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A NEW SPECIES OF *ADOXOMYIA* (DIPTERA: STRATIOMYIDAE) FROM TURKEY

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Abstract

A new species of soldier flies (Diptera: Stratiomyidae), *Adoxomyia begreliensis* **sp. nov**., based on a male and a female from the Gevne Valley in Turkey is described. The new species characterized by bicolored legs and the species-specific male terminalia is illustrated and compared with related species. *Adoxomyia palaestinensis* Lindner, 1937 is recorded from Turkey for the first time. An identification key to all East-Mediterranean species of *Adoxomyia* has been constructed and is presented.

Key Words: *Adoxomyia*, new species, new record, Gevne Valley, Turkey

Resumen

Se describe una nueva especie de mosca soldado (Diptera: Stratiomyidae), *Adoxomyia begreliensis* sp. nov., basado sobre un macho y una hembra del Valle Gevne en Turquía. La nueva especie se caracteriza por tener las patas de dos colores y se ilustra y se compara la terminalia masculina de esta especie con las de especies afines. Adoxomyia palaestinensis Lindner, 1937 se registra por primera vez de Turquía. Se presenta una clave de identificación de todas las especies de Adoxomyia de la region Mediterránea-Oriental.

The family Stratiomyidae belongs to the brachycerous Diptera and comprises more than 2600 world-wide species within 375 genera (Woodley 2001). The genus *Adoxomyia* belongs to the subfamily Clitellarinae and contains about 35 world-wide species according to Woodley's catalog. Hauser (2002) added one new species, *A. socotrae,* from Socotra Island, Yemen in the Afrotropical Region. Nartshuk (2003) described a new species *A. transcaucasica* from Azerbaijan and Armenia, and also confirmed that the Palaearctic *A. portschinskii* is a mere synonym of *A. dahlii*. In the Palaearctic Region *Adoxomyia* is represented by 15 species found mainly in south-eastern Europe, Transcaucasus, Near East, Central Asia and China (Rozkošný 1983; Rozkošný & Nartshuk 1988; Nartshuk 2004; Üstüner & Hasbenli 2011).

The adults of *Adoxomyia* are medium sized dark flies covered mostly with silverish or golden hairs. The antenna is elongated, the antennal flagellum consists of 8 flagellomeres including a more or less thickened last flagellomere (stylus) (Lindner & Freidberg 1978; Rozkošný 1983).

The *Adoxomyia* fauna of Turkey has been insufficiently studied, and only the following 4 species have been recorded from Turkey (Üstüner & Hasbenli 2011): *Adoxomyia aureovittata* (Bigot, 1879), *A. cinerascens* (Loew, 1873), *A. obscuripennis* (Loew,1873) and *A. sarudnyi (*Pleske, 1903). During our investigations of the Turkish Stratiomyidae in Begreli Village (Gevne Valley), Konya-Hadim Province of southern Turkey, I discovered 2 species that represent interesting additions to the *Adoxomyia* fauna of Turkey. One of them is a new species distinctly differing from *A. palaestinensis* Lindner, 1937, *A. sarudnyi* (Pleske, 1903) and *A. cinerascens* (Loew, 1873). The other species, *A. palaestinensis*, is recorded in Turkey for the first time.

