

**Palaearctic species of the *Medetera senicula* species group
with description of a new species from Tunisia
(Diptera: Dolichopodidae)**

**Палеарктические виды группы *Medetera senicula* с описанием
нового вида из Туниса (Diptera: Dolichopodidae)**

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КЛЮЧЕВЫЕ СЛОВА: Diptera, Dolichopodidae, Medeterinae, *Medetera*, Палеарктика, Тунис, новый вид.

ABSTRACT. The *Medetera senicula* species group in the Palaearctic Region is reviewed. It comprises five species including a new species *Medetera sfax* Grichanov **sp.n.** from Tunisia. The species is peculiar in its hind leg armature. A check list and revised key to species of this species group are provided.

РЕЗЮМЕ. Дан обзор группы палеарктических видов *Medetera senicula*. Она включает пять видов, в том числе *Medetera sfax* Grichanov **sp.n.** из Туниса. Новый вид отличается от близких видов, в первую очередь, морфологией задних лапок. Приведён список и определитель видов группы.

Introduction

The *Medetera senicula* species group is the most probable sister group to the *plumbella*, *micacea* and *annulitarsa* species groups formerly assigned under the genus *Oligochaetus* Mik, 1878 [e.g., Stackelberg, 1937]. Grichanov & Vikhrev [2009] recently provided a key to those groups in the Palaearctic Region. Only one species of the *senicula*-group s.s. (*M. senicula*) inhabits central and northern Europe, ranging from southern France to the Scandinavian countries. Three species of this group are known from Central Asian countries. Here we describe an additional Palaearctic species from North Africa.

Material and methods

Specimens examined in this study are deposited in the Zoological Museum, Lund University, Sweden (ZMLU).

Morphological terminology follows Robinson and Vockeroth [1981], Stuckenberg [1999] and Sinclair [2000]. Body length is measured from the base of the

antenna to the tip of abdominal segment 7. Wing length is measured from the base to the wing apex. The relative length of the tarsomeres should be regarded as representative ratios and not absolute measurements. Male genitalia were macerated in 10% KOH. Figure showing the male genitalia in lateral view are oriented as they appear on the intact specimen (rotated 180° and lateroflexed to the right), with the morphologically ventral surface of the genitalia facing up, dorsal surface down, anterior end facing right and posterior end facing left. Distributional data follow Yang et al. [2006] and Grichanov [2006].

Systematics

Medetera senicula species group

DIAGNOSIS. Small species, about 2.0–2.5 mm; face and clypeus entirely dusted, monochrome, light-coloured; postoculars uniseriate; lateral scutellars reduced, hair-like, less than 1/3 length of median setae, or totally lost; 3 strong dorsocentrals; acrostichals small or microscopic; apical section of CuA₁ at most 1.5 times longer than m-cu; legs with coxae and femora mainly brown or black, rarely mid femur entirely yellow; 2 small dorsal bristles at basal 1/3 of mid tibia; mid tarsus with long apicals on all segments. Members of closely related Palaearctic *plumbella* species group differ in having entirely yellow femora [Grichanov & Vikhrev, 2009], and most of their males have cercus without a strong spiniform apical seta.

Keeping in mind that male genitalia of some species of the former *Oligochaetus* were inadequately figured by last revisers [Negrobov & Stackelberg, 1971–1977], and types or new material were not found for nine species with their genitalia remaining unstudied, I think the definition of species groups by genitalic characters rather than by colouration of femora is premature. Regarding *senicula* group, *M. mongolica* and *M. sfax* **sp.n.** are apparently sister species to *M. senicula* by genitalia morphology (as figured by Negrobov). Hypopygium of *M. turkestanica* holotype was not figured,

but was described as shining black or black-brown, with long and broad surstylus, apparently belonging to *senicula* group (as well as Central Asian *M. deserticola* (Stackelberg, 1926) and *M. pallidior* (Stackelberg, 1937) from the *plumbella* species group s.s.). *M. turkmenorum* has somewhat different hypopygium that has no analogs in the *plumbella* group s.l. (and represents probably a different subgroup). A future revision of this group should certainly take into consideration genitalic characters.

