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A new species of *Medetera* Fischer von Waldheim, 1819 (Diptera: Dolichopodidae) from the North-Western Caucasus

Новый вид *Medetera* Fischer von Waldheim, 1819 (Diptera: Dolichopodidae) с Северо-Западного Кавказа

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Key words: Medeterinae, *Medetera*, new species, Palaearctic Region, Russia, Adygea, Lago-Naki.

Ключевые слова: Medeterinae, *Medetera*, новый вид, Палеарктика, Россия, Адыгея, Лаго-Наки.

Abstract. A new species of long-legged fly *Medetera volfovi* Grichanov, **sp.n.** from the Russian Republic of Adygea is described and illustrated. The new species appears to be closely related to *Medetera glaucella* Kowarz, 1878, a member of the Palaearctic *Medetera muralis* species group, and differs from other species in the longer distal part of the wing vein M4, which is two (vs. 1.5) times as long as the transverse vein dm-m, and in the morphology of the hypopygium. The differently shaped epandrial lobes of the hypopygium in the new species may be a first in Palaearctic *Medetera* species, but are present in a few Nearctic species of the Holarctic *Medetera petulca* group. Species of the latter group differ from species of the *Medetera muralis* group in other characters, most notably in the presence of distinct setae on the middle tibia and the presence of a pair of strong bristles on the scutellum.

Резюме. Новый вид мух-зеленушек из Республики Адыгея, *Medetera volfovi* Grichanov, **sp.n.**, описан и проиллюстрирован. Новый вид, по-видимому, близок к *Medetera glaucella* Kowarz, 1878, из палеарктической группы видов *Medetera muralis*, отличаясь от других видов группы более длинной дистальной частью жилки крыла M_4, которая в два (vs. 1,5) раза длиннее задней поперечной жилки dm-m, и морфологией гипопигия. Эпандриальные лопасти гипопигия имеют различную форму у нового вида, что не было описано у палеарктических видов *Medetera*, но известно у нескольких неарктических видов голарктической группы *Medetera petulca*. Виды этой группы отличаются от видов группы *Medetera muralis* другими признаками, прежде всего, присутствием щетинок на средних голенях и наличием только одной пары крепких щетинок на щитке.

Introduction

The genus *Medetera* Fischer von Waldheim, 1819 is one of the largest dolichopodid genera with approximately 365 species worldwide, including ca. 200 recognized species from the Palaearctic, 62 from the Orient, and 34 species from the Afrotropical region [Grichanov, 2024]. The Palaearctic species of *Medetera* have recently been revised and keyed [Negrobov, Naglis, 2016]. Since then, several new species have been described from southwestern Europe, Slovakia and Palaearctic China [Tang et al., 2016; Maslova et al., 2018; Pollet et al., 2022] and two new species from Iran [Grichanov, Ahmadi, 2017; Grichanov, Gilasian, 2023]. The Caucasus, together with the Eastern Mediterranean region, contains about 60 species [Grichanov, 2007; Negrobov, Naglis, 2016]. The genus is still poorly studied and new species are expected everywhere, while some previously reported European species will probably be excluded from the Caucasus and adjacent countries.

A male of a new *Medetera* species was found by the author in the Russian Republic of Adygea and is considered to be a member of the Holarctic *Medetera petulca* species group sensu Bickel [1985].

Material and methods

The holotype of the new species will be deposited in the Zoological Institute of the Russian Academy of Sciences (ZIN, Saint Petersburg, Russia). The specimen has been studied and photographed with a ZEISS SteREO Discovery.V12 modular stereo microscope and an AxioCam MRc5 camera. The preparation of the male genitalia was photographed with a ZEISS Axiostar stereo microscope and an AxioCam ICc3 camera. The measurement accuracy of these microscopes is 0.01 mm. Morphological terminology and abbreviations follow Cumming, Wood [2017] and Grichanov, Brooks [2017]. The lengths of the antennomeres and podomeres are given in millimetres. Body length is measured from the base of the antenna to the tip of abdominal segment 6. Wing length is measured from the base to the wing apex. Antenna length is measured from the base of the scape to tip of the arista-like stylus. The figures showing the hypopygium in lateral view are oriented as it appears on the intact specimen, with the morphologically ventral surface of the genitalia facing upwards, dorsal surface downwards.

