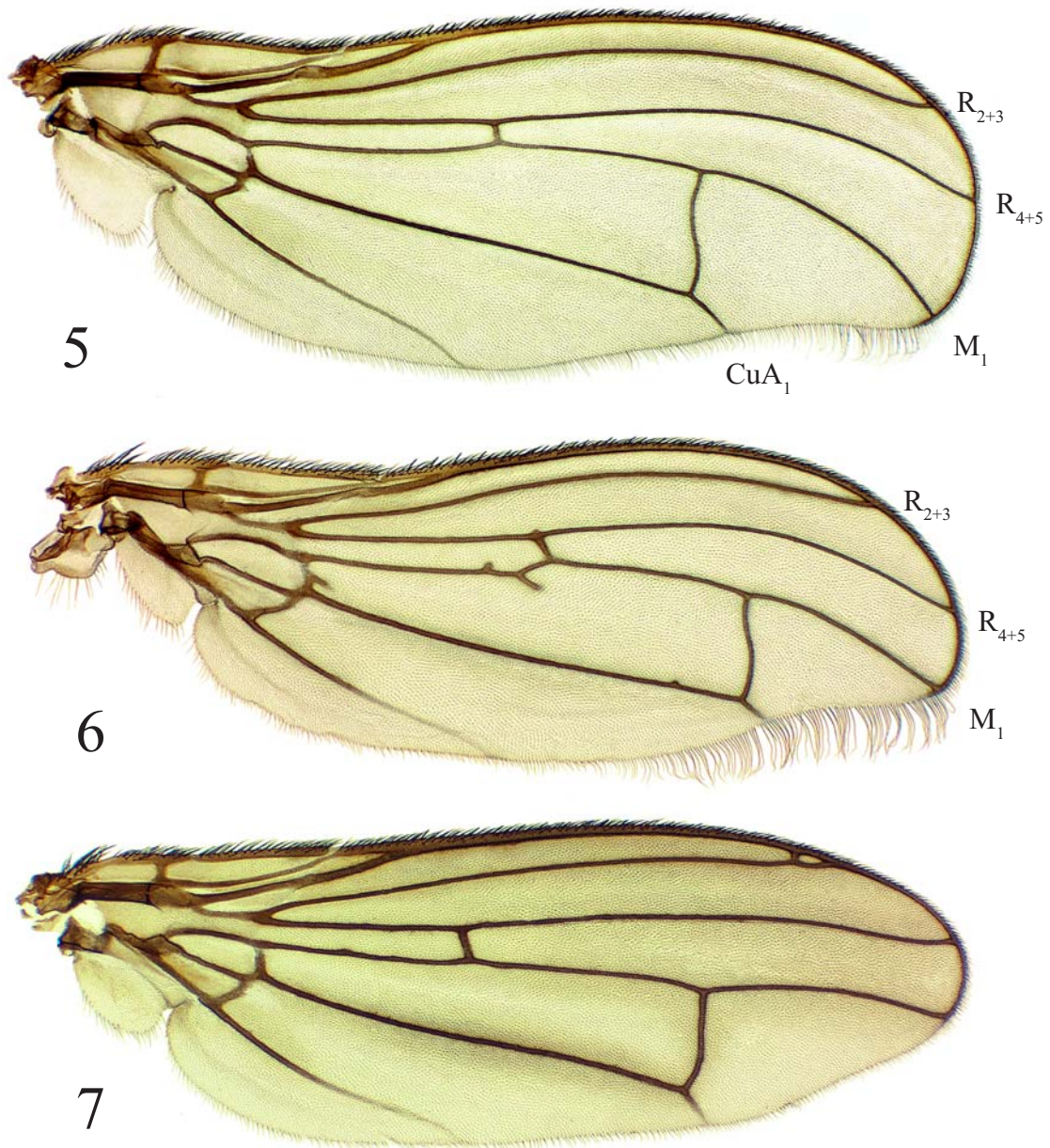
MATERIAL EXAMINED. **CHUKOTKA**: Anadyr’ Distr., Meynipył’gino (62.538562N, 177.051967E), 26–29.VI. and 3–13.VII.2012, P.S. Tomkovich (2 ♂♂, 1 ♀, in ZMUM); **KRASNOYARSKIY KRAY**: Taimyr, Taimyr Biosphere Reserve, Ary-Mas field station (72.5°N, 101.94°E), 14 m, 9–11.VII.2010, A. Barkalov [labels in Russian] (1 ♂, 1 ♀, in ISEA); Taimyr, Taimyr Biosphere Reserve, Ary-Mas field station (72.5°N, 101.94°E), 14 m, 19.VII.2010, O. Chruleva [labels in Russian] (4 ♂♂, in ZMUM); Taimyr, *Zakharova Rassokha* (72.7°N, 101.08°E), 1.VII.2011, V K. Zinchenko [labels in Russian] (5 ♂♂, 4 ♀♀, in ISEA and ZMUM); N.–W. Taimyr penn., 12.5 km S. Dixon settl. (73°24’N, 80°39’E), bank of

