

**Orijinal araştırma (Original article)**

**A new species of *Urophora* Robineau-Desvoidy, 1830  
(Diptera:Tephritidae) from Turkey with a key to the  
*dzieduszyckii* group<sup>1</sup>**

Türkiye'den yeni bir *Urophora* Robineau-Desvoidy, 1830 (Diptera: Tephritidae)  
türü ile *dzieduszyckii* grubunun teşhis anahtarı

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**Summary**

This study was based on specimens of *Urophora* Rob-Des, 1830 collected from Niğde province in Turkey during the summers of 2012-2013. A new species, *Urophora turkeyensis* n. sp. associated with *Echinops ritro* L., is described and placed in the *Urophora dzieduszyckii* group. *U. turkeyensis* n. sp. is similar to *U. dzieduszyckii* Frauenfeld, *U. pontica* (Hering) and *U. notata* (Belanovskij) in the black palpi, having four transverse bands of wing, black femora and general dark coloration. It can be easily distinguished from the other group species by the different wing pattern and aculeus. A key to the species of the *dzieduszyckii* group, male and female genitalia figures of *U. turkeyensis* n. sp. are given in this paper.

**Key words:** *Urophora turkeyensis*, new species, Tephritidae, Fruit flies, Turkey.

**Özet**

Bu çalışma 2012-2013 yazı süresince Türkiye'nin Niğde ilinden toplanan *Urophora* Rob-Des, 1830 örneklerine dayanmaktadır. *Urophora turkeyensis* n. sp. *Echinops ritro* L. ile ilişkilendirilmektedir, ve tanımlanarak *Urophora dzieduszyckii* grubuna yerleştirilmiştir. *U. turkeyensis* siyah palpusu, kanadının dört bantlı oluşu, siyah femuru ve koyu morfolojisi ile *U. dzieduszyckii* Frauenfeld, *U. pontica* (Hering) ve *U. notata* (Belanovskij) türlerine benzer. Grubun diğer türlerinden farklı kanat deseni ve yumurtlama borusu ile kolayca ayırt edilebilir. Ayrıca bu yayında *dzieduszyckii* grubun teşhis anahtarı, *U. turkeyensis*'in ergin, erkek ve dişi genitallerinin fotoğrafları verilmiştir.

**Anahtar sözcükler:** *Urophora turkeyensis*, yeni tür, Tephritidae, Meyve sinekleri, Türkiye.

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## Introduction

The genus *Urophora* Robineau-Desvoidy, 1830 with about 60 species is one of the largest genera of the family Tephritidae in the Palaearctic Region (Norrbom et al. 1999). The Palaearctic *Urophora* species were revised and keyed by White and Korneyev (1989) and Korneyev and White (1991, 1992, 1993, 1996, 1999, 2000).

Korneyev and White (1993) proposed the *U. dzieduszyckii* group and included *U. dzieduszyckii* Frauenfeld, *U. pontica* (Hering), *U. solaris* Korneyev and *U. syriaca* (Hendel). Korneyev (1996) synonymized *U. syriaca* Hendel under *U. dzieduszyckii* and finally Korneyev and white (1999) synonymized *U. solaris* Korneyev under *U. notata* (Belanovskij). Subsequently the *U. dzieduszyckii* group includes three species (*U. dzieduszyckii*, *U. notata* and *U. pontica*).

Korneyev and White (1993) diagnosed the *Urophora dzieduszyckii* group and distinguished it from other *Urophora* species by the following morphological characters; First flagellomere darkened or yellow, palpi strongly dilated to base and black; labellum of proboscis 1.5-2.8 times as long as 1st flagellomere. Scutum shiny, with 4 indistinct microtrichose stripes, not hiding underlying cuticle, femora black. Wing with darkened base and 3-4 transverse bands. Terminalia: Apex of aculeus without steps. The new species matched all these characters and therefore was placed in the *dzieduszyckii* group.

In spring and summer of 2012 and 2013, the authors collected a few series of an undescribed *Urophora* species from Turkey by sweeping *Echinops ritro* L.. In this paper this species described as *Urophora turkeyensis* new species and is placed in the *U. dzieduszyckii* group. It is figured and compared with other species of this group. Consequently, the number of group species increases to four species.

## Materials and Methods

The specimens of *U. turkeyensis* n, sp. were collected in Turkey during 2012 and 2013. All the adult specimens were collected from flowerhead of *Echinops ritro* L. using a sweeping net.