List of known Palearctic species
of *Medetera senicula* group

mongolica Negrobov, 1966: 881 (in subg. *Oligochaetus*).

Type locality: Mongolia: W Ikhe-Bogdo, Gobi Altai.

Distribution: Mongolia.

senicula Kowarz, 1877: 46 (*Medeterus*).

Type locality: Poland: "Südwestliche Polen".

Distribution: Belgium, Denmark, Estonia, Finland, France, Germany, Poland, Sweden, UK, Russia: Karelia, Leningrad Region.

sfax Grichanov **sp.n.**

Type locality: Tunisia, N of Sfax, 2 km E Djebeniana.

Distribution: Tunisia.

turkestanica (Stackelberg), 1926: 294 (*Oligochaetus*)

[Negrobov 1966: 887 (in subg. *Oligochaetus*)].

Type locality: Uzbekistan: "prope pagum Dzhityk, chanatum Kokand".

Distribution: Uzbekistan.

turkmenorum (Stackelberg), 1937: 124 (*Oligochaetus*)

[Negrobov 1966: 887 (in subg. *Oligochaetus*)].

Type locality: Turkmenistan: Kara-kala.

Distribution: Turkmenistan, Tajikistan, Mongolia.

KEY TO PALEARCTIC SPECIES OF THE *MEDETERA SENICULA*
SPECIES GROUP

- 1 Antennal scape and pedicel orange-yellow; femora and tarsi partly and tibiae entirely yellow 2
- Antenna entirely black; legs entirely dark-brown or black, at most knees light and tibiae yellowish-brown 3
- 2 Antennal postpedicel 1.5 times longer than high; cross-vein *m-cu* somewhat shorter than distal part of CuA_1 ; scutellum with small lateral setae in addition to a pair of strong median setae; male hind tibia with strong black curved spine dorsally at apex; hind basitarsus simple; body length: 1.7–2.3 mm
..... *M. turkmenorum* (Stackelberg)
- Postpedicel about as long as high; cross-vein *m-cu* somewhat longer than distal part of CuA_1 ; scutellum with only a pair of strong median setae; male hind tibia without dorsal spine at apex; hind basitarsus with flat posterior basal rounded protuberance; body length: 2.5–2.6 mm
..... *M. sfax* Grichanov **sp.n.**
- 3 Scutellum with small lateral setae in addition to a pair of strong median setae; cross-vein *m-cu* about as long as distal part of CuA_1 ; the latter slightly thickened; body length: 2.0 mm *M. turkestanica* (Stackelberg)
- Scutellum with only a pair of strong median setae; cross-vein *m-cu* distinctly shorter or longer than distal part of CuA_1 4
- 4 Cross-vein *m-cu* distinctly longer than distal part of CuA_1 ; distal part of M_{1+2} longer than basal part of the same vein; body length: 2.1 mm *M. mongolica* Negrobov
- Cross-vein *m-cu* distinctly shorter than distal part of CuA_1 ; distal part of M_{1+2} shorter than basal part of the same vein; body length: 1.6–2.1 mm
..... *M. senicula* Kowarz

Medetera sfax Grichanov **sp.n.**

Figs 1–10

TYPE MATERIAL. Holotype, ♂, Tunisia, N of Sfax, 2 km E Djebeniana, 11 April 1994, loc. 24, leg. R. Danielsson (ZMLU). Paratype, 1 ♀ with same data as holotype (ZMLU).