Lemberova River, 26.VII.2012, Coll. A.Barkalov (1 ♂, in ISEA); **YAKUTIA**: Gulf Coast Olenek, pos. Ystannach-Khocho, (72.58 ° N, 121.42 ° E), 20.VIII.2010, A. Yadrenkin (1 ♂, in ZMUM).

REDESCRIPTION. Male (Fig. 1), female. Length of body 5.2–6.0 mm, length of wing 4.2–4.8 mm.

**Head.** Fronal vitta black, but yellow in anterior half or third, matt. Fronto-orbital plate and ocellar triangle black, greyish microtrichose. Parafacial, face and gena yellow, with white microtrichia. Postcranium black, greyish microtrichose, with black setae in upper third and yellowish setae and hairs in lower part. Setae: 3 orbitals, 2–3 frontals, 1 ocellar (weak), 1 postocellar, 1 inner vertical, 1 outer vertical; 2 pairs of strong vibrissae. Antenna black, postpedicel with slightly acute dorsoapical corner, approximately 1.2 times as long as wide. Arista bare. Palpus yellow, with long (male) or moderate long (female) yellow setae.

**Thorax** black, greyish microtrichose. 2 postpronotals, 2 notopleurals, supra-alars 1+2, intra-alars 1+2



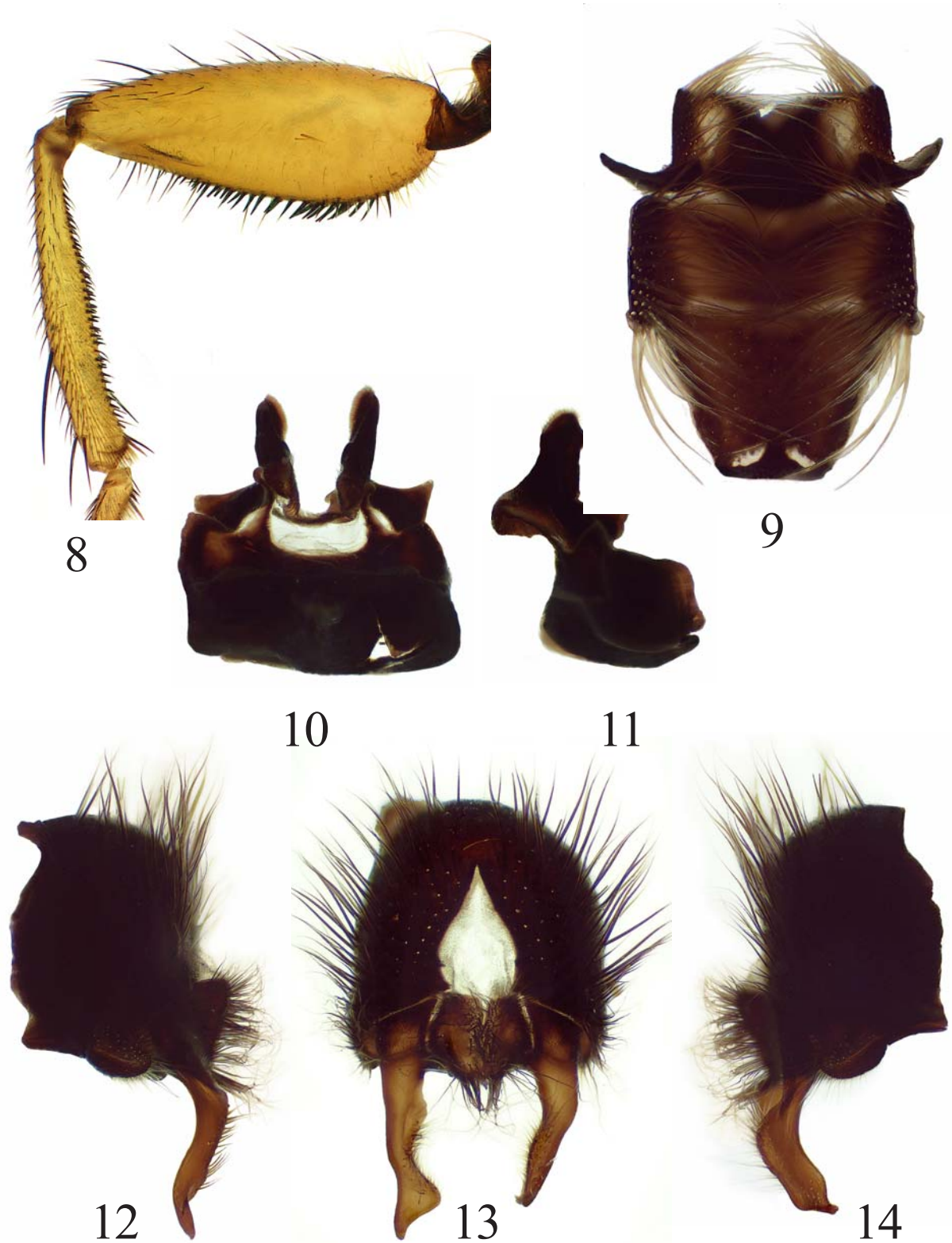
Figs 5–7. *Pleurochaetella* spp. wing: 5 — *P. simplicipes* (Becker), ♂; 6 — *P. barkalovi* sp.n., ♂; 7 — *P. barkalovi* sp.n., ♀.  
Рис. 5–7. *Pleurochaetella* spp. крыло: 5 — *P. simplicipes* (Becker), ♂; 6 — *P. barkalovi* sp.n., ♂; 7 — *P. barkalovi* sp.n., ♀.

