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A new species of the genus *Schoenomyza* Haliday, 1833 (Diptera: Muscidae) from Ethiopia

Новый вид рода *Schoenomyza* Haliday, 1833 (Diptera: Muscidae) из Эфиопии

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КЛЮЧЕВЫЕ СЛОВА: *Schoenomyza,* Muscidae, Diptera, Афротропический регион, новый вид.

ABSTRACT. Description of a new species *Schoenomyza eskovi* **sp.n.** from Ethiopian highlands is provided. The new species differs from widespread *S. littorella* Fallén, 1823 by male colouration of head, which presumably is sexual dimorphic character. Differential diagnosis for the new species is given and discussed.

РЕЗЮМЕ. Дано описание нового вида *Schoenomyza eskovi* **sp.n.** с высокогорий Эфиопии. Новый вид отличается от широко распространенного *S. littorella* Fallén, 1823 окраской головы самцов, которая, по-видимому, является вторично-половым признаком. Дается и обсуждается дифференциальная диагностика нового вида.

Introduction

The genus *Schoenomyza* Haliday, 1833 presumably is originated from the New World where more than 20 species are described from South and North America, Couri & Pont [2000] supposed that it is related to Neotropical genus *Spathipheromyia*. However, the type species of the genus is *Schoenomyza litorella* Fallén, 1823, the only species known from the Old World which was described from Sweden. *Schoenomyza* may be easily distinguished from other Coenosiini by the following set of characters: frons with one pair of reclinate setae and one (♂) or two (♀) pairs of inclinate setae; frons is unusually wide, wider than long; *t2* with *av* seta; calypters small. For more detailed generic diagnosis of *Schoenomyza* see Couri [1996]. The listed below material shows that we have *S. littorella* from many remote areas of the Old World, but we did not find any significant variability among examined specimens. The recently collected specimens from the high-altitude Sanetti plateau in Ethiopia are quite different from the other material. This publication is dedicated to the description of our Ethiopian series as a new species of *Schoenomyza*.

Material and methods

The specimens studied are stored in the Zoological Museum of Moscow University (ZMUM).

Localities are given as follows: country, region, geographical coordinates in the decimal degrees format.

The following generally accepted abbreviations for morphological structures are used: *f1*, *t1*, *f2*, *t2*, *f3*, *t3* — fore-, mid-, hind- femur or tibia respectively; *ac* — acrostichal setae; *dc* — dorsocentral setae; *a*, *p*, *d*, *v* — anterior, posterior, dorsal, ventral seta(e).

Schoenomyza litorella Fallén, 1823
Fig. 1.

MATERIAL: 170 ♂♂♀♀ from: AZERBAIJAN; BELARUS; KAZAKHSTAN: *East-Kazakhstan* and *Almaty* regions; KYRGYZSTAN; MONGOLIA: *Uvs* aimak; NETHERLANDS; RUSSIA: *Altai Kray*, *Amur*, *Bashkortostan*, *Buryatia*, *Chukotka*, *Crimea*, *Dagestan*, *Irkutsk*, *Kaliningrad*, *Khabarovsk*, *Khanty-Mansi*, *Krasnodar*, *Krasnoyarsk*, *Kursk*, *Magadan*, *Mordovia*, *Moscow*, *Murmansk*, *Nenets*, *Nizhny-Novgorod*, *North Ossetia*, *Omsk*, *Ryazan*, *Saint Petersburg*, *Taymyr*, *Tver*, *Yakutia*, *Yamalo-Nenets* regions; SERBIA; TAJIKISTAN; TURKEY: *Antalya*, *Adana*, *Bolu*, *Hatay*, *Konya* provinces; UZBEKISTAN.

