

## Description of the male *Oxycera quadrilineata* Üstüner and Hasbenli, 2007 (Diptera: Stratiomyidae) from Turkey<sup>1</sup>

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**Abstract.** The male of *Oxycera quadrilineata* Üstüner and Hasbenli, 2007 is described for the first time based on a single specimen. All diagnostic characters are illustrated. And compared with other congeneric males, such as *Oxycera pardalina* Meigen, 1822; *O. limbata* Loew, 1862.

**Key Words:** Stratiomyidae, male of *Oxycera quadrilineata*, taxonomy, Turkey

The genus *Oxycera* Meigen was placed in the subfamily Stratiomyinae by Woodley (2001) in his cladistic analysis based on morphologic characters of the Stratiomyidae. Altogether, 98 species are currently known (63 in the Palaearctic Region, 11 in the Afrotropical Region, 16 in the Oriental Region and 8 in the Nearctic Region) (Woodley 2001; Üstüner and Hasbenli 2004, 2007; Yang et al. 2012). Only eleven species of *Oxycera* have been recorded from Turkey (Üstüner et al. 2002, Üstüner and Hasbenli 2004, 2007, Woodley 2001): *Oxycera galeata* (Lindner, 1975), *Oxycera grata* Loew, 1869, *Oxycera insolata* Kühbandner, 1984, *Oxycera limbata* Loew, 1862, *Oxycera meigenii* Staeger, 1844, *Oxycera nigricornis* Olivier, 1811c, *Oxycera pygmae* (Fallén, 1817), *Oxycera pardalina* Meigen, 1822, *Oxycera quadrilineata* Üstüner and Hasbenli, 2007, *Oxycera trilineata* (Linnaeus, 1767) as well as *Oxycera turcica* Üstüner and Hasbenli, 2004. Üstüner and Hasbenli (2007) described *Oxycera quadrilineata* based on only four females. Until now, males *O. quadrilineata* have not been found. Herein, we describe a male *O. quadrilineata* for the first time from a specimen collected at Kindiralık Village in 2002.

### Methods

The single male *O. quadrilineata* was collected using an insect net at Kindiralık Village [46 km. from Gürün (Sivas) to Pınabaşı (Kayseri) road, Turkey] in 2002. In over thirteen collective years of field experience, no additional male specimen has been garnered. The single male *O. quadrilineata* is deposited in the collection of the Selçuk University Department of Biology in

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Konya, Turkey. Morphological nomenclature follows Papp and Darvas (2000). Illustrations of the specimens were made with a Nikon D7000 photo camera and Nikkor 105 mm micro objective and scanned with Epson Perfection V33, and then imported into Adobe Photoshop CS9 for labeling and plate composition.

### Systematic Entomology

#### *Oxycera quadrilineata* Üstüner and Hasbenli, 2007

(Diptera: Stratiomyidae)

Figures 1-8

**Material examined. Turkey:** Sivas, Gürün, Kindiralik Village, elevation 1815 meters above sea level, 25 June 2002, 1 male, Üstüner leg.

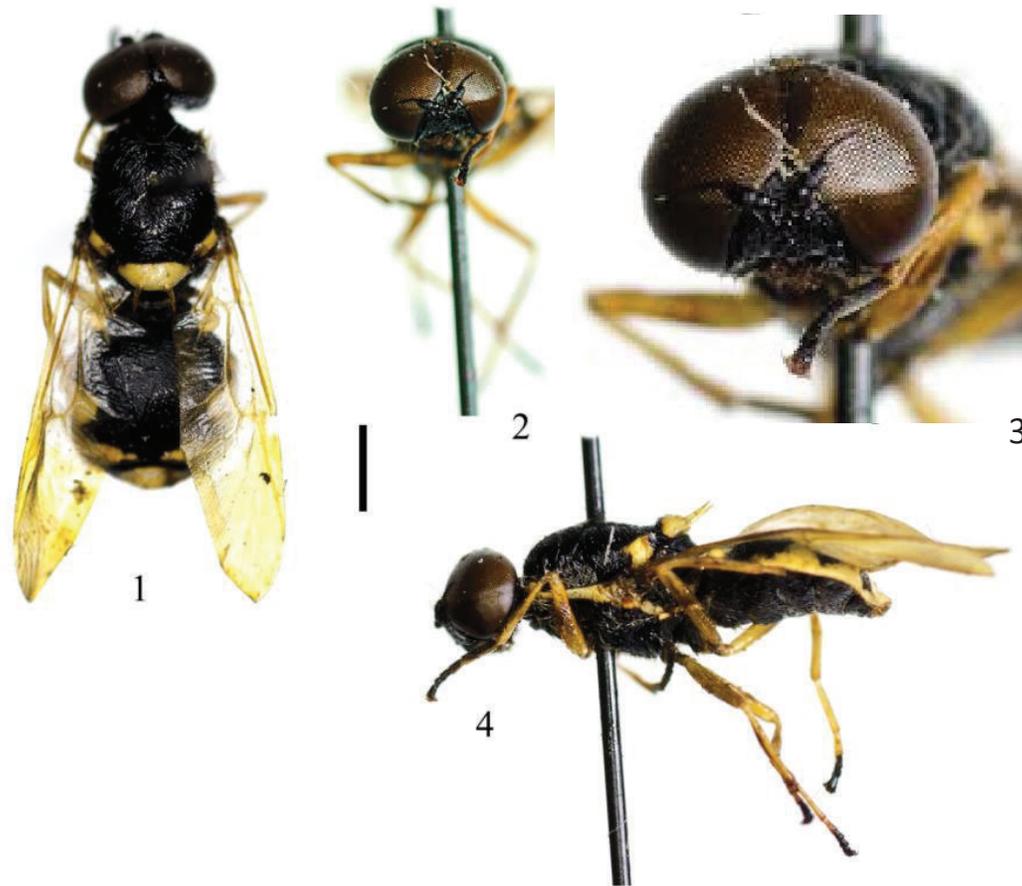
**Description of the male (Figures 1–4).** Length: body 6 mm, wing 5.0 mm.