The new species was identified based on Korneyev and White (1993 and 1999). The specimens are deposited in the Department of Biology, Faculty of Science & Arts, Gaziantep University, Gaziantep, Turkey (GUGT).

## Results

### Key to species of the *Urophora dzieduszyckii* group

1. Subbasal crossband well developed and distinct; scutum black..... 2  
- Subbasal crossband lacking; scutum yellow with four black or brown vittae; Tadjikistan (Korneyev and White, 1999) ..... *U. notata* (Belanovskij)
2. Male specimens smaller than 3,5 mm; discal crossband and preapical crossband parallel, not converging anteriorly; France, Turkey, Russia, Kazakhstan, Kirghizia (Korneyev and White, 1999) .....*U. pontica* Hering  
- Male specimens bigger than 3,5 mm; discal crossband and preapical crossband not parallel, converging anteriorly .....3
3. First flagellomere black; some parts of tibia black; subbasal crossband ending at cell cup; vein DM-CU oblique; associated with *Echinops ritro* L. (Fig. 1-f-g) .....*U. turkeyensis* n. sp.

- First flagellomere yellow; tibia yellow to brown; subbasal crossband reaching vein  $A_2$ ; vein DM-CU not oblique (sometimes straight); associated with *Echinops ruthenicus* Bieb., *E. viscosus* DC; Ukraine and Middle East (Lebanon, Syria, Israel) (Korneyev and White, 1999), Turkey (Yaran, 2009) ..... *U. dzieduszyckii* Frauenfeld

*Urophora turkeyensis* n. sp. (Figs. 1-2)

#### Type material

Holotype: Turkey, Niğde, Çamardı, 37° 57' N, 35° 05' E, 1720 m, 21.VI.2012, ♂, leg. M. Yaran & M. Kütük, collected from *Echinops ritro* L.. Paratypes: (same collecting data as holotype) Niğde, Çamardı, 37° 57' N, 35° 05' E, 1720 m, 21.VI.2012, 12 ♂♂, 7 ♀♀, leg. M. Yaran & M. Kütük. Additional paratypes: Niğde, Çamardı, 38° 00' N, 35° 02' E, 1672 m, 27.VI.2012, 2 ♂♂, leg. M. Yaran & M. Kütük. Niğde, Çamardı, 37° 57' N, 35° 05' E, 1745 m, 27.VI.2012, 8 ♂♂, 4 ♀♀, leg. M. Yaran & M. Kütük. Niğde, Çamardı, 37° 57' N, 35° 05' E, 1720 m, 04.VII.2013, 3 ♂♂, ♀, leg. M. Yaran & M. Kütük, collected from same host plant as holotype. All materials deposited in the Department of Biology, Faculty of Science & Arts, Gaziantep University, Gaziantep, Turkey (GUGT).

#### Description

Head: Mostly yellow to brown, all setae black, ocellar triangle black, occiput black, fronto-facial angle about 110°, first flagellomere of antenna black, palpus black.

Thorax: Mesonotum shiny black, all setae black, mesonotum as long as wide, scutellum yellow, narrowly black antero-laterally, basal scutellar setae on yellow area, postpronotum yellow, halter yellow.

Wing: Wing pattern sexually dimorphic. Preapical and discal bands united at the anterior part of wing (in some specimens separated) (Fig. 1-a).

Male wing: 3-3,1 times as long as wide, with 4 dark brown to black crossbands; preapical and discal bands united in the costal part of wing (46,1% of male specimens), otherwise separated; proximal margin of preapical crossband usually sinuous; ultimate section of vein M 2 times as long as penultimate section; pterostigma darker than other parts of wing pattern (Fig. 1-a).

Female wing: 2,6-2,66 times as long as wide, with 4 dark brown to black crossbands; preapical crossband and discal band separate throughout; subbasal crossband ending at cell an; proximal margin of preapical crossband usually sinuous; ultimate section of vein M 1,62 times as long as pen-ultimate section; pterostigma darker than other parts of wing pattern (Fig. 1-b).

Abdomen: Shiny black with black setae and setulae; epandrium dark brown to black; surstyli black (Fig. 3-a); glans with long acrophallus (Fig 3-b); oviscape shiny black with black setae (Fig. 1-h), aculeus pointed at apex (Fig. 2 a-b-c-e).