Adoxomyia Begreliensis **Sp. Nov.**

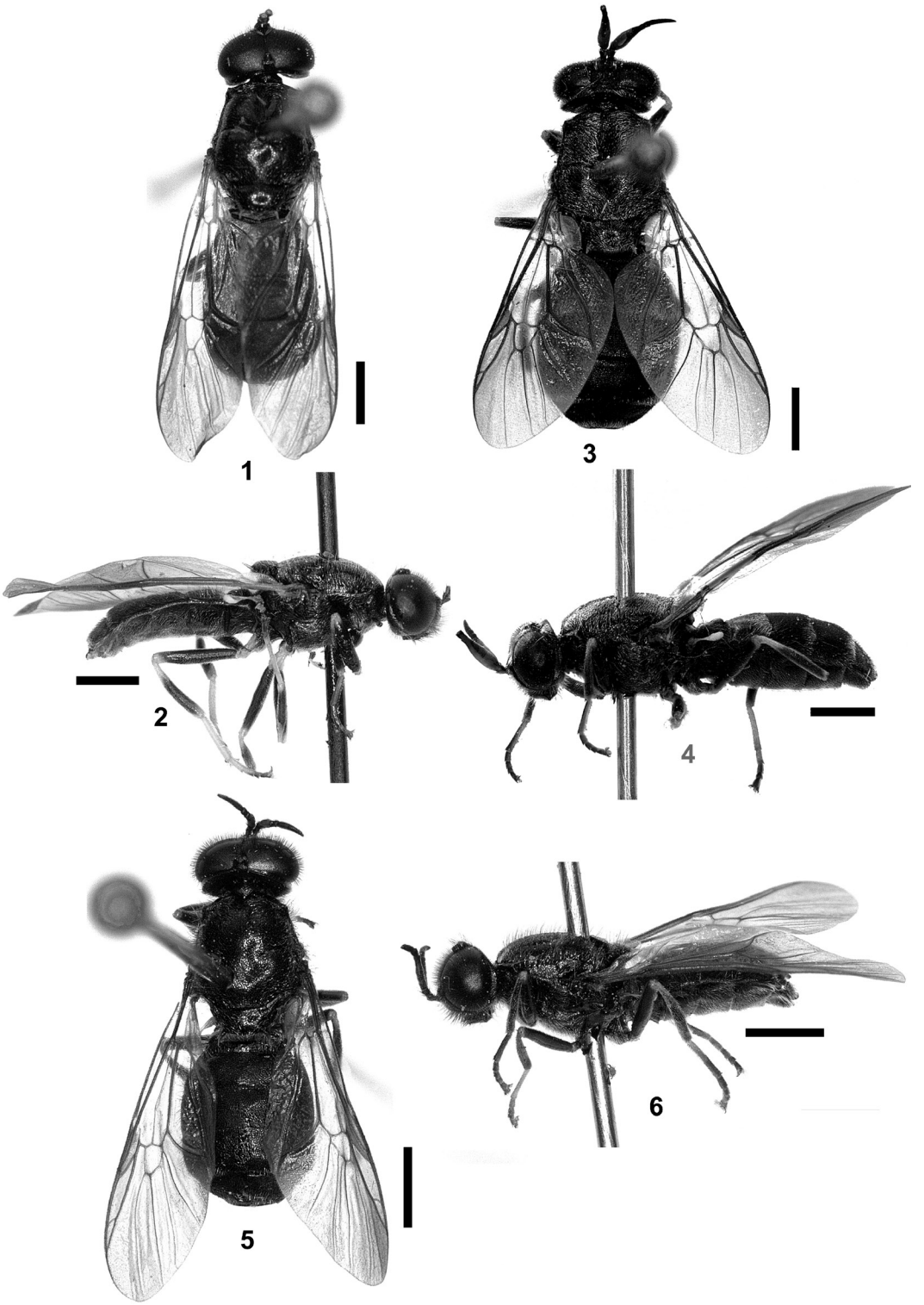
Material Examined

The examined specimens of *A. begreliensis* **sp. nov.** and *A. palaestinensis* are preserved in the collection of the Selçuk University Department of Biology, Konya, Turkey. All specimens were collected by net from leaves of trees at stream beds in a forest in southern Turkey.

Description

Holotype: Male, Turkey: Konya, Hadim, Begreli Village, Gevne Valley, 1550 m asl, 7- VII-2007, coll. T. Üstüner, deposited in the collection of the

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Figs. 1-6: 1-4: *Adoxomyia begreliensis* **sp. nov.** 1- Male in dorsal view, 2- Male in lateral view, *3*- Female in dorsal view, 2- Female in lateral view; 5-6: *Adoxomyia palaestinensis* 5- Male in dorsal view, 6- Male in lateral view, (Scale bars: 1,0 mm.).

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Selçuk University, Faculty of Science, Department of Biology, Konya, Turkey (Figs. 1 and 2).

Paratype: 1 female, with the same locality label, collector and deposition (Figs. 3 and 4).

Diagnosis

Antenna 1.5 times as long as head, male flagellum cylindrical, the first 3 flagellomeres of the female twice as wide as the scape is long, at most slightly narrower than scape at distal margin. Wings veins pale brown. Halter yellowish, white with yellow stem. Legs mainly black and yellow; all coxae black with yellowish apices; trochanters yellow; all femora black, with yellow apices; tibiae black, about distal third of fore tibia and apex of hind tibia yellow; fore tarsomeres yellowish but their dorsal surface darkened; mid and hind tarsi yellow but dorsal surface of last 2 tarsomeres darkened.

