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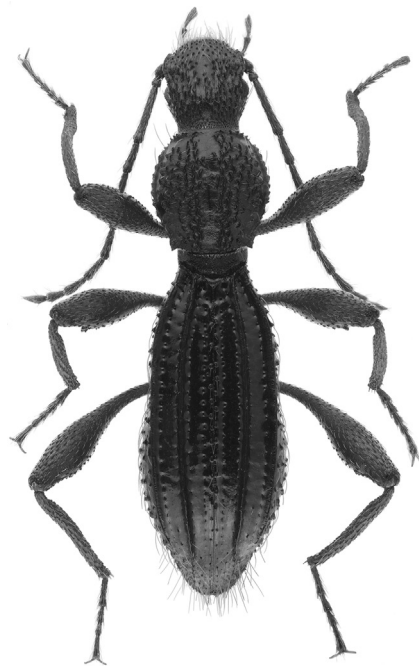


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A new species of *Ornithomya* Latreille, 1802 (Diptera: Hippoboscidae) from the Curonian Spit (Russia)

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Abstract. A new species of the genus *Ornithomya* Latreille, 1802 (Diptera: Hippoboscidae), *O. krivolutskii* Yatsuk, Matyukhin et Nartshuk, **sp. n.** is described from the Curonian Spit (Kaliningrad Region, Russia). The new species differs from the closest species *O. fringillina* Curtis, 1836 with the combined length of head and thorax, from other *Ornithomya* species – with the body size, number of scutellum setae and wing microtrichia. An updated key for species of the genus *Ornithomya* occurring in Russia is provided.

Key words: Diptera, Hippoboscidae, *Ornithomya*, louse flies, new species, Curonian Spit.

Новый вид *Ornithomya* Latreille, 1802 (Diptera: Hippoboscidae) с Куршской косы (Россия)

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Резюме. Описан новый вид рода *Ornithomya* Latreille, 1802 (Diptera: Hippoboscidae) – *O. krivolutskii* Yatsuk, Matyukhin et Nartshuk, **sp. n.** – с Куршской косы (Калининградская область, Россия). Новый вид отличается от наиболее близкого к нему *O. fringillina* Curtis, 1836 длиной головы и груди, от остальных видов *Ornithomya* – размерами тела, числом скутеллярных щетинок и расположением микротрихий на крыльях. Представлена новая определительная таблица для видов рода *Ornithomya* фауны России.

Ключевые слова: Diptera, Hippoboscidae, *Ornithomya*, мухи-кровососки, новый вид, Куршская коса.

Introduction

The louse flies family Hippoboscidae Samouelle, 1819 includes about 213 species [Maa, 1969; Maa, Peterson, 1987; Dick, 2018]. Flies of both sexes are widespread blood-sucking ectoparasites of mammals and birds [Dick, 2018; Oboňa et al., 2019]. Hippoboscidae flies are vectors of many dangerous diseases [Bequaert, 1954; Doszhanov, 1980; Ganey et al., 2004; Farajollahi et al., 2005; Khametova et al., 2018] and transport phoretic mites of the family Epidermoptidae [Fain, 1965; Hill et al., 1967; Philips, Fain, 1991].

The genus *Ornithomya* Latreille, 1802 is one of the largest genus in the Hippoboscidae and includes approximately 30 species [Nartshuk et al., 2022]. Their representatives are full-winged parasites of birds from 47 bird families [Doszhanov, 2003]. *Ornithomya* louse flies are considered to be widespread but inhabit mainly the middle latitudes of the Old World [Hutson, 1984].

Five species of *Ornithomya* were previously found on the territory of the former USSR: *O. avicularia* Linnaeus, 1758, *O. biloba* Dufour, 1827, *O. chloropus* Bergroth, 1901, *O. comosa* Kolenati, 1930, *O. fringillina* Curtis, 1836 [Doszhanov, 2003; Nartshuk et al., 2019a, 2020]. All these species, except *O. biloba*, occur in Russia. Meißner et al. [2020] recorded *O. aobatonis* (Matsumura, 1905) from

