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Autor(en): **Haenni, Jean-Paul / Bosák, Jaroslav**

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## An unusual new species of *Dilophus* (Diptera, Bibionidae) from Afghanistan

JEAN-PAUL HAENNI<sup>1</sup> & JAROSLAV BOSÁK<sup>2</sup>

<sup>1</sup> Muséum d'histoire naturelle, Rue des Terreaux 14, CH-2000 Neuchâtel, Switzerland;  
jean-paul.haenni@unine.ch

<sup>2</sup> Ecological Consulting, Na Střelnici 48, CZ-779 00 Olomouc, Czech Republic;  
jaroslav.bosak@ecological.cz

*Dilophus martinovskyi* sp. nov. (Diptera, Bibionidae) from Afghanistan is described and figured in both sexes. The peculiar morphological features of this new species and its affinities are discussed.

Key-words: Diptera, Bibionidae, *Dilophus*, new species, Afghanistan

### INTRODUCTION

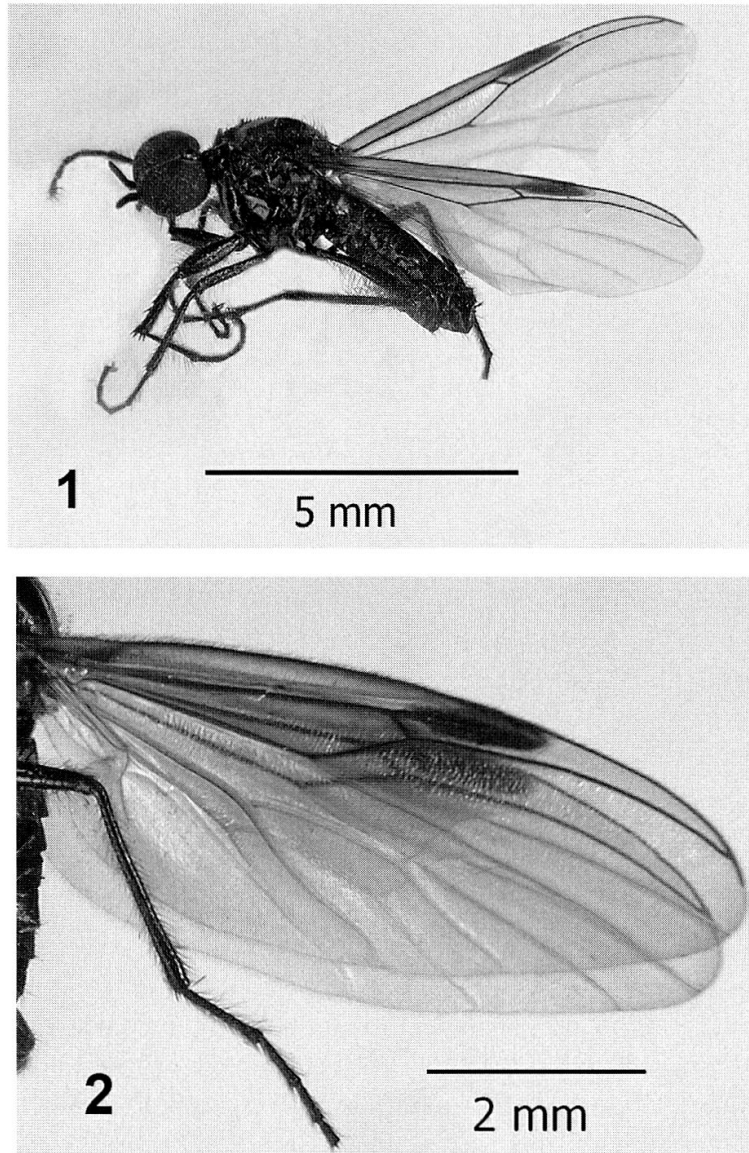
The genus *Dilophus* is represented in the Palaearctic by about 35 known species but several others remain to be discovered from virtually unexplored areas in the southern and eastern part of the region. Bibionidae from Central Asia and neighbouring areas are particularly poorly known in this respect with only scattered contributions by Edwards (1928, 1935), Duda (1930, 1933), Hardy (1965, 1967a, 1967b, 1973), Yang & Luo (1989a, 1989b) and Li & Yang (2005).

The following *Dilophus* species have been recorded from the region in a broader sense: *Dilophus obscuripennis* Duda, 1930 (Ferghana valley, Kirghizstan) (Duda 1930), *D. hummeli* Duda, 1933 (Gansu, China) (Duda 1933, Edwards 1935), *D. femoratus* Meigen, 1803 (Mongolia) (Hardy 1967b, 1973), *D. hirsutus* Hardy, 1965 (Nepal Himalaya) (Hardy 1965, 1967a), *D. macrosiphonius* Yang & Luo, 1989 (Inner Mongolia, China), *D. membranaceus* Yang & Luo, 1989 (Gansu, China) (Yang & Luo 1989a), *D. nigrivenatus* Yang & Luo, 1989 (Shaanxi, China) (Yang & Luo 1989b), *D. dangchanganus* Li & Yang, 2005 (Gansu, China) and *D. zhugquensis* Li & Yang, 2005 (Gansu, China) (Li & Yang 2005).

