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A new species of the genus *Ornithophila* Rondani, 1879 (Diptera: Hippoboscidae) from South Africa

Новый вид рода *Ornithophila* Rondani, 1879 (Diptera: Hippoboscidae) из Южной Африки

A.V. Matyukhin*, E.P. Nartshuk, M.Yu. Markovets**, A.A. Yatsuk***
А.В. Матюхин*, Э.П. Нарчук, М.Ю. Марковец**, А.А. Яцук***

*A.N. Severtsov Institute of Ecology and Evolution, Leninskii prospekt 33, Moscow 119071 Russia. E-mail: sasha_djedi@mail.ru, https://orcid.org/0000-0003-0913-7823; amatyukhin53@mail.ru, https://orcid.org/0000-0002-4787-7681.

*ФГБУН Институт проблем экологии и эволюции им. А.Н. Северцова Российской академии наук, Ленинский проспект 33, Москва 119071 Россия.

**Zoological Institute, Russian Academy of Sciences, Universitetskaya Naberezhnaya 1, Saint Petersburg 199034 Russia. E-mail: chlorops@zin.ru, https://orcid.org/0000-0001-8300-4928; mikhail.markovets@gmail.com, https://orcid.org/0000-0001-6023-7868.

** ФГБУН Зоологический институт Российской академии наук, Университетская набережная 1, Санкт-Петербург 199034 Россия.

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Ключевые слова: паразит, муха-кровососка, новый вид, ЮАР.

Abstract. Hippoboscidae Samouelle, 1819, the family of parasitic flies, currently includes more than 213 species. These flies are spreading all over the world and carry many dangerous diseases. The genus *Ornithophila* Rondani, 1879 currently includes three species, namely: *O. gestroi* (Rondani, 1878), *O. metallica* (Schiner, 1864) and *O. baikalica* Yatsuk, Matyukhin et Nartshuk, 2024. Representatives of this genus inhabit the tropics and subtropics of Asia and Africa, Europe, Central Asia, Russia and Kazakhstan. During the bird ringing, a new species of the genus *Ornithophila* Rondani (Diptera: Hippoboscidae) was collected in the White Elephant Safaris, Pongola Game Reserve (South), KwaZulu-Natal, South Africa on crested barbet *Trachyphonus vaillantii* Ranzani, 1821, bird, that inhabits the sub-Saharan region. *Ornithophila kohrsi* Yatsuk, Matyukhin et Nartshuk **sp.n.** differs from the congeners in a row of longer setae, widening towards abdomen edges at the level of tergite 5.

Резюме. Семейство мух-паразитов Hippoboscidae Samouelle, 1819 в настоящее время включает более 213 видов. Эти мухи распространены по всему миру и переносят множество опасных заболеваний. Род *Ornithophila* Rondani, 1879 до настоящего времени включал три вида: *O. gestroi* (Rondani, 1878), *O. metallica* (Schiner, 1864) и *O. baikalica* Yatsuk, Matyukhin et Nartshuk, 2024. Представители рода обитают в тропиках и субтропиках Азии и Африки, Европы, отмечены также в Средней Азии, России и Казахстане. Во время кольцевания птиц в заповеднике Нонгома «White Elephant Safaris» в провинции Квазулу-Натал Южной Африки, на хохлатом трахифонусе *Trachyphonus vaillantii* Ranzani, 1821, птице, обитающей в регионе к югу от Сахары, был обнаружен новый вид этого рода, описываемый в данной работе как *Ornithophila kohrsi* Yatsuk, Matyukhin et Nartshuk **sp.n.** Он отличается от видов рода рядом более длинных щетинок, расходящимся до краёв брюшка на уровне 5-го тергита.

Introduction

The family of louse flies, Hippoboscidae Samouelle, 1819, currently includes more than 213 species [Dick, 2018; Oboňa et al., 2019]. These flies are parasites of birds and mammals. They are spreading all over the world [Maa, Peterson, 1987; Doszhanov, 1980]. Louse flies, feeding on blood, carry many diseases [Bequaert, 1954; Doszhanov, 1980; Kucera, 1983; Gancz et al., 2004; Farajollahi et al., 2005; Khametova et al., 2018] and transport phoretic Epidermoptidae mites [Fain, 1965a, b; Hill et al., 1967; Philips, Fain, 1991] and bird lices [Lee et al., 2022].