Male

Head black, eyes contiguous, facets uniform with dense black hairs, about 0.75 times as long as pedicel. Ocellar tubercule black with moderately long black hairs, about 1.2 times as long as the height of the ocellar tubercle in lateral view. Frons and face glossy black. Frons with a fine longitidunal median groove, with silverish white hairs being as long as pedicel, and continuing to eye margins in upper part of face. Face slightly prominent below antennae in middle, in lateral view about 0.5 times as long as scape. Glossy black face covered with black hairs about as long as pedicel. Proboscis black. Palpi black with black hairs as long as pedicel. Postocular band well developed, glossy black, about 0.3 times as wide as length of scape in upper half of head, but somewhat broadened and about as wide as scape is long in lower half of head. Postocular area covered with adpressed white hairs on lower half of head, but without hairs on upper half. Occiput glossy black, swollen in lower third of head, with sparse, semi-adpressed white hairs but hairs on lower third of head about twice longer than other. Antenna distinctly longer than head in lateral view, mainly black, scape and pedicel equally long, pale brown with thick, erect, black hairs.

Thorax and scutellum glossy black, but postalar callus at margin brown, scutellar spines yellow. Thoracic pile predominantly semi-adpressed to adpressed, yellowish white. Sparse short adpressed yellowish hairs scattered on scutum and scutellum with additional long, erect, white hairs. Pleura with silvery white hairs. Legs mainly black and yellow; all coxae black with yellowish apices; all trochanters yellow; all femora black with yellow tips; tibiae black, about distal third of fore tibia and tip of hind tibia yellow; fore tarsus yellowish but its dorsal surface darkened; mid and hind tarsi yellow but dorsal surface of last 2 tarsomeres of mid and hind tarsi darkened. Legs mainly covered with short adpressed white hairs with additional long, erect, white hairs on femora. Wing hyaline, brownish infuscatated in basal half but anterior part of wing brown and densely covered with microtrichia, pterostigma brown. Wings veins pale brown. Halter yellowish white with yellow stem.

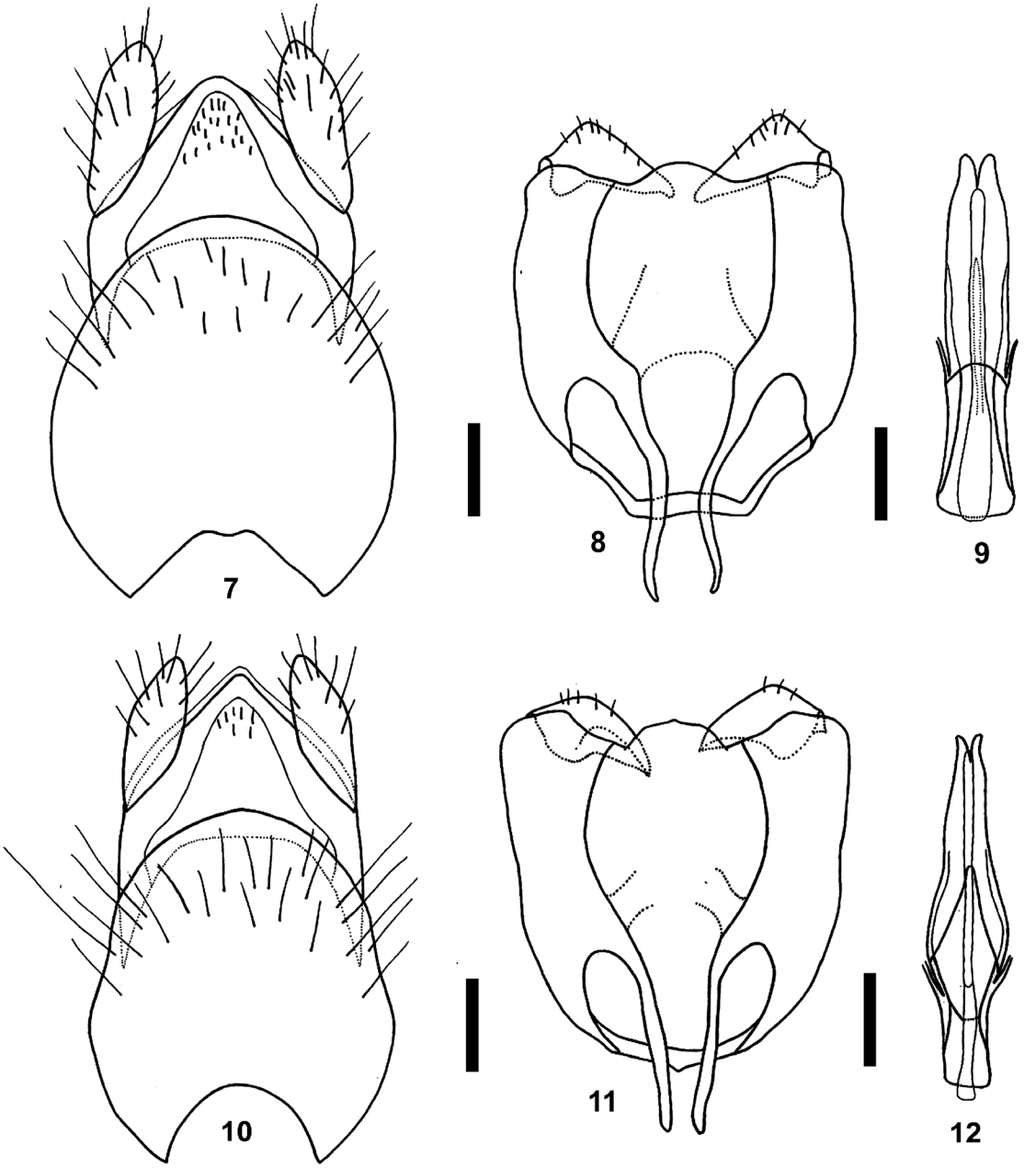
Abdomen glossy black, with brownish margin. Ground-pile short, yellowish white, adpressed, hairs more erect and longer at anterior corners on tergite 1. Male genital capsule subquadrate, with low, rounded medial process, aedeagal complex parallel-sided, abruptly narrowed at apex (Figs. 7-9).