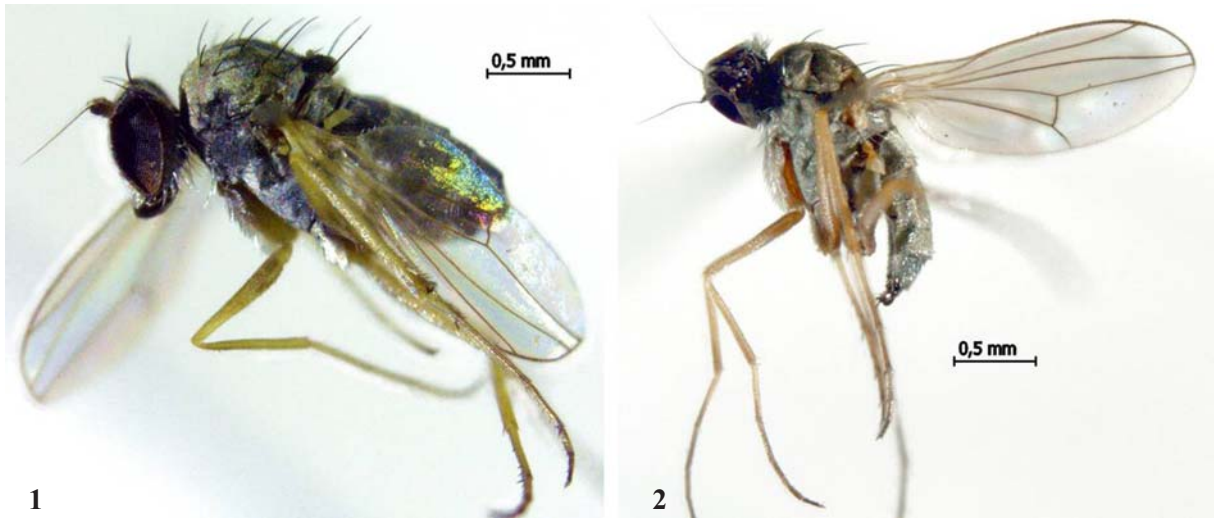
DIAGNOSIS. *Medetera sfax* **sp.n.** is related to Central Asian *M. turkmenorum* which differs from the former by smaller size, longer antennal postpedicel, 1.5 times longer than high; *M. turkmenorum* also differs in cross-vein *m-cu* somewhat shorter than distal part of CuA_1 , scutellum bearing small lateral setae in addition to a pair of strong median setae, male hind tibia having strong black curved spine dorsally at apex, and hind basitarsus simple. In contrast, *M. sfax* **sp.n.** male has no spine on tibial apex, but bearing rounded protuberance on hind basitarsus. By genitalia morphology, the new species is somewhat similar to *M. deserticola* and *M. pallidior* from the *plumbella* species group s.s., which differ from *M. sfax* **sp.n.** by entirely yellow femora and practically simple hind tarsus.

DESCRIPTION. **Male** (Fig. 1): Length (mm): body 2.5, wing 2.4/0.8, antenna 0.8, hypopygium 0.9.

Head (Fig. 3): Frons, face, clypeus, palpus and postcranium black, evenly and densely dusted greyish-white; frontoclypeal suture between face and clypeus not distinct. Lateral and lower postocular setae white, long, about 6 uppermost postoculars very short. Ventral postcranium shining greenish, with 2 rows of long white thickened setae. Frons with pair of strong vertical setae and pair of ocellar setae slightly stronger than verticals. Postverticals absent. Face relatively wide; ratio of height of face to its maximal width to height of clypeus to height of palpus, 60/35/17/15. Antennal segments short; scape and pedicel orange-brownish; pedicel brown at apex, with ring of short setulae; postpedicel black, rounded, with short white hairs. Stylus subapical, bare, about 2 times as long as ocellar seta. Palpus with white setulae; proboscis short, black, shining, with white hairs.