**Head** hemispherical, slightly broader than thorax in dorsal view; shining black; 1.4 times as long as high in profile and 0.75 times as high as broad. Vertex and ocellar tubercle black. Ocelli light brown, contiguous eyes brown, upper facets distinctly larger than lower. Frons shining black, face black with sparsely, short, white setae. Eyes sparsely short brown haired. Antenna black, relative length of antennal scape, pedicel and flagellum (without arista) 2:2.5:5, arista about equal to length of pedicel and flagellum. Antenna about 0.66 times shorter than the length of the head. Postocular area black about equal to width of flagellum slightly swollen in lower half of head in lateral view. Occiput shiny black with grayish-whitish setae. Proboscis pale brown.

**Thorax** shining black, with whitish haired. Postpronotal yellow and postalar callus with a small subtriangular yellow anterior spot. Anepisternum with a narrow yellow stripes at upper margin, widened posteriorly and extend to anepimeron and katepimeron. Scutellum yellow but its anterior margin, about 1/3 times scutellum, black, scutellar spines yellow, length of scutellar spines about 0.8 times as long as scutellum length. Legs mainly yellow such as that of female. All coxae black. All femur yellow, with the middle of exterior face of fore and mid tibia with a black stripe-like spot, hind tibia yellow with indistinct spot near middle. Fore tarsi entirely black. Tarsal segments 3 and 4 of mid and hind tarsi segments black. Wing hyaline, veins golden yellow, cell r1 golden yellow, R4 present. Halteres light yellow, with darkened stalk.

**Abdomen** shining black with sparse, short whitish setae. Yellow lateral margin beginning at anterior corner of tergum 2, enlarged into lateral markings on terga 2-4 that are rather broad on tergites 3 and 4, and somewhat more extended medially on tergite 4. Tergite 5 with yellow apical spot. Venter entirely black.

**Terminalia** (Figures 5–8). Epandrium with oval, with shoulder-like posterior corners, parallel on each side edges but narrowed towards anteriorly, with posterolateral bristles on each sides; genital capsule with short, cupola shaped rounded medial process at the hind margin; aedeagal complex straight, long, with apically divided parameres, and the parameres longer than aedeagus.

