A NEW SPECIES OF THE GENUS *EUMERUS* MEIGEN, 1822 (DIPTERA: SYRPHIDAE) FROM TURKMENISTAN

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**Summary.** *Eumerus badkhyziensis* Mutin, sp. n. is described from Turkmenistan. The new species differs from its known congeners with red abdomen by unusual set of characteristics, including foremost the dichoptic bare eyes, wing without dark mark, lack of pollinose vittae on mesonotum and entirely pale pilose body.

**Key words:** Syrphidae, taxonomy, new species, description, Central Asia.

**INTRODUCTION**

The genus *Eumerus* Meigen, 1822 unites nearly 300 species, which live mainly in arid and semi-arid regions of Eurasia and Africa (Stackelberg, 1961; Peck, 1988; Speight, 2016; Smit et al., 2017; Pape & Evenhuis, 2019). The larvae of these hoverflies breed usually in bulbs and other succulent organs of the angiosperms, and some are known as pests of cultivated plants (Pérez-Bañón & Mariscal-García, 1998; Ricarte et al., 2017; Piwowarczyk & Mielczarek, 2018). The species diversity of the genus is the main reason of increased attention from taxonomists (Grković et al., 2015, 2017; van Steenis et al., 2017; Chroni et al., 2018; Grković et al., 2019a, b). There are some distinct species-groups within the genus, but other members of the genus are distinguished by a unique combination of characters as the species described below.

A single specimen of the new species was caught by A.S. Lelej in the depression of Ero-yulanduz Salt Lake, located in Bathyz Plateau within the nature reserve of the same name.

**MATERIAL AND METHODS**

The holotype of the new species is deposited in the Federal Scientific Center of East Asia Terrestrial Biodiversity, Vladivostok, Russia [FCBV] (formerly the Institute of Biology and Soil Science). The morphological terminology follows Thompson (1999).

Photographs were taken with an Olympus SZX16 stereomicroscope and an Olympus DP74 digital camera and stacked using Helicon Focus software. The final illustrations were post-processed for contrast and brightness using Adobe® Photoshop® software.
DESCRIPTION OF NEW SPECIES

Eumerus badkhyziensis Mutin, sp. n.
http://zoobank.org/NomenclaturalActs/E251F7B6-2EB2-4879-A6EE-0BB055A3CABD
Figs 1–5

TYPE MATERIAL. Holotype – ♂, Turkmenistan: Bathyz State Nature Reserve, Eroyuluanduz, 16.V 1990, leg. A. Lelej [FCBV].

DESCRIPTION. MALE. Body length (excluding antenna): 5.0 mm; wing length: 3.5 mm.

Head. Eyes bare, distinctly dichoptic. The shortest distance between eyes more than width of basoflagellomere. Ratio minimal width of frons: width of head 1:2: 7; ratio width of ocellar triangle: width of head 1:5: 7. Face dull black, with white pilie. Frons and vertex shining black with a bluish tinge, covered white erect pilie, which is shorter than width of flagellomere. Ocellar triangle isosceles-obtuse. Distance from anterior ocellus to level of posterior ocellus equal to distance from posterior ocellus to level of upper eye corners. Antenna mainly orange, weakly darkened dorsally, with scattered silvery pollinosity; basoflagellomere rather oval (ratio length: width 1:1: 1), with the distal part weakly pointed ventrally; arista orange and thickened basally, with brownish apical part (Fig. 5).

Thorax mainly shining black with a bluish tinge, except posterior and ventral plates of the mesothoracic pleuron brown, with white short pilie. Mesonotum without pollinose vittae. Katepisternum with sparse short pilie on upper half and some pilie near ventral margin. Scutellum sub-rectangular, with rather broad rim.

Legs pale pilose. Coxae and trochanter brownish. Pro- and mesofemur mainly brown, except apical 1/3 yellow. Metatibia moderately thickened, mainly brown except apical 1/4 orange, with row of 5–6 spines on anterior ridge and row of 3 spines on posterior ridge. Tibiae orange; metatibia rather flattened base-ventrally, with subapical darkish annulus-like mark. Tarsi entirely yellow; setae on mesotarsus brownish.

Abdomen whole reddish, with short appressed pale pilie; 1st tergum darkened with a bluish tinge; 2nd, 3rd and 4th terga with pairs of white pollinosum transverse maculae.

Genitalia (Figs 3, 4). The apex of posterior lobe of surstylus conically pointed. Hypandrium strongly thickened in basal part, then smoothly tapering apically.

FEMALE. Unknown.

DIAGNOSIS. New species differs from other species of the genus with red abdomen by the following combination of external characters: bare dichoptic eyes, orange antennae, wing without dark spot, pale pilosity of whole body and legs mainly orange. Known Palaearctic species with distinctly dichoptic eyes and mainly red abdomen (Eumerus alajensis Peck, 1966, E. arkitensis Peck, 1969, E. binominatus Hervé-Bazin, 1923, E. falsus Becker, 1922, E. kirgisorum Peck, 1971, E. nigrifacies Becker, 1921, E. pamirorum Stackelberg, 1949, E. selevini Stackelberg, 1949, E. tadzhikorum Stackelberg, 1949) have more or less visible pilosity on eyes. Species with red or partly red abdomen, known only for females, have also pilose eyes (E. grisescens Becker, 1921, E. pavlovskii Stackelberg, 1964, E. palaestinensis Stackelberg, 1949, Eumerus rubescens Villeneuve, 1912), which allows us to distinguish them from a new species. Genitalia of new species is similar to one of E. sinuatus Loew, 1855 by posterior lobe of surstylus conically pointed and the form of the hypandrium in outline, but mostly external characters of these species are very different.

The new species is very likely related to E. falsus Becker 1922. In the key to Palaearctic Eumerus species (Stackelberg 1961), the new species keys out to falsus. Both species share the following characters: dark wingspot absent, orange antennae, isosceles-obtuse ocellar triangle, mesonotum without vittae of white pollinosity, moderately thickened metatibia. The
male genitalia of E. falsus are not published, but from the description and photographs of specimens the two species can separated by the following characters (falsus characters in parenthesis): eyes bare (eyes covered with hairs), body size 5 mm (10-12 mm), ration vertex width at posterior ocelli: head-width 1: 3.5 (1: 4.5). Eumerus falsus is the replacement name for Eumerus rubriventris Becker, 1921 (= homonym of rubriventris Macquart, 1829) and Eumerus latifrons Sack 1932 and Eumerus zurudnyi Stackelberg 1949 are synonyms of it. The known distribution of E. falsus spans from Israel, Syria, Turkey, Iran to Turkmenistan and Tadjikistan (Stackelberg 1961), which would make the two species likely sympatric.

DISTRIBUTION. Turkmenistan (Bathyz State Nature Reserve, Eroyulanduz Depression).

ETHYMOLOGY. Species name is the Latin adjective from the Bathyz Plateau.

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