The genus *Ornithophila* Rondani, 1879 is one of the smallest genus among louse flies. Its representatives are full-winged, widely specialized parasites of birds [Doszhanov, 1980]. The genus includes only 3 species: *O. gestroi* (Rondani, 1878), *O. metallica* (Schiner, 1864) [Dick, 2018] and *O. baikalica* Yatsuk, Matyukhin et Nartshuk, 2024 [Yatsuk et al., 2024].

Maa [1963] listed 9 synonyms of *O. metallica*. Theodor, Oldroyd [1964] recognized one of them, *Ornitheza odontoscelis* Speiser, 1904, as the distinct species of the genus. In any case, *O. odontoscelis* is easily recognized by its distinctive feature, «toothed leg», the sharp, right-angled ventral edge near the knee of midleg [Theodor, Oldroyd, 1964; Maa, 1969]. However Maa [1969] proposed these characters «might have resulted from the contraction state of a dry specimen». One more species *O. capensis* (Walker, 1849) was described as *Ornithobia capensis* Walker, 1849 [Walker, 1849]. Maa [1963] listed it as a synonym with question. The species was considered as valid one in the Catalogue of the Diptera of the Afrotropical Region [Walker, 1849; Hutson, Oldroyd, 1980].

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O. metallica inhabits the tropics and subtropics of Asia, Africa and Europe, including Central Asia, Russia and Kazakhstan [Maa, 1969; Doszhanov, 2003]. *O. gestroi* was noted in the Mediterranean subregion [Maa, 1969; Balgooyen et al., 1999], Romania [Oboňa et al., 2023], Kazakhstan [Doszhanov, 2003], Armenia [Nartshuk, Matyukhin, 2019] and Mongolia [Jentzsch et al., 2019; Nartshuk, Matyukhin, 2019; Ganbold et al., 2020]. *O. baikalica* was collected in Russia on the southeastern coast of Lake Baikal [Yatsuk et al., 2024]. *Ornitheza odontoscelis* inhabits the Balkan coast of the Adriatic Sea [Maa, 1969]. *O. capensis* inhabits South Africa [Maa, 1963].

Material and methods

The material was collected in November 2023 at the White Elephant Safaris, Pongola Game Reserve (South), Maputaland, KwaZulu-Natal, South Africa during the bird ringing. Natural region Maputaland is located in the northern part of the KwaZulu-Natal province between the Ubombo Mountains in the west and the Indian Ocean in the east.

Morphological terminology follows Hutson [1984] and Doszhanov [1980, 2003].

We try to found the type specimen of *O. capensis* and ask Dr. O. Sivell, curator of the Diptera collection of British Museum (Natural History). Her answer: «I will have to investigate this further. This species does not exist in our database, neither there are any specimens in the drawer. It is possible that the specimen was misplaced, lost or loaned and never returned in the past, hence there is no record of it. If that is the case, there is nothing I can do, unfortunately.» Description of *O. capensis* is rather short, but Walker gave sizes of body and wings. Line in the description of *O. capensis* was converted to mm according Russ [2005].

The holotype of the new species is preserved in alcohol and deposited in the collection of the Zoological Institute of the Russian Academy of Sciences. Inventory number INS_DIP_0001111.

Nomenclatural acts introduced in the present work are registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:FE0A4147-E94B-4268-91A5-050B51527836

Taxonomy

Hippoboscidae
Ornithomyinae
Ornithophila Rondani, 1879
Ornithophila kohrsi
Yatsuk, Matyukhin et Nartshuk **sp.n.**

Figs 1–3.

urn:lsid:zoobank.org:act:462F203E-2A7A-41DA-B471-8FE8BC7EB217

Material. **South Africa:** holotype, ♀, KwaZulu-Natal, Pongola Game Reserve (South), White Elephant Safaris, on crested barbet *Trachyphonus vaillantii* Ranzani, 1821, 10.XI.2023, Mikhail Yu. Markovets leg.

Description. Body size (head + thorax) 3.0 mm.