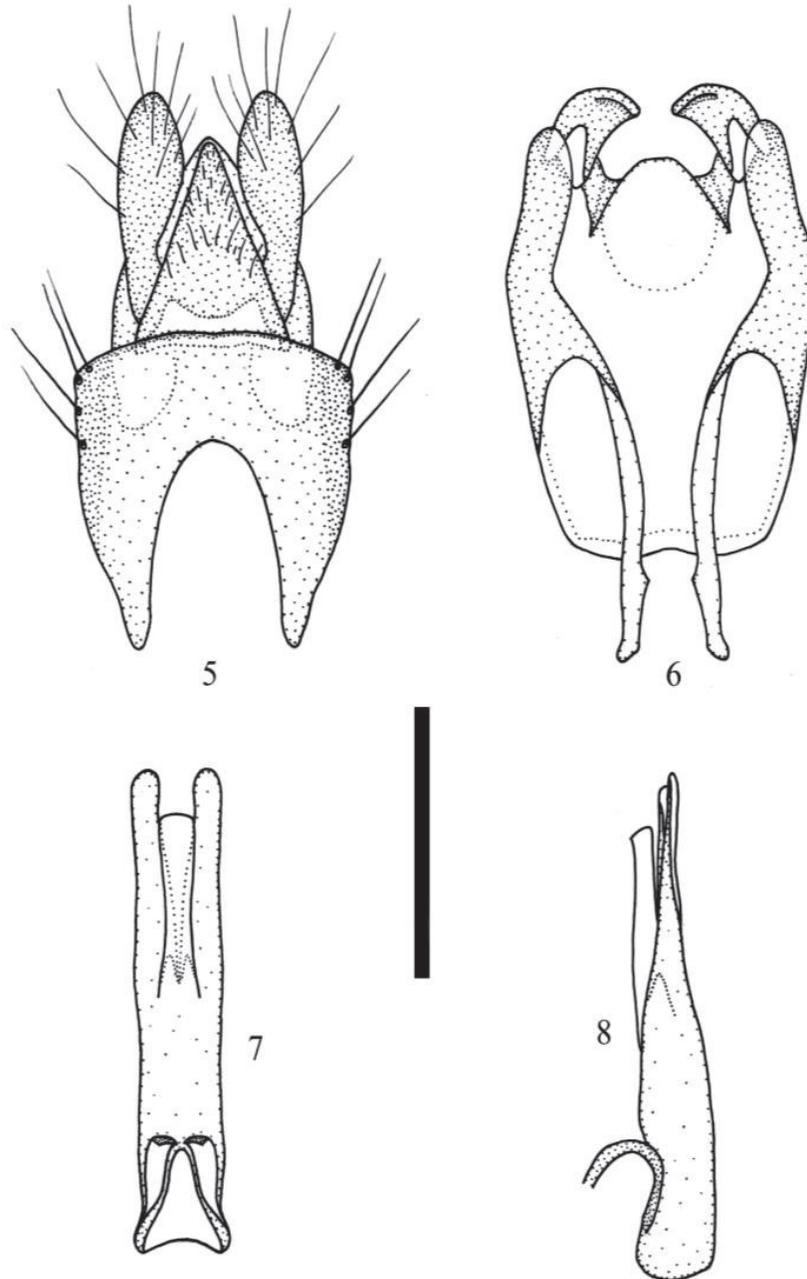


Figures 1–4. *Oxycera quadrilineata*, male. 1. Dorsal view. 2. Head frontal view. 3. Antennae frontal view. 4. Male, lateral view. Scale bar in all images, except 3: 1 mm.

### Discussion

The male described in this paper belongs to a group of small-sized species of *Oxycera* that are difficult to identify. We are aware that there is abundant potential variation in some species of the genus and that with only one male it is impossible to assess the variation of *O. quadrilineata*. For instance, could *O. quadrilineata* be a variant of the highly variable and largely distributed *O. pardalina* Meigen, 1822? Likewise, there are other species, such as *O. muscaria*, *O. morrisii*, and *O. pygmaea*, which appear to be closely related to *O. quadrilineata*. *Oxycera quadrilineata* is different from these three species. The abdominal pattern, genital capsule, and the shape of the aedegal complex of *O. muscaria*, *O. morrisii*, and *O. pygmaea* is different from that of *O. quadrilineata*. In *O. muscaria* and *O. morrisii* there are two pairs of oblique yellow lateral stripes on the abdomen. In contrast, the abdominal side marking of *O. pygmaea* are usually broad, fusing at the lateral margin of abdomen. Also, in *O. pygmaea* the frons is triangular, densely endowed with velvet-like, silvery-white pubescence; in *O. quadrilineata* the frons is shiny black area with sparse, short,

white setae; in *O. morrisii* there is a shiny black triangular area with dense silvery-white setae; in *O. muscaria* there is a shiny black triangular area with short semi-adpressed whitish setae.



Figures 5–8. *Oxcera quadrilineata* male genitalia: 5. Proctiger, cerci and epandrium, ventral view. 6. Genital capsule, dorsal view 7–8. Aedeagal complex in dorsal and lateral view, respectively. Scale bar: 0.25 mm.

Although sexual dimorphism seems to be limited in *O. quadrilineata*, the mesonotum of the female has four yellow stripes situated on the black mesonotum which are absent on the black mesonotum of the male. Although the male of *O. quadrilineata* resembles males of *O. pardalina*, the male *O. quadrilineata* has entirely black antennae, abdomen shiny black, with yellow side markings on lower corners of abdominal tergum 2 and yellow side-markings on terga 3 and 4 terga, and with a yellow apical spot on tergum 5. In contrast, males *O. pardalina* have yellow to brown antennae, basal segments often paler; abdominal side-markings on terga 3 and 4 terga and yellow apical spot on tergum 5. The male of *O. limbata* has antennae yellowish-brown to brown (Rozkošný 1983). Additionally, the color pattern on the abdomen of the male *O. quadrilineata* is different from the male of *O. limbata*. *Oxycera limbata* males have relatively narrow lateral abdominal pattern. Finally, while the male *O. quadrilineata* has a genital capsule bearing a distinctive a median process of which approximately one third reaches beyond the rear edge and a round medial process at the hind margin, the genital capsule of male *O. pardalina* is short and rounded, with a weakly distinct median process, that does not reach much beyond the rear edges (Rozkošný 1983).

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