Female

Head black, eyes with short dense black hairs, being about 0.3 times as long as pedicel. Frons less than 0.3 of head-width, glossy black, densely punctate, somewhat enlarged above antennae with a fine median groove in middle. Frons with sparse pale yellow hairs and additional silvery-white hairs being as long as pedicel, covering frons margin above antennae and contuning to eye margins in upper part of face. Face slightly prominent below antennae in middle, covered with about as long as pedicel yellowish white hairs intermixed with black hairs. Proboscis black with twice longer yellowish white hairs at base of labellum; palpi black with black hairs. Postocular band glossy black, about 1.5 times as wide as scape is long, with pale yellow and semi-appressed hairs. Antenna long, about 1.5 times as long as head in lateral view, bicolored and more swollen than in male. Scape brownish orange on inner surface but darkened on external surface. Pedicel and first 3 flagellomeres brownish orange but flagellomeres 2-3 darkened on outer surface, rest of flagellum (flagellomeres 4-7) black, last flagellomere longer than flagellomeres 4-7 combined (6:4), 1-5 flagellomeres covered with tomentum consisting of very short, densely whitish hairs, rest of flagellomeres with short black hairs.

Thorax and scutellum glossy black, but postpronotal callus at margin brown, and scutellar spines yellow. Thoracic pile predominantly semi-adpressed to adpressed, yellowish. Sparse short densely adpressed yellowish hairs scattered on scutum and scutellum without additional long, erect, white hairs. Pleura with silvery white hairs. Legs mainly black and yellow; all coxae black with yellowish apices; all trochanters yellow; all femora black with yellow apices; tibiae black, about apical third of fore tibia and apex of hind femur yellow; fore tarsi yellowish but dorsal surface of tarsomeres darkened; mid and

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Figs. 7-12: 7-9: *Adoxomyia begreliensis* sp.n., male genitalia 7- Epandrium, 8- genital capsule, 9- Aedeagal complex; 10-12: *Adoxomyia palaestinensis*, male genitalia 10- Epandrium, 11- Genital capsule, 12- Aedeagal complex (Scale bars: 0.1 mm.).

hind tarsi yellow but dorsal surface of last 2 tarsomeres of mid and hind tarsi darkened. Legs mainly covered with short adpressed white hairs with additional long, erect, white hairs on femora. Wing hyaline, with brownish infuscated basal half, anterior margin of wing brown, dansely covered with microtrichia, pterostigma brown. Wings veins pale brown. Halter yellowish white with yellow stem.