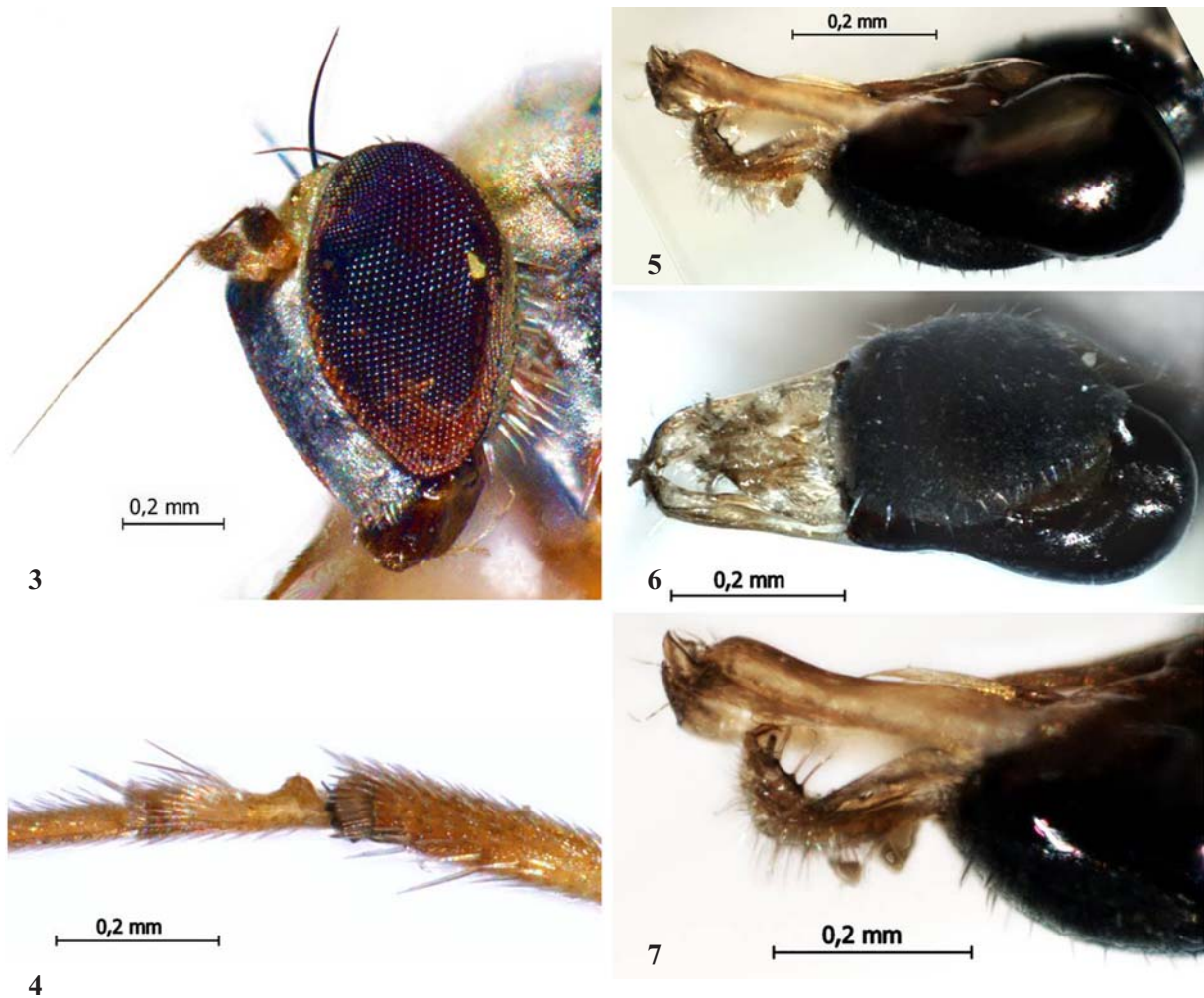
Thorax: Dark, densely grey dusted. Three pairs of strong black dorsocentral setae, slightly decreasing in size anteriorly; left row with additional fine seta between 1st and 2nd dorsocentrals. Notopleural setae 2, sutural 1, supraalar 1, all black; 1 white humeral seta. Acrostichals very short, biseriate, white, extending to mesonotal flattening. Several white setulae in front of first dorsocentral and sutural setae. Propleuron with 4 white thickened setae, increasing in size downward. Scutellum with pair of strong black marginal setae, lateral setae absent.