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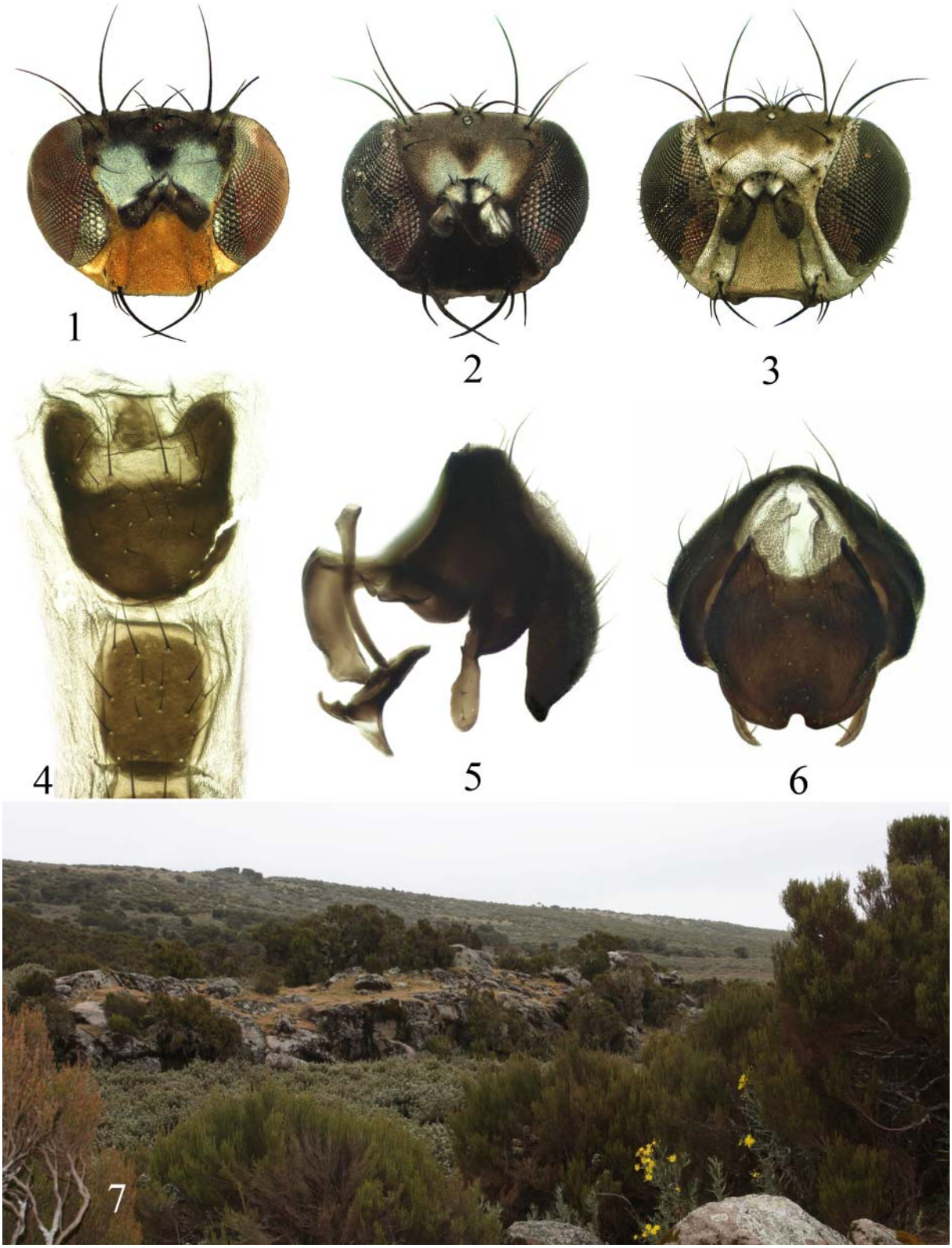

Figs 1–7. *Schoenomyza litorella* (1) and *S. eskovi* **sp.n**. (2–7): 1, 2 — male head, frontal view; 3 — female head, frontal view; 4 — male sternites 4 (lower) and 5 (upper); 5 — terminalia and adjoining sclerites, lateral view; 6 — epandrium, cercal plate and surstyli, dorsal view; 7 — type locality of *S. eskovi* **sp.n**. in Ethiopia, Sanetti plateau at 3800 m (photo by Maria Yanbulat).
Рис. 1–7. *Schoenomyza litorella* (1) и *S. eskovi* **sp.n**. (2–7): 1, 2 — голова самца, спереди; 3 — голова самки, спереди; 4 — стерниты 4 (снизу) и 5 (сверху) самца; 5 — гениталии и окружающие склериты, сбоку; 6 — эпандрий, церкальная пластинка и сурстили, сверху; 7 — местообитание *S. eskovi* **sp.n**. в Эфиопии, плато Санети, 3800 м (фото Марии Янбулат).

INTERESTING RECORDS: KENYA, Nyandarua Co., Ol Bolosat Lake, 0.12°S, 36.43°E, 2330 m, 20–23.12.2013, N. Vikhrev, 2 ♂♂, 1 ♀ and D. Gavryushin, 1 ♂; MOROCCO, Oukameden, 31.20°N, 7.86°W, 2620 m, 13–16.05.2012, N. Vikhrev, 5 ♂♂, 1 ♀; NEPAL, Mustang Distr., Muktinath env., 28.82°N, 83.86°E, 3600 m, 25.06–9.07.2017, A. Medvedev, 12 ♂♂, 2 ♀♀; RUSSIA, Chukotka reg., Meynypilgyno env., 62.56°N, 177.00°E, 13–16.07.2014, P. Tomkovich, 2 ♂♂.

DISTRIBUTION. Whole Palaearctic, Nearctic, North of Oriental region and highlands of Afrotropical region.

Schoenomyza eskovi **sp.n.**
Figs 2–7.

MATERIAL. Holotype ♂: ETHIOPIA, *Oromia* province, Sanetti plateau, 6.91°N, 39.91°E, 3800 m, 11.12.2023, N. Vikhrev. Paratypes: ETHIOPIA, *Oromia* province: Sanetti plateau, 6.91°N, 39.91°E, 3800 m, 11.12.2023, N. Vikhrev 6 ♂♂, 4 ♀♀; Goba, 7.024°N, 39.980°E, 2660 m, 6–11.12.2023, N. Vikhrev, 1 ♂, 1 ♀; Dinshu env., 7.12°N, 39.73°E, 3050 m, 6.12.2023, N. Vikhrev, 1♂.