No bibionid species has been recorded so far from Afghanistan to our knowledge.

### MATERIAL AND METHODS

Among the Bibionidae collection of the late Dr Jaroslav Martinovský (which is now integrated in the collection of the junior author), one pair of a very peculiar species of *Dilophus* from Afghanistan had been recognized as a new species by Martinovský himself but he unfortunately died before having time to publish it. This new taxon is described below. The type material of the new species is deposited in the collections of the Muséum d'histoire naturelle de Neuchâtel (MHNN). Terminology of morphological terms follows Skartveit (1997).

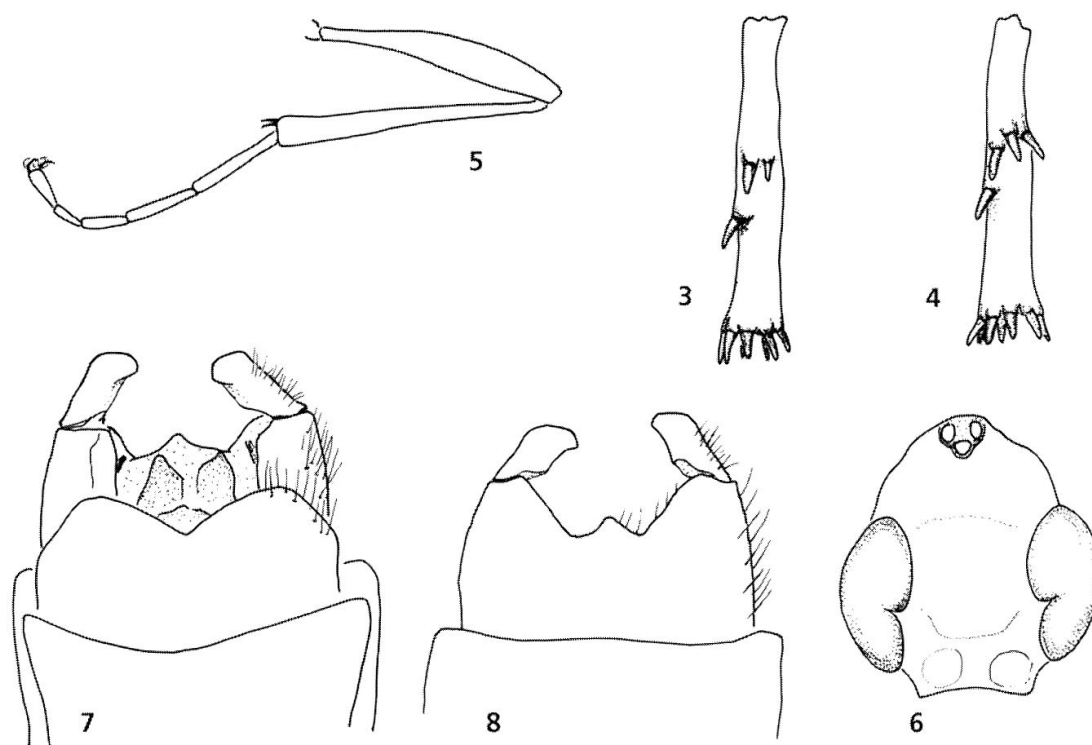


Figs. 1–2: *Dilophus martinovskyi* sp. nov. — 1. Male holotype. — 2. Female wing (photographs G. Haldimann).

#### SYSTEMATICS

##### *Dilophus martinovskyi* sp. nov. (Figs 1– 8)

*Type material.* Male holotype labelled: "O-AFGHANISTAN / Prov. Nangarhar / mittleres Dar-i-Nur / 1000 m, 19.3.71 / leg. C. Naumann / coll.-Nr ZMK102", "sp. n." [in Martinovský's handwriting, on red card], "*Dilophus martinovskyi* sp. nov. Haenni & Bosák 2007, male holotype" [red label]; holotype glued on card, in good condition, with cleared tip of abdomen in glycerine in microvial attached to the same pin as specimen; female paratype: same data as holotype, in good condition, with detached left anterior leg glued on same card as specimen. Holotype and paratype in MHNN (catalogue number BIBION361).



Figs. 3–8: *Dilophus martinovskyi* sp. nov. — 3. Male left anterior tibia (pilosity omitted). — 4. Female left anterior tibia (pilosity omitted). — 5. Male left posterior leg (anterior view, pilosity omitted). — 6. Female head (diagrammatic dorsal view, dotted line indicates limits of depressed zone). — 7. Male hypopygium (dorsal view). — 8. Male hypopygium (ventral view).

