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A NEW SPECIES OF THE SHORE-FLY GENUS *SCATOPHILA* BECKER, 1896 (DIPTERA, EPHYDRIDAE) WITH REDUCED WINGS FROM WRANGEL ISLAND, RUSSIA

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Scatophila gorodkovi Krivosheina et Ozerov **sp. n.** is described from Wrangel Island, Russia. The new species belongs to *noctula* species-group and differs from the congeners by strongly reduced wing, black halter, shape of face medial process and structure of male terminalia. Key to the Palaearctic species of *noctula* group of the genus *Scatophila* is given.

KEY WORDS: Diptera, Ephydridae, *Scatophila*, new species, reduced wing, Chukotka, Russia.

М. Г. Кривошеина[1], А. Л. Озеров[2]. Новый вид мух-береговушек рода *Scatophila* Becker, 1896 (Diptera, Ephydridae) с редуцированными крыльями с острова Врангеля, Россия // Дальневосточный энтомолог. 2016. N 311. С. 1-6.

С острова Врангеля описан новый для науки вид *Scatophila gorodkovi* Krivosheina et Ozerov **sp. n.** Вид относится к группе видов *noctula* и отличается от близких видов сильно редуцированными крыльями, черной окраской жужжалец,

формой лицевого выступа и строением гениталий самца. Составлена определительная таблица палеарктических видов группы *noctula* рода *Scatophila*.

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INTRODUCTION

Ephydridae or shore flies is rather large family of flies, uniting according to the latest data 1957 species from 128 genera (Mathis & Zatwarnicki, 1995, updated version 10 December 2015). The great majority of species possesses well developed wings and is good flyers, although brachyptery or reduced wings is observed in a few number (about 30) of species. Bezzi was the first author who reported about five ephydrid species that exhibit brachyptery with wing length ranging from "wing reduced in dimension but with venation normal or well developed" to "wings reduced in dimension, each vein more or less rudimentary, though always distinguishable". Up to now at least 4 species with reduced wings distributed in Palaearctic were described: *Nostima semialata* (Collin, 1913), *Philygria mocsaryi* Kertész, 1910, *Philygria stenoptera* Hollmann-Schirrmacher, 1998 and *Philygria nubeculosa* Strobl, 1909 (Hollmann-Schirrmacher, 1998). As for representatives of the genus *Scatophila*, one described species only with reduced wings is known from Papua New Guinea (Papp, 1979) and two undescribed species are distributed in Subantarctic (W.N. Mathis, personal communication). So we were really satisfied to discover one more *Scatophila* species with reduced wings among materials of the Zoological Institute, St.-Petersburg, which will be the first representative with such character of this genus in Palaearctic region. However its discovery on Wrangel Island confirms the distribution of brachypterous species on islands; sometimes it means terricolous life history (Gavruishin & Krivosheina, 2010).

TAXONOMY

Genus *Scatophila* Becker, 1896

Scatophila is rather large genus of Ephydridae, countering more than 50 species worldwide, 19 of which are registered in Palaearctic. The genus is easily determined for it represents one of few genera of Ephydridae with short costal vein extended to R_{4+5} only and not reaching M_{1+2}. Generally the members of the genus are small flies with body length not exceeding 2 mm and with spotted wings. Face protrudent. 1 fronto-orbital seta lateroclinate, exceptionally 2 setae in some Neotropical species. Thorax as a rule with light stripes and spots. Gonal arch is divided ventrally and in most cases is separated into 3 parts: two lateral gonites and a ventral band-like neohypandrium which may be reduced (Zatwarnicki & Mathis, 1994). Several species groups were distinguished by the abovementioned authors. One of them, the *noctula*

group, includes 5 described species: *Scatophila noctula* Meigen, 1830, *S. unicornis* Czerny, 1900, *S. hirtirostris* Sturtewant et Wheeler, 1954, *S. variofacialis* Sturtewant et Wheeler, 1954 and *S. zlobini* Krivosheina, 2009. Three of the species are known from the Palaearctic region, namely *S. noctula*, *S. unicornis* and *S. zlobini* (Zatwarnicki, 1987; Mathis & Zatwarnicki, 1995; Krivosheina, 2009), all these species possess well developed long wings. The species included in *noctula* group differ from other groups by the following combination of characters: most of males have the lower portion of face with medial process of various form; tergites of abdomen shining; aedeagus with ventral process, sinuous; fold on dorsal aedeagal opening generally angulate and without lateral processes; fold incised medially or broadly semicircular; distal margin of epandrium sometimes with lateral processes or with broad medial projection (Zatwarnicki & Mathis, 1994).

Scatophila gorodkovi **Krivosheina et Ozerov, sp. n.**
Figs 1–4, 7, 9

MATERIAL. Holotype – ♂, Russia: Bay Somnitelnaya, south of Wrangel Island, Gorodkov leg., 26.VII. [1]966; 5 km N, southern slope of Mineeva Mountains, 100 m, near lemming hole [in Russian]. Holotype is intact. Paratypes: 3 ♂, 3 ♀, the same label. One paratype male with abdomen cut, genitalia dissected and put in plastic tube with glycerol, one male dissected and completely put in glycerol, other specimens intact. Holotype and part of paratypes are deposited in the collection of Zoological Institute, St.-Petersburg, part of paratypes are kept in the collection of Zoological Museum, Moscow University.

DIAGNOSIS. The new species is distinguished from related congeners (*noctula* group) by the following combination of characters: wings significantly shortened, 0.5–0.75 as long as abdomen, relatively shorter in females than in males, haltere black, medial process of face of another shape (Fig. 1), distal margin of epandrium elongate, with small incision (Fig. 7).