DESCRIPTION. MALE. Body length: 2.8–3.1 mm.

Head. In frontal view fronto-orbital plates and posterior part of frons brown, anterior part of frons whitish. Frontal triangle wide, brown at base, blackish in sharpen apical part. Frons at middle slightly wider than 1/2 head width. One pair of strong reclinate orbital setae and one pair of inclinate fronal setae. Face and parafacials velvety black; cheeks brown. Antenna black with white pruinosity, postpedicel narrowed at apex (Fig. 2). Arista with hardly distinct hairs near middle, almost bare. Vibrissae strong; palpi black, narrow; proboscis glossy black. *Thorax* brown, scutum mostly light-brown in presutural part. Chaetotaxy: *dc* 1+3; acrostichal setulae in two rows; katepisternal setae 1:1:1 in equilateral triangle. Wings hyaline, slightly darkened, veins bare, parallel apically. Both calypters small, yellowish; halters brown. *Legs* black. Chaetotaxy: *t1* with 1 *d* and 1 *p* below middle; *t2* with 1 *ad*, 1 *av* and 1 *p*; *f3* with 1 *av* near apex; *t3* with 2 *av*, 2 *ad* and 1 *d* near apex. *Abdomen* grey dusted with paired subtriangular dark spots on tergites 3 to 5. Male genitalia: cercal plate in dorsal view wide as in Fig. 6 and as shown in other drawings of cerci of *Schoenomyza*, in lateral view as shown in Fig. 5; sternite 5 as shown in Fig. 4.

FEMALE differs as follows. Frons mostly brown, only anterior 1/3 whittish-grey. Face dirty-yellow to dirty-whitish (Fig. 3). Frons with two pairs of inclinate fronal setae. Apex of abdomen pointed.

ETYMOLOGY. Named in honour of Kirill Yuryevich Eskov, Russian writer and paleontologist.

DIAGNOSIS. New species differs from *S. litorella* as follows:

– ♂: Face and parafacials velvety black. Fronto-orbital plates dark-brown all along (Fig. 3); whittish-grey area in anterior part of frons narrower than frons width and restricted to anterior 1/3 of frons (Fig. 3). ♀: Wing slightly darkened. Light-brown area usually restricted to anterior 1/3 of frons (Fig. 2) ..... *S. eskovi* **sp.n**.

– ♂: Face and parafacials yellowish-orange (Fig. 1). Fronto-orbital plates white in anterior half; whittish area as wide as frons width and extended on anterior half of frons (Fig. 1). ♀: Wing hyaline, not darkened. Light-brown area usually extended on anterior half of frons ..... *S. litorella* Fallén

ECOLOGY. Specimens were collected from grass alpine vegetation on high altitude above 3000 m (Fig. 7).

Discussion

As follows from the diagnosis, *Schoenomyza eskovi* **sp.n**. differs from *S. litorella* only by colouration of the male head. Why did we describe our Ethiopian material as *S. eskovi* **sp.n**.?

Let us remind you that *S. litorella* still was the only *Schoenomyza* species in the Old World. Apart from the Nearctic region (Canada and USA) it is very widely distributed in the Palaearctic, where it is known from Morocco in the southwest to Chukotka in the northeast. *S. litorella* is also reported in the northern highlands of the Oriental region and highlands of the Afrotropical regions (Ethiopia, Kenya, South Africa) [Pont, 2024]. Such a natural range is almost unprecedented for non-synanthropic Muscidae species.

Emden [1941: 216–217] reported that he had seen specimens of *Schoenomyza* from Abyssinia, Mt. Zukwala [Ethiopia, Mt. Zuqualla, 8.54°N, 38.85°E, 2900 m] in which the face was velvety dark, not orange-yellow. Unlike us Emden did not describe these specimens as a new species, as differences were found only in colour, and the genitalia are the same as in *S. litorella*.

Why did we disagree with Emden's opinion?

1. *S. eskovi* **sp.n**. has narrow and specific distribution, it is known only from the Ethiopian highlands and from altitudes of 2700–3800 m.

2. Not a single specimen with intermediate coloration is known.

3. Inconspicuous brownish colour of *Schoenomyza* females contrasts with male's bright yellow-orange face of *S. litorella* and of velvety-black facial colouration of *S. eskovi* **sp.n**. (Figs 1–3), such dimorphic coloration is usually used in courtship. So, we can assume that these two forms are reproductively isolated by sexual selection.

4. The genitalia of males of several Nearctic and Neotropical *Schoenomyza* species, in which they are drawn, are identical [Huckett, 1934: Pl. V, figs 12–15; Couri, 1996: fig. 3]. Almost all specific diagnoses of American species of of *Schoenomyza* are based on details of colouration of the head [Couri, Carvalho, 2002; Huckett, 1965, 1975], *S. eskovi* **sp.n**. differs from *S. litorella* more significantly than most American species from each other.

5. The observed differences in coloration are not caused, for example, by cold conditions in Sanetti plateau, since our specimens from Chukotka or from the highlands of Nepal (3600 m) have the usual coloration for *S. litorella*.

Competing interests. The authors declare no competing interests.

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