Amur Region of Russia, but Mogi et al. [2023] treated *O. aobatonis* as a junior synonym of *O. avicularia*. Levesque-Beaudin and Sinclair [2021] recorded *O. bequaerti* Maa, 1969 in the Palaearctic region based on the paper by Meißner et al. [2020]. They treated species “*Ornithomya B*” in Meißner et al. [2020] as *O. bequaerti* and considered the species as Holarctic. However, it is difficult to understand, why they mentioned *O. bequaerti* in Europe in the abstract of their paper. Meißner et al. [2020] studied louse flies in Amur Region in the Asian part of Russia. Now, according to the literature, six species of *Ornithomya* are known from Russian territory: *O. avicularia*, *O. chloropus*, *O. comosa*, *O. fringillina* [Nartshuk et al., 2019b], *O. strigilis* Nartshuk, Yatsuk et Matyukhin, 2022 [Nartshuk et al., 2022], *O. bequaerti* [Meißner et al., 2020].

The aim of this article is to describe a new species of *Ornithomya*.

Material and methods

Parasitic flies of birds were collected on the Curonian Spit (Russia) during the annual bird ringing on the Ornithological station of the Zoological Institute of the Russian Academy of Sciences. The material is fixed in 96% ethanol. Morphological terminology follows Hutson [1984].

Order Diptera
Family Hippoboscidae
Subfamily Ornithomyiinae
Genus *Ornithomya* Latreille, 1802
Ornithomya krivolutskii Yatsuk, Matyukhin
 et Nartshuk, **sp. n.**
 (Figs 1–4)

Material. Holotype, ♀: Russia, Curonian Spit, from barn swallow *Hirundo rustica* Linnaeus, 1758, 27.07.2021 (A.P. Shapoval).

The holotype is deposited in the collection of the Zoological Institute of the Russian Academy of Sciences (St Petersburg, Russia), inventory number INS_DIP_0001105.

Description. Head and thorax length combined 3 mm.

Head with posterior part located between humeral tubercles and slightly covering anterior margin of thorax. Width of head equal to its length. Eye one-fourth as wide as head. Ocelli separated from each other by width of ocellus. Inner orbits slightly widened posteriorly. Width of inner orbit equal to one-third of mediovertex width. Length of mediovertex equal to half of head length. Seven orbital long dark setae and two short bright setae present. Posterior margin of lunula rounded. Lunula horns located between antennae, clearly separated from lunula. Palpus equal in length to lunula horns and to 2nd antennal segment. Antennae light-coloured, with long setae. Ventral side of head brown.

Mesonotum amber-brown, with anterior margin slightly concave. Ventral side of thorax light with brown spots. Humeral tubercles approximately cone-shaped, protruding anterolaterally. Longitudinal, transversal and scuto-scutellar sutures clearly visible. Transversal suture interrupted in middle; longitudinal suture not reaching scuto-scutellar suture. Setae of mesonotum: 13–18 humeral setae, 15–17 mesopleural setae, 1 long and 5 short notopleural setae, 2–3 long and 4–5 short postalar setae, and 1 prescutellar seta. Setae of scutellum: fringes of short light setae on its anterior and posterior margins and in central part; 6 long setae forming a transverse row along posterior margin of scutellum; 4 long setae form row above them.

Wing length 4 mm. Wing with full venation, with 3 transverse and 7 longitudinal veins. Costa interrupted before juncture with Sc. Longitudinal veins R_1 , R_{2+3} and R_{4+5} connecting with costa at acute angle. Section of costa between junctions of R_1 and R_{2+3} 2 times as long as section between junctions of R_{2+3} and R_{4+5} . Transverse vein between cells 2bc and 1m unpigmented. Vein M_3 interrupted between cells 1bc and 2bc. Costa and basicosta covered with setae. Microtrichia covering most of cell 3r, 1m and distal part of cell 2m. More dark microtrichia covering most of cell 3r and form long narrow strip in cell 1m.

Legs light. Femora strong. Claws bifid. Empodium and paired pulvilli present.

Abdomen dorsally and ventrally uniformly covered with short setae. Tergite 1+2 with straight posterior margin and long setae on sides. Tergites 3, 4 and 5 wide, strip-shaped, one-third as wide as abdomen. Tergite 6 divided into 2 oval sclerites, each with 4 long setae.