Legs: Yellow, except fore and hind femora in basal half dark brownish, hind tibia darkened at apex, segment 5 of fore tarsus, tarsomeres 4 and 5 and apices of 1, 2 and 3 of mid and hind legs brownish; fore coxa yellow-brownish, mid and hind coxae mostly dark, grey dusted, yellow at apex. Fore coxa with dense brush of long white flattened setae on anterior surface. Fore femur and tibia without setae. Fore tarsomeres 1–4 each with pair of small brown apical postero- and anteroventral setulae; tarsomeres 2–5 each with pair of very small black ventral setulae. Mid coxa with dense brush of long thickened white setae on anterior surface; mid trochanter with single white seta on anterior position; mid femur without setae. Mid tibia with pair of antero- and posterodorsals at 1/4 and long apicoventral seta, all white. Mid tarsus with four black apical setae on each segment; basitarsus in apical half with 4–5 short brown ventral setulae, tarsomere 2 with 3 such setulae, 3rd with 2–3, 4th and 5th with 2 ones each; all these setulae gradually decreasing in size apically. Hind coxa with single white seta on outer surface; hind femur with row of white dorsal setulae in basal half; hind tibia distinctly thick-



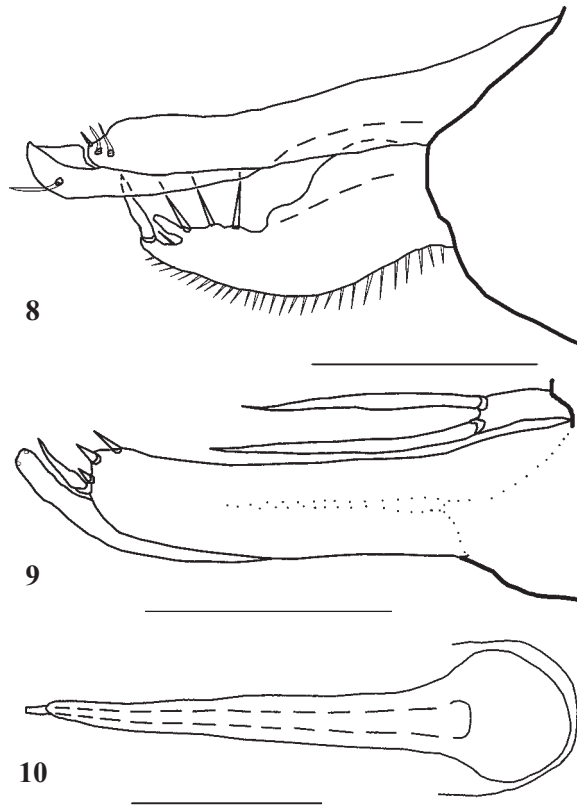
Figs 1–2. *Medetera sfax* sp.n., habitus: 1 — male, holotype; 2 — female, paratype.

Рис. 1–2. *Medetera sfax* sp.n., внешний вид: 1 — самец, голотип; 2 — самка, паратип.



Figs 3–7. *Medetera sfax* sp.n., male: 3 — head; 4 — hind basitarsus; 5–7 — hypopygium; 5 — right lateral view; 6 — dorsal view; 7 — apex, right lateral view.

Рис. 3–7. *Medetera sfax* sp.n., самец: 3 — голова; 4 — 1-й членик задней лапки; 5–7 — гипопигий; 5 — справа; 6 — сверху; 7 — вершина, справа.