Head brown. Every eye almost one quarter of head width. Parafrontals in widest part approximately one half of mediovertex, two-color with light at front edge. Postvertex light, triangular, with 3 well-differentiated ocelli on dark background near anterior angle. Among 8–10 yellow orbital setae, 2–3 dark at row front edge. Antennae bicolorous with light apex. Palps equal to lunula length. Ventral side of head light.

Mesonotum dark brown with light sides. Humeral tubercles bicolored with light apex and dark base. Setae: 3 humeral, 9 mesopleural, 1 long black and several short yellow postalar, 1 long dark and several short light prescutellar. On posterior margin of mesonotum behind postalar setae group of short dark setae.

Scutellum dark with light stripe at base and row of 4 setae at apex. At posterior margin of scutellum fringe of thin yellow setae. Ventral side of thorax light, with two dark spots.

Wing length 4 mm. No microtrichia on wing membrane.

Halters black. Fore legs yellow, femora of middle and hind legs partly black.

Female abdomen brown dorsally and light ventrally, entirely covered with short setae. At level of tergite 5 is row of longer setae, widening towards abdomen edges. There are some long setae on abdomen sides. Tergite 1+2 has a straight posterior margin and longer and thicker 5–7 setae on lateral posterior corners. Tergites 3–5 reduced to size of points. Tergite 6 represented by two sclerites with 3 long setae. Tergite 7 divided into 2 semicircular sclerites on anus sides and covered with long setae. There are 4 rows of longer setae on ventral side of abdomen.

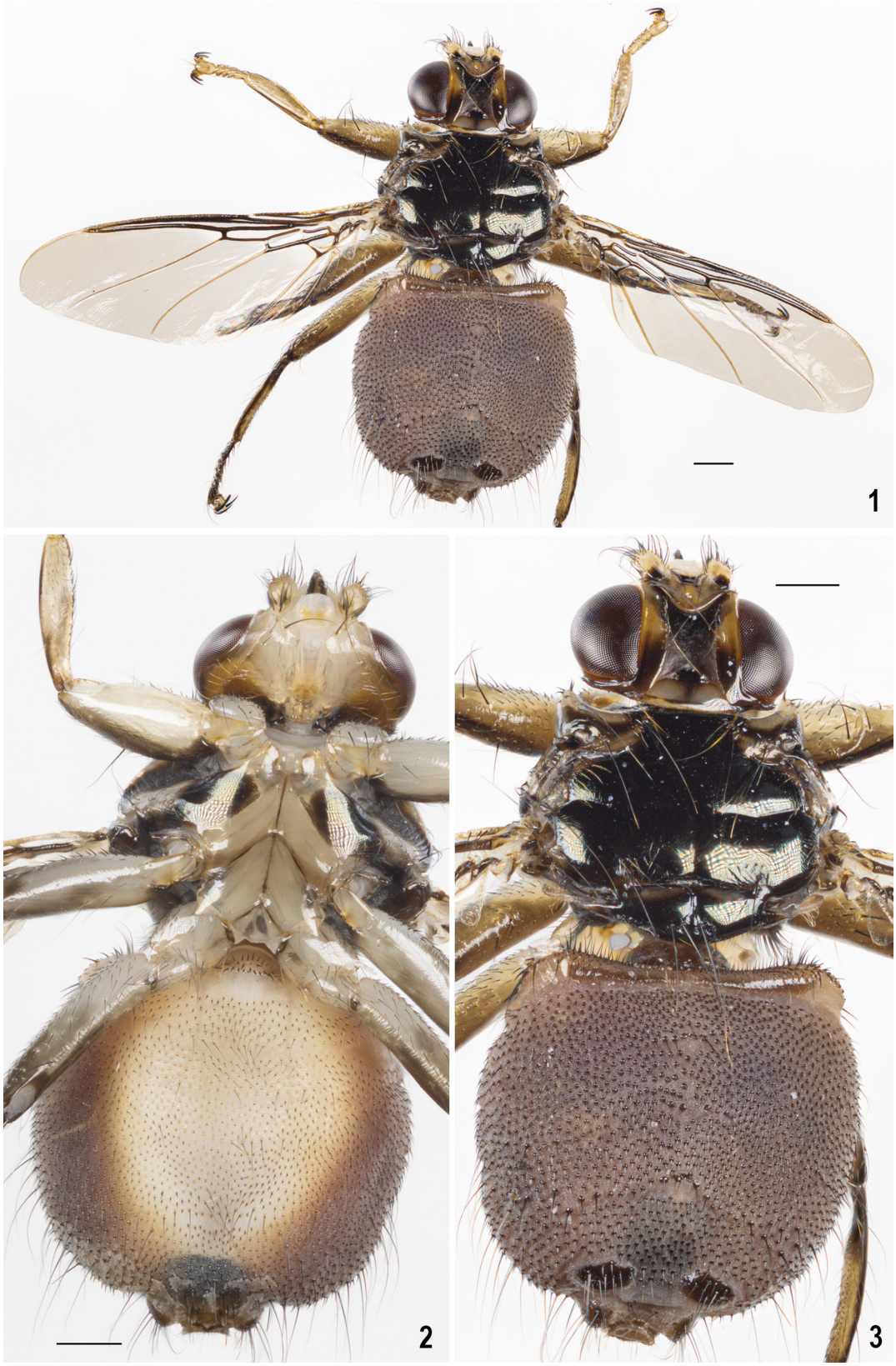
Male unknown.