Comparison. *Ornithomya fur* Sehiner, 1868 from Africa and *O. biloba* from Kazakhstan are closest in species morphological features to *O. krivolutskii* Yatsuk, Matyukhin et Nartshuk, **sp. n.**, but the wing microtrichia of *O. fur* and *O. biloba* cover only most of cell 1m [Maa, 1964]. Additionally, the new species differs from *O. fur* with the median ocellus, that is slightly larger than lateral ocelli, which are about 2 times more distant from each other than from median ocellus, narrow oval sclerites of the tergite 6 [Maa, 1964], and from *O. biloba* with the combined length of head and thorax 2.5 mm, 3 long setae on each tergite 6 sclerite [Maa, 1964; Doszhanov, 2003].

Ornithomya krivolutskii Yatsuk, Matyukhin et Nartshuk, **sp. n.** differs from *O. fringillina* with the combined length of head and thorax 2–2.5 mm, 2 long setae on each sclerite of the tergite 6 and 4 long setae on the scutellum. The new species differs from *O. avicularia* with number of scutellar setae (7–9 long setae forming a transverse row along posterior margin in *O. avicularia*) and with microtrichia covering most of cells 3r and 1m, forming 3 stripes; from *O. chloropus* – with the combined length of head and thorax 2–2.5 mm; from *O. comosa* – with dark body colour and wing microtrichia covering all cells [Doszhanov, 1980, 2003]; from *O. strigilis* – with the combined length of head and thorax 4–4.3 mm [Nartshuk et al., 2022]; *O. bequaerti* with wing length 4.4–5 mm and with 3 postalar setae [Maa, 1969].

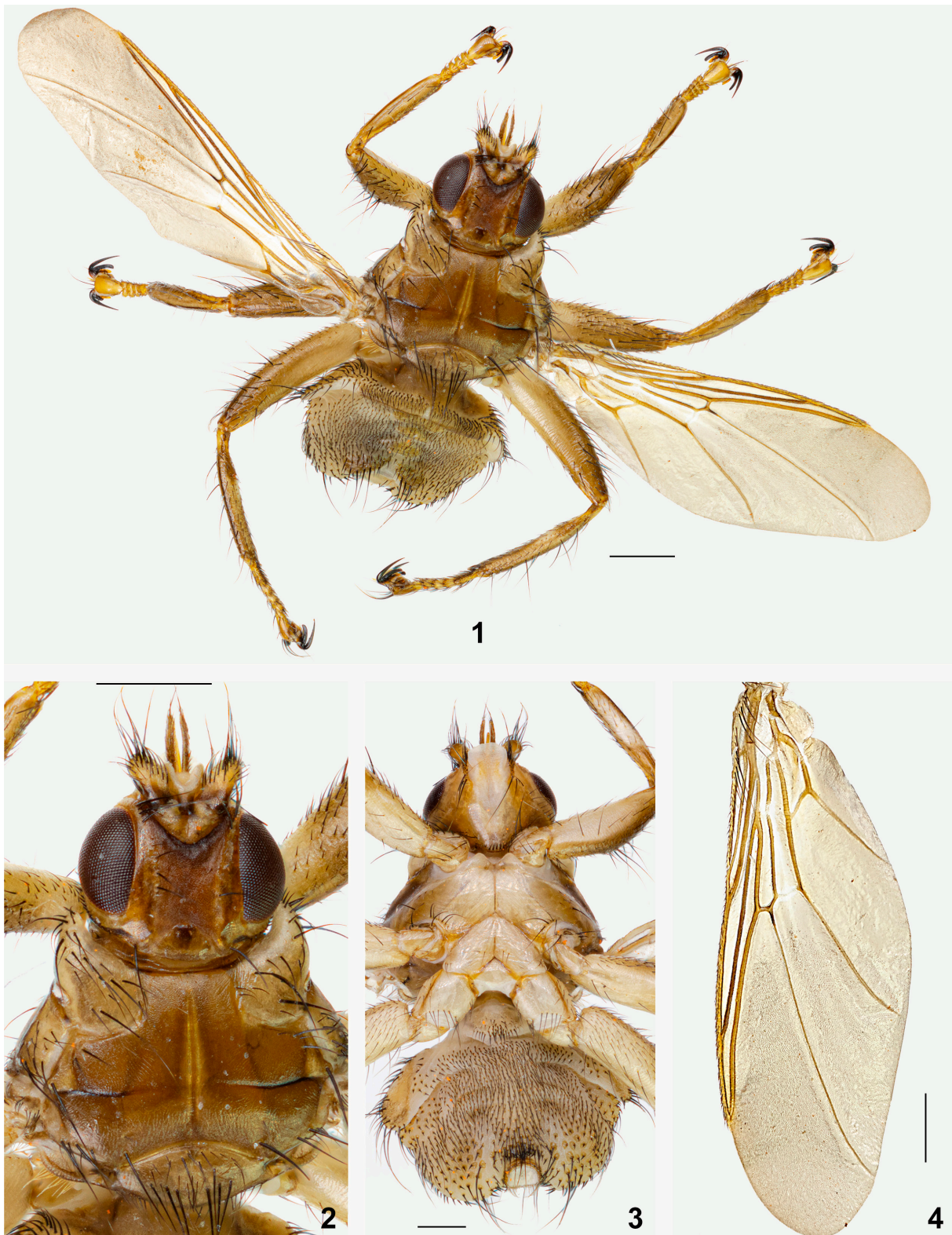
Ornithomya krivolutskii Yatsuk, Matyukhin et Nartshuk, **sp. n.** differs from the geographically distant species: *O. anchineuria* Speiser, 1905 from North America with the combined length of head and thorax 2–2.5 mm and with microtrichia, covering most of cell 3r and forming stripes in cells 1m and 2m; *O. rupes* Hutson, 1981 from Spain with section of costa between the junctions of R_1 and R_{2+3} that is 1–1.5 times as long as the section between the junctions of R_{2+3} and R_{4+5} and with microtrichia covering most of cells 3r and 1m [Hutson, 1981; Oboňa et al., 2022]; *O. candida* Maa, 1967 from Japan with 4 setae of scutellum, section of costa between the junctions of R_1 and R_{2+3} that is 1.5 times as long as the section between the junctions of R_{2+3} and R_{4+5} , and wing length 5.2–5.7 mm [Doszhanov, 2003].