Nomenclatural acts introduced in the present work are registered in ZooBank (www.zoobank.org) under urn:lsid:zoobank.org:pub:1DD3E38B-9D48-4730-8A06-B85F366CE28E.

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Results

Medeterinae Lioy, 1864

Medetera Fischer von Waldheim, 1819

Medetera Fischer von Waldheim, 1819: 7. Type species: *Medetera carnivora* Fischer von Waldheim, 1819 (=*Medetera diadema* (Linnaeus, 1767)), monotypy.

Remarks. See Bickel [1985, 1987] for redescription of the genus, Grichanov [2024] for synonymy, Pollet et al. [2022] for discussion. The last key to the Palaearctic species was published by Negrobov, Naglis [2016]. Grichanov, Gilasian [2023] compiled a key to *Medetera* species from Iran.

Medetera volfovi Grichanov, **sp.n.**

Figs 1–9, 10.

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Material. **Russia,** ***Adygea:*** Holotype, ♂, Lago-Naki Plateau, 44.06° N, 40.02° E, h~2000 m a.s.l., 15.VII.2024, I. Grichanov leg. [ZIN]. The male terminalia dissected and stored in glycerin in microvial pinned with the specimen.

Description. *Male*. Head (Fig. 1). Frons greenish black, with white pruinosity; ocellar, vertical and postvertical bristles black; postocular setae mainly white, upper 5 setae black; face nearly parallel-sided, 1.3 times as wide as height of postpedicel, with white pruinosity; clypeus slightly narrower, than face, 1.25 times as long as wide, 0.7 times as long as face, mostly metallic greenish black, with grey pruinosity along eyes; palpus black, with white hairs and 1 black seta; proboscis black; antenna black (Fig. 2); postpedicel semi-rounded, slightly higher than long; arista-like stylus apical, microscopically haired; length (mm) of scape, pedicel, postpedicel, stylus, 0.05/0.05/0.07/0.59.

Thorax greenish black, with grey pruinosity, with black bristles; 5 pairs of strong dorsocentral bristles decreasing in length anteriorly, with anterior pair rather small; acrostichal setae biserial, small; proepisternum with 1 long black and 2 shorter brownish setae on its lower portion; 1 long notopleural, 1 long supra-alar, 1 long post-alar bristles; scutellum with 2 pairs of strong bristles, with lateral bristles more than half as long as medials.

Legs with coxae black, femora black except distal apices; all tibiae and tarsi dirty yellow, tarsomere 5 black; coxae, legs with black setae and brownish setulae; fore and mid coxae with anterior and apical setae; hind coxa with strong lateral seta; femora with short ventral hairs; hind femur with dorsal setae in basal half, about half as long as femur height; tibiae and tarsomeres devoid of strong bristles; mid tibia without distinct setae at basal 1/4; hind tibia with rows of elongated light setulae, with minute comb of light setulae dorsoapically; tarsomeres with simple setulae; hind tarsomere 1 (Fig. 3) with small basal tooth posteriorly; femur, tibia and tarsomere (from first to fifth) length (mm): fore leg: 0.71/0.69/0.31/0.14/0.1/0.05/0.09, mid leg: 0.81/0.83/0.46/0.23/ 0.17/0.09/0.09, hind leg: 0.84/1.02/0.25/0.41/0.25/0.12/0.09.

Wing (Fig. 4) hyaline, veins yellow-brown; basal section of M_{1+2} as long as distal section; basal section of M_4 2.7 times as long as distal section; ratio of part of costa between R_{2+3} and R_{4+5} to this between R_{4+5} and M_{1+2}, 0.35/0.08; ratio of cross-vein dm-m to distal part of M_4, 0.19/0.41; lower calypter yellow, with white setae; halter yellow with brownish spot at apex.