(usually very weak), 2 postalars, dorsocentrals 3+3, the anterior presutural directed to head; acrostichal setulae in two rows. Proepisternum covered with hair-like setulae at middle part, with 1 seta near lower margin. Proepimeron without seta. Anepisternum covered with setulae along dorsal margin and in posterior part only, with 2–5 setae near posterior margin. Katepisternum covered with long (male) or moderate long (female) yellow hairs, with strong black seta in posterodorsal corner. Anepimeron bare. Postmetacoxal bridge absent. Scutellum with 2 basal and 2 apical setae.

*Legs* yellow, but all coxae and trochanters black. Fore femur as in Fig. 8. Fore tibia with rows of short spines ventrally, with 1 *p* and 1 *d* at middle, and preapi-

cals *d*, *p* and *pd*. Mid femur with irregular rows of *pv*, *av* and *ad* setae and 2 preapical *p*. Mid tibia with 1 *ad*, 1 *pd* and 1 *p* at middle and ring of apical setae. Hind femur with rows of *ad*, *pv* and *av* setae, in male with long yellow hairs in basal half posteroventrally, but shorter in female. Hind tibia with 2 *ad*, 2 *pd*, 1 *av*, preapicals *d* and *ad*, and 1 apical *av*.

*Wing* tinged with brownish. Veins brown, cross-veins not darkened. Costal sector between  $R_{2+3}$  and  $R_{4+5}$  shorter or subequal than between  $R_{4+5}$  and  $M_1$  (Fig. 5). Wing membrane emarginate between  $M_1$  and  $CuA_1$ , in male margin here with fringe of hairs (Fig. 5). Calypters, including margins, and halteres brownish.



Figs 8–14. *Pleurochaetella simplicipes* (Becker), ♂: 8 — right fore leg, anterior view; 9 — sternites 2–4; 10 — sternite 5, dorsal view; 11 — sternite 5, lateral view; 12 — epandrium, cerci and left surstylus, lateral view; 13 — epandrium, cerci and surstyli, dorsal view; 14 — epandrium, cerci and right surstylus, lateral view.

Рис. 8–14. *Pleurochaetella simplicipes* (Becker), ♂: 8 — передняя правая нога, спереди; 9 — стерниты 2–4; 10 — стернит 5, сверху; 11 — стернит 5, сбоку; 12 — эпандрий, церки и левый сурстиль, сбоку; 13 — эпандрий, церки и сурстиль, сверху; 14 — эпандрий, церки и правый сурстиль, сбоку.

*Abdomen* black, with whitish-grey dust, densely in female, in both sexes covered with black hairs. Male sternites 3 and 4 laterally with long pale hairs (Fig. 9). Male sternite 5 as in Figs 10, 11. Epandrium, cerci and surstyli as in Figs 12–14; surstyli asymmetrical.

**DISTRIBUTION.** North of Scandinavia and Russia, (?)Mongolia [Gorodkov, 1986]; North of North America: from Alaska to Labrador [Vockeroth, 1958, 1965].

*Pleurochaetella barkalovi* Ozerov, **sp.n.**  
Figs 6, 7, 15–21.