DESCRIPTION. Male. Small shore-flies, body length 1.4–1.8 mm, generally black with brown pollen. Head: frons black with spot of brown pollen on ocellar triangle, around it and with small spot above each antenna. Face (lateral view) with medial process in lower part (Fig. 1). Face (dorsal view) protruding forward like broad rectangle. Face (anterior view) black with brown medial stripe of pubescence beginning from base of antenna and splitting in two downward near face process (Fig. 2). Parafacial and gena seem less pollen and partly subshining. Gena low, eye-to-gena ratio 3.8 : 1. Margin of mouth opening with 2 larger setae, anterior of which weaker and shorter and many short and thin setae at each side of medial process (Fig.1). Antenna black; arista black, shortlty pubescent. Palpus black.

Thorax: black with brown pollen, including scutellum, unicolorous, without stripes or spots. Wing shortened, 0.75 as long as abdomen in holotype, varying in length in other specimens, with thick veins, brownish, without distinct spots, with washed light spot in front of *dm-cu* crossvein (Fig. 9). Haltere black. Costal vein ration about 0.3; M vein ratio 0.6. Legs completely black, fore femur not thickened.

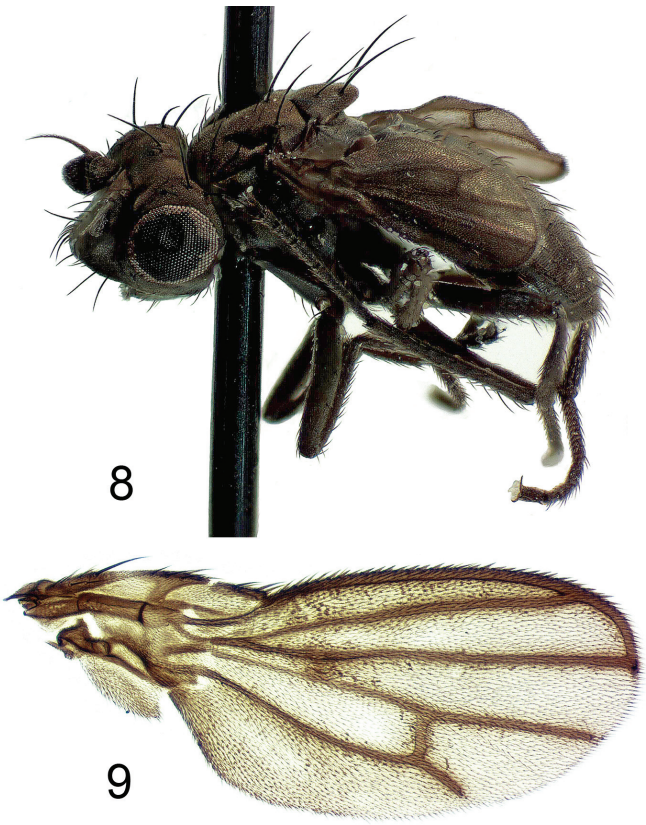
Figs. 1–7. *Scatophila gorodkovi* sp. n. (1–4, 7), *S. noctula* (5), *S. unicornis* (6). 1 – head, lateral view; 2 – head, anterior view; 3 – gonite and neohypandrium, lateral view; 4 – aedeagus and aedeagal apodeme, lateral view; 5–7 – epandrium, posterior view.

Abdomen: black, subshining. Male terminalia: distal margin of epandrium (posterior view) narrowing with small incision and many relatively long setae, differing from *S. noctula* by the shape of distal part and from *S. unicornis* by the presence of medial incision (Figs 5–7). Cercal cavity round, about 1/3 as long as epandrium, relatively smaller than in *S.noctula* and *S. unicornis*. Aedeagus (lateral view) as on Fig. 4, aedeagal apodeme (lateral view) well sclerotized, with arms of about equal length (Fig. 4). Gonite (lateral view) with apex pointed and covered with many setulae, with wide basal part, neohypandrium like narrow band (Fig. 3).

Female. Same as male excluding face: face evenly convex, shortly pubescent, with 2 lateroclinate medial setae and 2–3 downwardly directed setae at the margin of mouth opening (Fig. 8).

ETHYMOLOGY. The new species is named in memory of famous Russian dipterologist Kirill Borisovich Gorodkov, who collected the specimens.

DISTRIBUTION. Russia: Chukotka, Wrangel Island.



Figs. 8–9. *Scatophila gorodkovi* sp. n., female. 1 – body, lateral view; 2 – wing, dorsal view.

Key to Palaearctic species of the *noctula* species-group of the genus *Scatophila*

1. Wings reduced, shortened, 0.5–0.75 as long as abdomen, haltere black …… …… ***S. gorodkovi*** sp. n.
– Wings long, normally developed, haltere yellow ……. 2
2. Head in profile triangular, gradually protruding (Krivosheina, 2009, Fig. 8); the lower part of face dorsally looks like broad protuberance at least twice as wide as pedicel. Distal margin of epandrium incised medially ..... ***S. noctula*** Meigen
– Head in profile of another form; the lower part of face dorsally looks like narrow protuberance as wide as or narrower than pedicel. Distal margin of epandrium broadly rounded, without incision ……..…….. 3
3. Lower part of face in profile looks like slender horn (Krivosheina, 2009, Fig. 9); dorsally looks like long spine significantly narrower than pedicel …… …….……. ***S. unicornis*** Czerny
– Lower part of face in profile looks like square protuberance (Krivosheina, 2009, Fig. 7); dorsally looks like short spine as wide as pedicel ……..…… ……..…….…. ***S. zlobini*** Krivosheina

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