Hosts. The new species was collected from the barn swallow *Hirundo rustica* Linnaeus, 1758.

Etymology. The new species is named after the late Dmitriy Aleksandrovich Krivolutskiy – Russian acarologist, director of the Parasitology Center and research advisor of Aleksandr Vladimirovich Matyukhin, our co-author and colleague.

A key to the Russian species of the genus *Ornithomya* based on Doszhanov [2003] and Nartshuk et al. [2022]

1. Combined length of head and thorax more than 3 mm ... 2
 – Combined length of head and thorax 3 mm or less 3
2. Microtrichia covering most of cell 3r, form 3 stripes in cell 1m and 1 stripe in cell 2m. Combined length of head and thorax 4–4.3 mm. Scutellum with no less than 6 large setae *O. strigilis*
 – Microtrichia covering most of cells 3r and 1m, forming 3 stripes. Combined length of head and thorax 3–3.5 mm. Scutellum with at least 7 preapical setae
 *O. avicularia*
3. Microtrichia covering all wing cells *O. comosa*
 – Microtrichia covering only the cells 3r, 1m and apical part of the cell 2m 4
4. Combined length of head and thorax more than 2.6 mm 5
 – Combined length of head and thorax 2–2.5 mm 6
5. 4–5 short postalar setae. About 10 long scutellar setae
O. krivolutskii Yatsuk, Matyukhin et Nartshuk, **sp. n.**
 – 3 postalar setae (1 large, 2 small and pale). 4 long scutellar setae *O. bequaerti*



Figs 1–4. *Ornithomya krivolutskii* Yatsuk, Matyukhin et Nartshuk, **sp. n.**, female, holotype.
1 – general view, dorsal side; 2 – body, dorsal side; 3 – body, ventral side; 4 – wing. Scale bars 0.5 mm.

Рис. 1–4. *Ornithomya krivolutskii* Yatsuk, Matyukhin et Nartshuk, **sp. n.**, самка, голотип.

1 – общий вид, дорсальная сторона; 2 – тело, дорсальная сторона; 3 – тело, вентральная сторона; 4 – крыло. Масштабные линейки 0.5 мм.

6. Wing length 3.5–4.4 mm. Scutellum with 3–5 apical setae *O. fringillina*
 – Wing length 4.4–5.5 mm. Scutellum with 4–6 apical setae *O. chloropus*

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