Figs 8–10. *Medetera sfax* sp.n.: 8 — cercus and surstylus; 9 — surstylus and epandrial lobe; 10 — hypandrium and aedeagus; 8 — left lateral aspect; 9–10 — ventral aspect. Scale bars: 0.2 mm.

Рис. 8–10. *Medetera sfax* sp.n.: 8 — церка и сурстиль; 9 — сурстиль и лопасть эпандрия; 10 — гипандрий и эдеагус; 8 — слева; 9–10 — снизу. Масштаб — 0,2 мм.

ened on apical third, with group of dorsal subapical white setae adjacent to subapical excavation; with short black posterodorsal apical comb of about 9 setulae covered with a scale of white setulae; hind basitarsus (Fig. 4) short, slightly thickened in distal half, with 2 apicals: black anteroventral and white ventral, with yellow flat posterior basal rounded protuberance that about as long as segment is deep; hind basitarsus with somewhat denser posterior hairs on distal half, with 2 light longish posterior cilia present on only right leg; tarsomeres 2–5 each with 1–3 black anteroventral and 2–3 black apical setulae, these setulae gradually decreasing in size apically. Fore leg length ratio (from femur to tarsomere 5): 125/117/70/45/30/20/20, mid leg: 150/160/95/42/32/23/25, hind leg: 160/180/40/85/53/26/24.

Wings: Hyaline, veins yellow in anterobasal quarter of wing, brown in other parts (Fig. 1). Costa without long hairs. R_1 short, extending to basal third of wing, R_{4+5} and M_{1+2} distinctly convergent at apex. Ratio of part of costa between R_{2+3} and R_{4+5} to this between R_{4+5} and M_{1+2} , 55/16. Ratio of apical to basal part of M_{1+2} , 1/1. Ratio of cross-vein *m-cu* to maximal distance between R_{4+5} and M_{1+2} to distal part of CuA_1 , 30/36/25. Calypter yellow, with white cilia. Halter yellow.

Abdomen: Covered with short white setulae, olive-grey dusted, with tergites bronze dorsally; posterior margin of tergite 1 with 5–6 white flattened setae on each side. Tergite 6 as long as tergite 5; segment 7 longer than preceding, with

short hairs; segment 8 large, left basolateral, short-haired, covering 2/3 of epandrium (either lateral or dorsal view). Foramen left basodorsal. Epandrium (Figs 5–6) shining black, elongate-triangular; hypandrium (Fig. 10) basoventral, slightly swollen at base, then thinned, pointed at apex; phallus simple, pointed; epandrial lobe small, hardly divided, bearing pair of long flattened setae of different length; surstylus and cercus (Figs 7–9) dark-brown; cercus covered with short white hairs, bearing long flattened pointed apical seta, a process and 3 long simple ventral setae on distal half.

Female (Fig. 2): Length (mm): body 2.6, wing 2.5; similar to male except lacking male secondary sexual characters. Mesonotum with three pairs of strong dorsocentral setae. Legs somewhat darker: fore coxa mainly brownish, black at base; fore and hind femora distinctly brownish on basal 2/3, and mid femur on basal 1/3 to 1/2; all tarsi brown from distal half of basitarsus. Dense brush of thickened white setae on anterior surface of fore and hind coxae, but setae about two times shorter than those of male; tarsi unmodified; hind tibia without apical spur; hind basitarsus simple, without basal tooth. Each hemitergite bearing 1 black acanthophorite and 1 simple light seta; acanthophorites thin, much longer than cercus; cercus small, with a few long setae.

DISTRIBUTION. Tunisia.

ETYMOLOGY. The species is named for the type locality in Tunisia.

HABITAT. The collecting site of the two type specimens was a dry field near the road with flowering *Anthemis* sp. (possibly the introduced *Anthemis tinctoria*) and other herbs, all populated with numerous terrestrial molluscs [Roy Daniellson, pers. comm.]. *Medetera turkmenorum* was originally collected from “natural and artificial caves near populated places used by people for food storage” [Stackelberg, 1937].

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