**MATERIAL.** Holotype ♂, RUSSIA: KRASNOYARSKIY KRAY: N.–W. Taimyr pen., 12.5 km S. Dixon settl. (73°24'N, 80°39'E), bank of Lemberova River, 6–26.VII.2012, Coll. A. Barkalov (in ISEA). Paratypes: 8 ♂♂, 4 ♀♀, same label as holotype (in ISEA and ZMUM);

**DESCRIPTION.** Male, female. Length of body 5.1–5.8 mm, length of wing 3.5–4.2 mm.

**Head.** Frontal vitta black, but yellow in anterior half or third, matt. Fronto-orbital plate and ocellar triangle black, greyish microtrichose. Parafacial, face and gena yellow, with white microtrichia, some females with face and parafacial darkened. Postcranium black, greyish microtrichose, with black setae in upper third and yellowish setae and hairs in lower part. Setae: 3 orbitals, 2–3 frontals, 1 ocellar (weak), 1 postocellar, 1 inner vertical, 1 outer vertical; 2 pairs of strong vibrissae. Antenna black, postpedicel with slightly acute dorsoapical corner, approximately 1.2 times as long as wide. Arista bare. Palpus yellow (in female usually with darkened apex), with long (male) or moderately long (female) yellow setae.

**Thorax** black, greyish microtrichose. 2 postpronotals, 2 notopleurals, supra-alars 1+2, intra-alars 1+2 (usually very weak), 2 postalars, dorsocentrals (3–4)+3, the anterior presutural directed to head; acrostichal setulae in two rows. Proepisternum covered with hair-like setulae at middle part, with 1 seta near lower margin. Proepimeron with or without seta near lower margin. Anepisternum covered with setulae along dorsal margin and in posterior part only, with 2–5 setae near posterior margin. Katepisternum covered with moderately long yellow hairs, with strong black seta in posterodorsal corner. Anepimeron bare. Postmetacoxal bridge absent. Scutellum with 2 basal and 2 apical setae.

**Legs** yellow, but all coxae and trochanters black. Fore femur as in Fig. 15. Fore tibia with rows of short spines ventrally, with 1 *p* and 1 *d* at middle, and preapical *d*, *p* and *pd*. Mid femur with irregular rows of *pv*, *av* and *ad* setae and 2 preapical *p*. Mid tibia with 1 *ad*, 1 *pd* and 1 *p* at middle and ring of apical setae. Hind femur with rows of *pv* and *av* setae. Hind tibia with 2 *ad*, 2 *pd*, 1 *av*, preapical *d* and *ad*, and 1 apical *av*.

**Wing** tinged with brownish. Veins dark brown to black, crossveins not darkened. Costal sector between  $R_{2+3}$  and  $R_{4+5}$  longer than between  $R_{4+5}$  and  $M_1$  (Figs 6, 7). In male  $M_1$  posteriorly usually with supernumerary, imperfect crossvein (Fig. 6). Wing membrane emarginate between  $M_1$  and  $CuA_1$ , in male margin here with long fringe of hairs (Fig. 6). Calypters, including margins, and halteres brownish.

*Abdomen* black, with whitish-grey dust, densely in female, in both sexes covered with black hairs. Male sternites 3 and 4 laterally with short pale hairs (Fig. 16). Male sternite 5 as in Figs 17, 18. Epandrium, cerci and surstyli as in Figs 19–21; surstyli asymmetrical.