Abdomen glossy black, with brownish margin and with pale silverish white hair patches at posterior corners of tergites 2-4 and pale silverish white hairs along posterior margin of tergite 5.

Length of both sexes: body 8.0 mm, wing 6.0 mm.

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Etymology

This species in named according to the type locality.

Adoxomyia Palaestinensis Lindner, 1937

Material Examined

Male, Turkey: Konya, Hadim, Begreli Village, Gevne Valley, elev. 1550 m, 10.vii.2000, coll. T. Üstüner (Fig. 5-6).

Description

This species was previously known only from Israel (Lindner 1937). The male recorded here represents the first record for Turkey. Male genital capsule subquadrate, medial process slightly arched, aedeagal complex swollen in central part and gradually tapered toward apex (Figs 10-12). Length of male: body 6.0 mm, wing 4.5 mm. The female is not known.

Key to the East Mediterranean Species of *Adoxomyia*

The following key (based partly on Lindner 1937) is completed by the inclusion of the new species,. The male of *A. hermonensis* and the female of *A. palaestinensis* are unknown.

1. Legs completely black 2

— Legs bicolored or mainly yellow.. . . . . .

2. Antenna entirely black. 3

— At least basal half of antennal flagellum red . . . . . *A. ruficornis* (Loew, 1873)

3. Scutellar spines short, slender and bare, basal 3-4 flagellomeres in female unusually broad 4

— Scutellar spines longer, thickened and haired, basal 3-4 flagellomeres not as broad . . . . . *A. obscuripennis* (Loew, 1873)

4. Female eyes black haired, postocular band wider than scape is long; male unknown . . . . . *A. hermonensis Lindner*, 1975

— Female eyes white haired, postocular band as wide as scape is long . . . . . *A. transcaucasica Nartshuk,* 2003

5. Legs entirely yellow . . . . . *A. sarudnyi* (Pleske, 1903) ♂

— Legs bicolored, at least femora black 6

6. Antenna black 7

— Antenna partly brownish orange 8

7. Body coarse and plump, abdomen with golden yellow hair patches . . *A. aureovittata* (Bigot, 1879)

— Body slim and delicate, abdomen with silverish white hair patches . . . . . *A. palaestinensis Lindner*, 1937

8. Scutellar spines black, third segment of antenna dark brown to black . . *A. dahlii* (Meigen, 1830)

— Scutellar spines yellow, third segment of antenna orange 9

9. Antenna 1.5 times as long as head, male flagellum cylindrical, female first three flagellomeres twice as broad as scape is long. . . . . .*Adoxomyia begreliensis* **sp. nov.**

— Antenna about as long as head, male and female flagellum distinctly swollen in middle . . . . . .*A. cinerascens (*Loew, 1873)

Discussion

*Adoxomyia begreliensi*s is a slender species like *A. palaestinensis* and *A. sarudnyi*, while *A. obscuripennis*, *A. dahlii*, and *A. cinerascens* are distinctly stouter. The terminal segment of the antenna of *A. begreliensi*s is relatively thicker than those of *A. obscuripennis* and *A. dahlii*. The

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TABLE 1. COMPARISON OF DIAGNOSTIC TRAITS OF *ADOXOMYIA BEGRELIENSIS* **SP. NOV.** AND *A. PALAESTINENSIS*.

Character	*A. begreliensis* **sp. nov.**	*A. palaestinensis*
hairs on eyes	sparse and short	dense and long
postocular area in dorsal view	as broad as 1/3 of scape is long	as broad as as broad as 1/2 of scape is long
scape and pedicel	pale brown	black
long additional hairs on scutum	yellowish white	black
trochanters	yellow	black, yellow apically
scutellar spines	as long as ¼ of scutellum	as long as ½ of scutellum
both ends of tibiae	broadly yellow	narrowly pale brown
aedeagal complex	as in Fig. 9	as in Fig. 12

male of *A. begreliensi*s resembles the male of *A. palaestinensis*. The main differences in diagnostic features of *Adoxomyia begreliensis* **sp. nov.** and *A. palaestinensis* are summarized in Table 1. *A. begreliensi*s differs from *A. sarudnyi* by having much darker legs and from *A. obscuripennis* and *A. dahlii* by having a much thinner flagellum.

Adoxomyia palaestinensis is recorded for the fauna of Turkey for the first time, and this is the first record outside the borders of Israel.

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