Etymology. The specific epithet is derived from the name of the Kohrs family who are the landowners at White Elephant Safaris, Pongola Game Reserve (South), KwaZulu-Natal.

Hosts. The new fly species (1 individual) was collected from crested barbet *Trachyphonus vaillantii* Ranzani, 1821 (Lybiidae). The habitat of *T. vaillantii* includes the sub-Saharan region. This species flies only for short distances, roosts in tree holes and feeds on insects, eggs, fruits and sometimes mice.

Differential diagnosis. *O. kohrsi* sp.n. differs from the congeners in the following features: — *O. gestroi* in wing length (5.5–7.2 mm), color of antennae (light), color of mesonotum (dark, with a wide yellow margin, including the entire humeral tubercles, the notopleura and the narrow margin of the postalar processes), color of scutellum (wide yellow stripe at the base and preapical yellow spot), group of short dark setae on the posterior margin of the mesonotum behind the postalar setae (absent), morphology of tergites 3–5 on the female abdomen (small and bean-shaped, but not reduced), number of long setae on the tergite 6 sclerites (12–14); — *O. metallica* in wing microtrichia (present), morphology of tergites 3–5 on the female abdomen (small, but not reduced), numbers of notopleural setae (1 postalar and 1 prescutellar), eye width (almost one third of the head width); — *O. baikalica* in body size (head + thorax) (2.3–2.5 mm), row of 6 long setae in the middle of tergite 1+2 (present), row of longer setae at level of tergite 5 (absent), 4 rows of longer setae on ventral side of abdomen (absent), color of dorsal side of female abdomen (light) and in number of yellow orbital setae (5–6).

Also, poorly known species, *O. capensis,* considered as a synonym of *O. metallica*, differs in wing length (8.47 mm) and body size (head + thorax) (2.22 mm).



Figs 1–3. Details of morphology of *Ornithophila kohrsi* sp.n., holotype, female. 1 — external appearance, dorsal view; 2 — external appearance, ventral view; 3 — head, thorax and abdomen, dorsal view. Scale bars: 0.5 mm.

Рис. 1–3. Детали строения голотипа самки *Ornithophila kohrsi* sp.n. 1 — внешний вид, дорсально; 2 — внешний вид, вентрально; 3 — голова, грудь и брюшко, дорсально. Масштаб: 0,5 мм.

A new dichotomous key for all *Ornithophila* species, based on the key from Yatsuk et al. [2024] is given below.

1. Wing length more than 5 mm ..... *O. gestroi*
— Wing length less than 5 mm 2
2. Tergites 3–5 are reduced to size of points. Wing membrane without microtrichia 3
— Tergites 3–5 are larger. Wing membrane with microtrichia .....*O. metallica*
3. Body size almost 3 mm. Row of 6 long setae in the middle of tergite 1+2 is absent. Row of longer setae at level of tergite 5 and 4 rows of longer setae on ventral side of abdomen are present ..... *O. kohrsi* sp.n.
— Body size less than 3 mm. Row of 6 long setae in the middle of tergite 1+2 is present. Row of longer setae at level of tergite 5 and 4 rows of longer setae on ventral side of abdomen are absent .....*O. baikalica*

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