**DISTRIBUTION.** RUSSIA: Krasnoyarskiy Kray, Taymyr Peninsula.

**ETYMOLOGY.** The new species is named after the collector, Russian dipterologist Anatoly V. Barkalov.

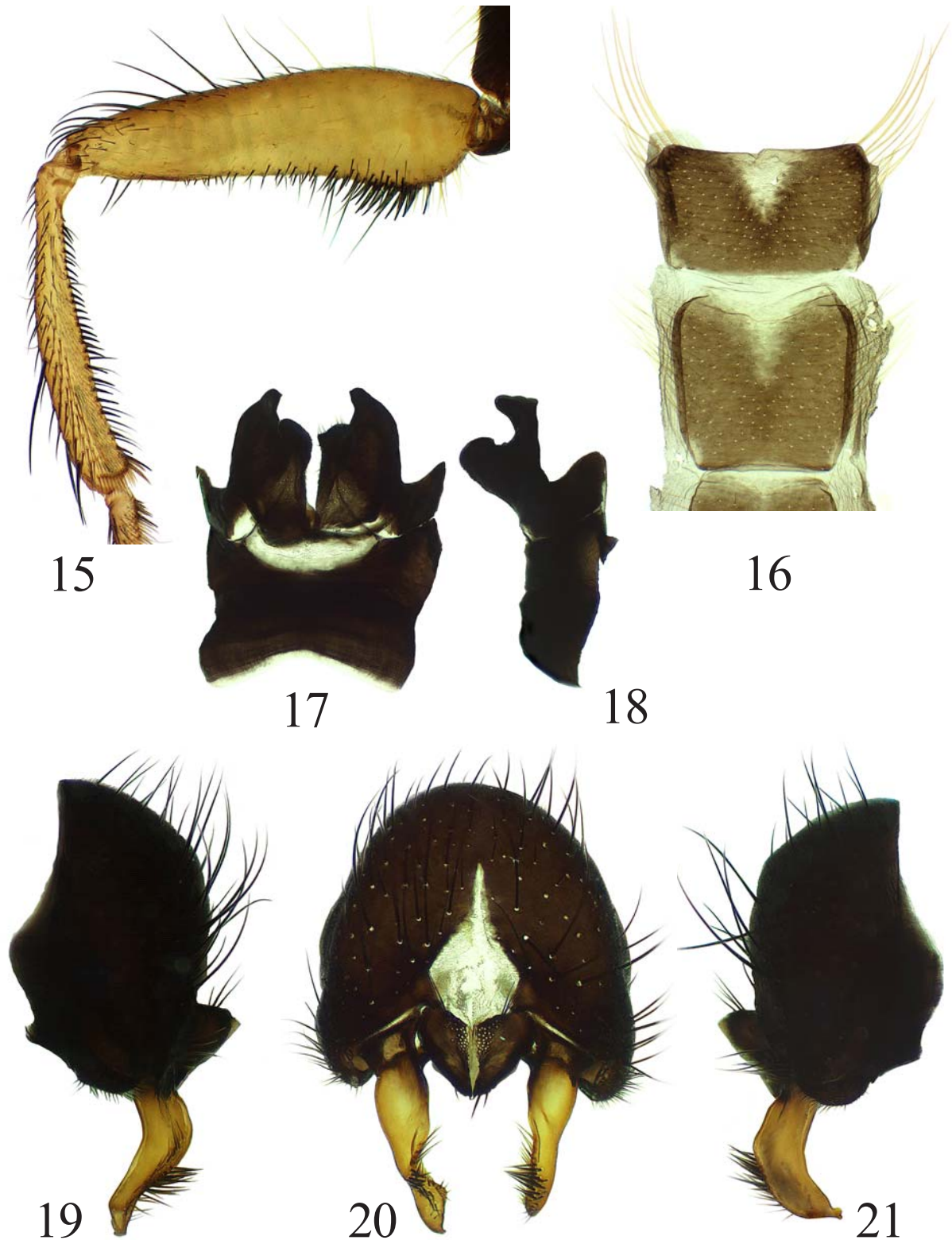
**KEY TO SPECIES OF PLEUROCHAETELLA**

1. Wing: costal sector between  $R_{2+3}$  and  $R_{4+5}$  longer than between  $R_{4+5}$  and  $M_1$  (Figs 6, 7). Male sternites 3 and 4 laterally with short pale hairs (Fig. 16); epandrium, cerci and surstyli as in Figs 19–21 ... *P. barkalovi* Ozerov, sp.n.
- Wing: costal sector between  $R_{2+3}$  and  $R_{4+5}$  shorter or subequal to sector between  $R_{4+5}$  and  $M_1$  (Fig. 5). Male sternites 3 and 4 laterally with long hairs (Fig. 9); epandrium, cerci and surstyli as in Figs 12–14 ..... *P. simplicipes* (Becker)

**ACKNOWLEDGMENTS.** I wish to thank Dr. Anatoly Barkalov (ISEA) for the material of Scathophagidae from Taymyr.

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Figs 15–21. *Pleurochaetella barkalovi* Ozerov, sp.n., ♂: 15 — right fore leg, anterior view; 16 — sternites 3 and 4; 17 — sternite 5, dorsal view; 18 — sternite 5, lateral view; 19 — epandrium, cercus and left surstylus, lateral view; 20 — epandrium, cerci and surstyli, dorsal view; 21 — epandrium, cercus and right surstylus, lateral view.

Рис. 15–21. *Pleurochaetella barkalovi* Ozerov, sp.n., ♂: 15 — передняя правая нога, спереди; 16 — стерниты 3 и 4; 17 — стернит 5, сверху; 18 — стернит 5, сбоку; 19 — эпандрий, церк и левый сурстиль, сбоку; 20 — эпандрий церки и сурстили, сверху; 21 — эпандрий, церк и правый сурстиль, сбоку.