*Diagnosis.* By far the largest *Dilophus* species in the Palaearctic region, where only *D. nigrivenatus* Yang & Luo from North-Central China and *D. dangchanganus* Li & Yang from North-West China have a comparable (though smaller) size. Among Palaearctic species of the *febrilis* group (species having only 2 sets of spines on anterior tibiae), *D. martinovskyi* may be readily distinguished by the following combination of characters: the large size, the contrasting posterior veins in the male (Fig. 1), the median row of spines on anterior tibiae consist of 3 spines only, the anterior one widely separated from the others (Fig. 3); genital characters as in Figs 7–8; in the female by the anteriorly brownish tinged wing with hyaline apex and contrasting hind veins (Fig. 2); the depressed head between the antennae, with fuscous spots between base of antenna and margin of eye and the deep v-shaped incision on the anterior inner margin of eye (Fig. 6) which is unique among Palaearctic species.

*Description.* Male. Body about 8 mm long. Shining black in general colour, with rather long blackish pilosity. Head black, rostrum hardly extending beyond base of antennae, antennae short, with 10-segmented flagellum, the flagellomeres close set; palpi about as long as antennae, 4-segmented, the last tarsomere distinctly longer than tarsomere 3. Thorax shining, polished black on notum, with a fuscous streak on posterior margin of postpronotal lobes, pleurae more brownish with small infuscated areas ventrally to the wing base; posterior margin of pronotum bearing a row of 10 spines, anterior margin of mesonotum with a row of 12 smaller spines.

Wing 7.0 mm long, hyaline, with well-marked brown pterostigma, brownish costal and subcostal cells, brown anterior veins and slightly brownish posterior veins contrasting with the membrane (Fig. 1). Halteres black. Legs black with long black pilosity. Anterior tibiae elongate (Fig. 3), bearing 2 sets of well developed spines, a transverse submedian set of 3 spines in an oblique row, the anterior one placed much more apically than the 2 others, and an apical set of 8 spines. Hind femora weakly arcuate, club-shaped; hind tibiae and tarsi not modified (Fig. 5). Abdomen dull black. Hypopygium. Sternite 9 with a shallow, W-shaped posterior emargination (Fig. 8); tergite 9 shallowly emarginated posteriorly (Fig. 7), gonostyles shortened, truncate rounded apically (Figs 7–8).

Female. Body 7.0 mm long, black in general colour, with blackish pilosity; a fuscous streak on posterior margin of postpronotal lobes, pleurae lighter brown. Head shining black, deeply concave between eyes, a pair of fuscous spots between base of antenna and eye (Fig. 6), antennae elongate, pedicel fuscous, flagellum 11-segmented, the flagellomeres easy to count; part of head anterior of the eyes about one third of height of eyes; palpi somewhat shorter than antennae with tarsomere 4 longer than 3; a deep v-shaped emargination on the inner anterior margin of eyes (Fig. 6). Thorax. Notum shining black, pleurae lighter brown. Prothoracic comb of 12 black spines, notal comb irregular, of 12–14 smaller spines. Wings 7.5 mm long (Fig. 2) with membrane tinged with brownish in costal, subcostal, radial and  $r_{4+5}$  cells, hyaline to very slightly tinged in apical and posterior parts of wing; pterostigma well marked, brown, strongly contrasting, anterior veins brown, posterior veins brownish. Halteres black. Legs black. Anterior tibiae with 2 rows of strong spines (Fig. 4), a submedian transverse set of 4 spines in an oblique row, the anterior one well separated from the others and an apical set of 8 spines. Abdomen entirely dull black.

*Etymology.* This new species is named in memory of our friend and colleague, the late Czech dipterist Dr. Jaroslav Martinovský who first recognized this taxon as new.

*Ecology.* Nothing is known of the ecology of this species which was captured at about 1000 m height. The Dar-i-Nur [Dara-i-Nur] valley lies 50 km NE of Jalalabad and is at least partially wooded.

*Distribution.* Known only from the type-locality, the Dara-i-Nur valley, in the foot-hills of Hindu-Kuch range in Afghanistan.

## DISCUSSION

*D. martinovskyi* sp. nov. is unusual in some respects. Its large size, 7–8 mm body length, is only comparable to that of the Nearctic *D. serotina* Loew and of some species from the Southern hemisphere. The size of other Palaearctic species does not exceed 5.5 mm except for *D. nigrivenatus* Yang & Luo and *D. dangchanganus* Li & Yang which reach about 6.5 mm, while many other species are about 3–4 mm only. The indentation of the female eyes is unusually deep, a feature apparently unique to the new species, as this cleft is only more or less indicated in other Palaearctic species of the genus. The apparently rather isolated position of the new species may be due to the poor knowledge of the regional fauna. In fact, the male genitalia of *D. martinovskyi* sp. nov. do not differ markedly from those of Palaearctic species of the *febrilis* group as defined by Haenni (1982). A probable relation-

ship with *D. febrilis* (L.) itself may also be indicated by the wing coloration in both sexes and the spines arrangement of the front tibiae. On the other hand the new species does not present similarities with any of the known Oriental species.

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