Abdomen (Fig. 5) greenish black, with week pollinosity, with short black setae; tergum 7 well developed, with short setae; hypopygium (Fig. 6) black, large, elongated, with brown appendages; epandrium ovate, nearly 2 times longer than high; hypandrium (ventral view) long and broad, with large rounded head and preapical process ventrally; phallus (Figs 7, 8) thick basally, thin and curved distally, with 2 short lateral processes between thick and thin parts, with small preapical denticle; small epandrial seta at base of hypandrium; epandrial lobes separated, with 1 long and thick flattened lobe bearing simple seta, as long as lobe (Figs 7, 9), 1 lobe reduced to pedunculate simple seta; surstylus (Fig. 8) long and narrow, distinctly shorter than epandrium, with simple setae; dorsal and ventral arms of surstylus fused almost to apex, curved at apex (Fig. 7); ventral arm of surstylus with thick pinnate seta (Fig. 7); cercus (Fig. 8) shorter than surstylus, covered with hairs and setae, with 2 long and thin and 1 short and wide processes at apex.

Measurements (mm). Body length 2.6, wing 2.6/1, antenna length 0.7.

Female unknown.

Differential diagnosis. *Medetera volfovi* sp.n. belongs to a relatively small *Medetera muralis* group of ten species that lack distinct dorsal setae on the basal third of the middle tibia [Negrobov, Naglis, 2016; Grichanov, Ahmadi, 2017]. It differs from other species in the group in the longer distal part of the wing vein M4, which is two (vs. 1.5) times as long as the transverse vein dm-m. The new species keys to *Medetera glaucella* Kowarz, 1878 and the pair 7 [Negrobov, Naglis, 2016] must be supplemented as follows.

7. Coxae and legs yellow; halter pale yellow 7a
— Coxae black; femora entirely or mostly black; halter with black or dirty yellow knob.....7b

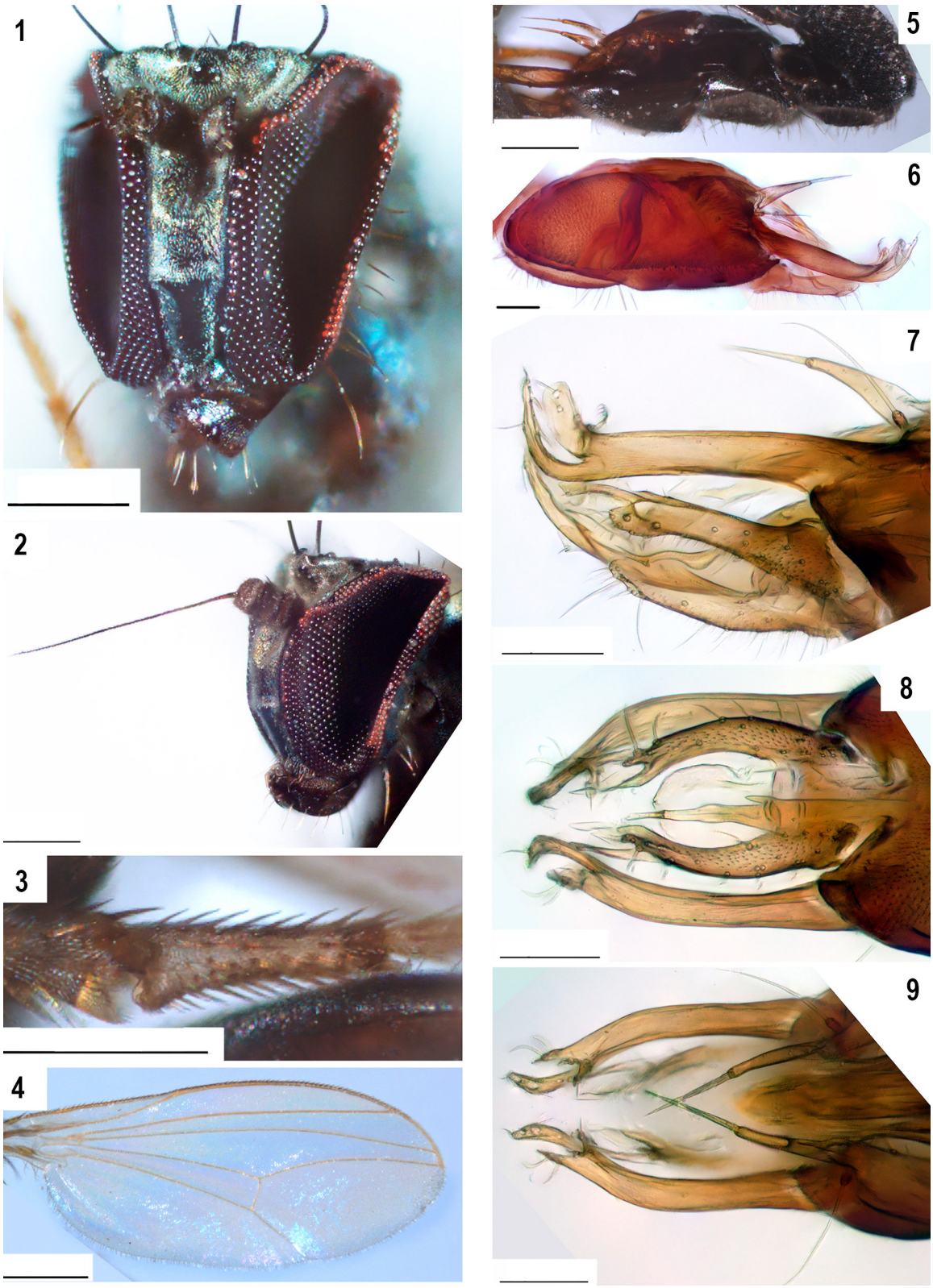
7a. Antenna and thoracic setae brown; the narrowest distance between eyes 1.5 times as wide as distance between ocellar setae; hypandrium (ventral view) parallel-sided to apex; epandrial setae unequal in length; body length 2 mm (Turkey) ..... *M. glaucelloides* Naglis, 2013
— Antenna black with mostly white arista-like stylus; thoracic setae white; the narrowest distance between eyes as long as distance between ocellar setae; hypandrium (ventral view) with strong subapical constriction, forming apical round head; epandrial setae equally long; body length 2.3 mm (Iran) ... *M. anjudanica* Grichanov et Ahmadi, 2017

7b. Legs entirely black; epandrial lobes short, equal in length [Negrobov, Naglis, 2016: Fig. 7]; body length 1.5–2.5 mm (South and Central Europe) ..... *M. glaucella* Kowarz, 1877
— Femora at apex, tibiae and basitarsi yellow; epandrial lobes different, with 1 long and thick flattened lobe and 1 short simple lobe; body length 2.6 mm (Russia, Adygea) ....*M. volfovi* sp.n.

The differently shaped epandrial lobes in the new species are found in only a few Nearctic species of the *Medetera petulca* group sensu Bickel [1985]. The latter author listed 15 Nearctic and 12 Palaearctic species in the *Medetera petulca* group, but *M. volfovi* sp.n. differs from all of them in other characters, first of all in the absence of distinct setae on the middle tibia and the presence of two pairs of strong bristles on the scutellum.

Etymology. The species name is dedicated to the Russian dipterologist and ecologist Dr. Boris Volfov (Krasnodar) for his kindness in organizing field trips in the Caucasus.

Distribution. Lago-Naki Plateau (Fig. 10) in the Caucasus Nature Reserve, Adygea, Russia. The species was collected from stones.



Figs 1–9. Details of *Medetera volfovi* sp.n. holotype male morphology. 1 — head, anterior view; 2 — head, lateral view; 3 — hind basitarsus, lateral view; 4 — wing; 5 — apex of dry abdomen, left lateral view; 6 — hypopygium after maceration, right lateral view; 7 — hypopygial appendages, dorsal-lateral view; 8 — hypopygial appendages, dorsal view; 9 — hypopygial appendages, ventral view. Scale bars: 1–3, 5 — 0.2 mm; 4 — 0.5 mm; 6–9 — 0.1mm.

Рис. 1–9. Детали строения голотипа самца *Medetera volfovi* sp.n. 1 — голова спереди; 2 — голова сбоку; 3 — 1-й членик задней лапки сбоку; 4 — крыло; 5 — вершина брюшка в сухом виде слева; 6 — гипопигий после размачивания справа; 7 — придатки гипопигия сверху-сбоку; 8 — придатки гипопигия сверху; 9 — придатки гипопигия снизу. Масштаб: 1–3, 5 — 0,2 мм; 4 — 0,5 мм; 6–9 — 0,1 мм.

Fig. 10. Habitat of *Medetera volfovi* sp.n.: Lago-Naki Plateau, the Caucasus Nature Reserve, Adygea, Russia.
Рис. 10. Местообитание *Medetera volfovi* sp.n.: Плато Лаго-Наки, Кавказский заповедник, Адыгея, Россия.

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