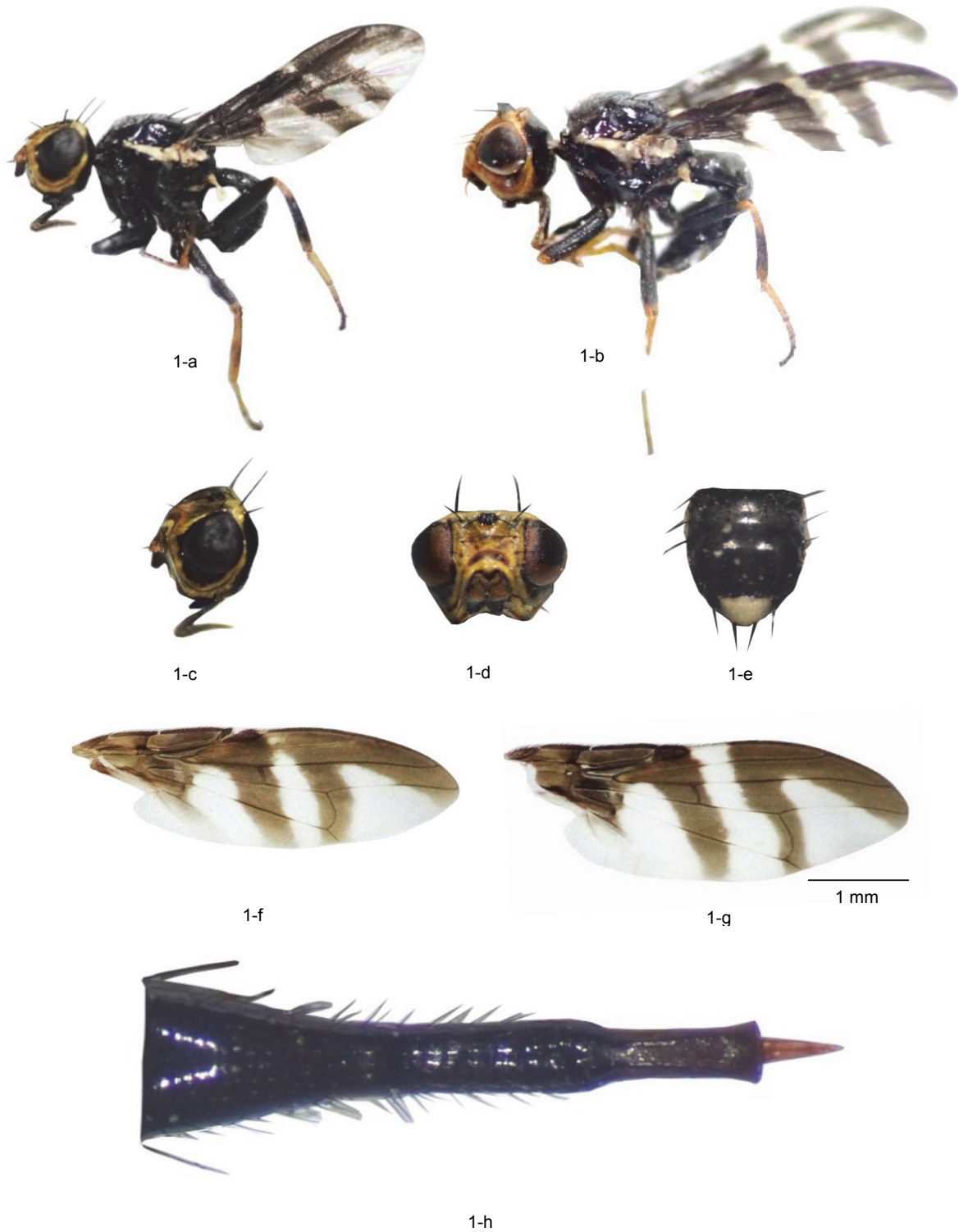


Figure 1. Adult male and female figures of *Urophora turkeyensis* n. sp. Yaran & Kütük. a) Holotype male, b) Female, c-d) Male head, e) Male thorax, f) Male wing, g) Female wing, h) Female postabdomen.

Legs: Femora and some parts of tibiae black, other parts of legs yellow to brown; all setae and setulae black.

Measurements: Male adult 3,5-3,8 mm, wing: 3,2-3,5 mm; Female adult, 3,7-3,9 mm, wing: 3,5-3,7 mm.

Biology: *Urophora turkeyensis* n. sp. was collected on flower heads of *Echinops ritro* L. (Asteraceae) using a sweeping net.

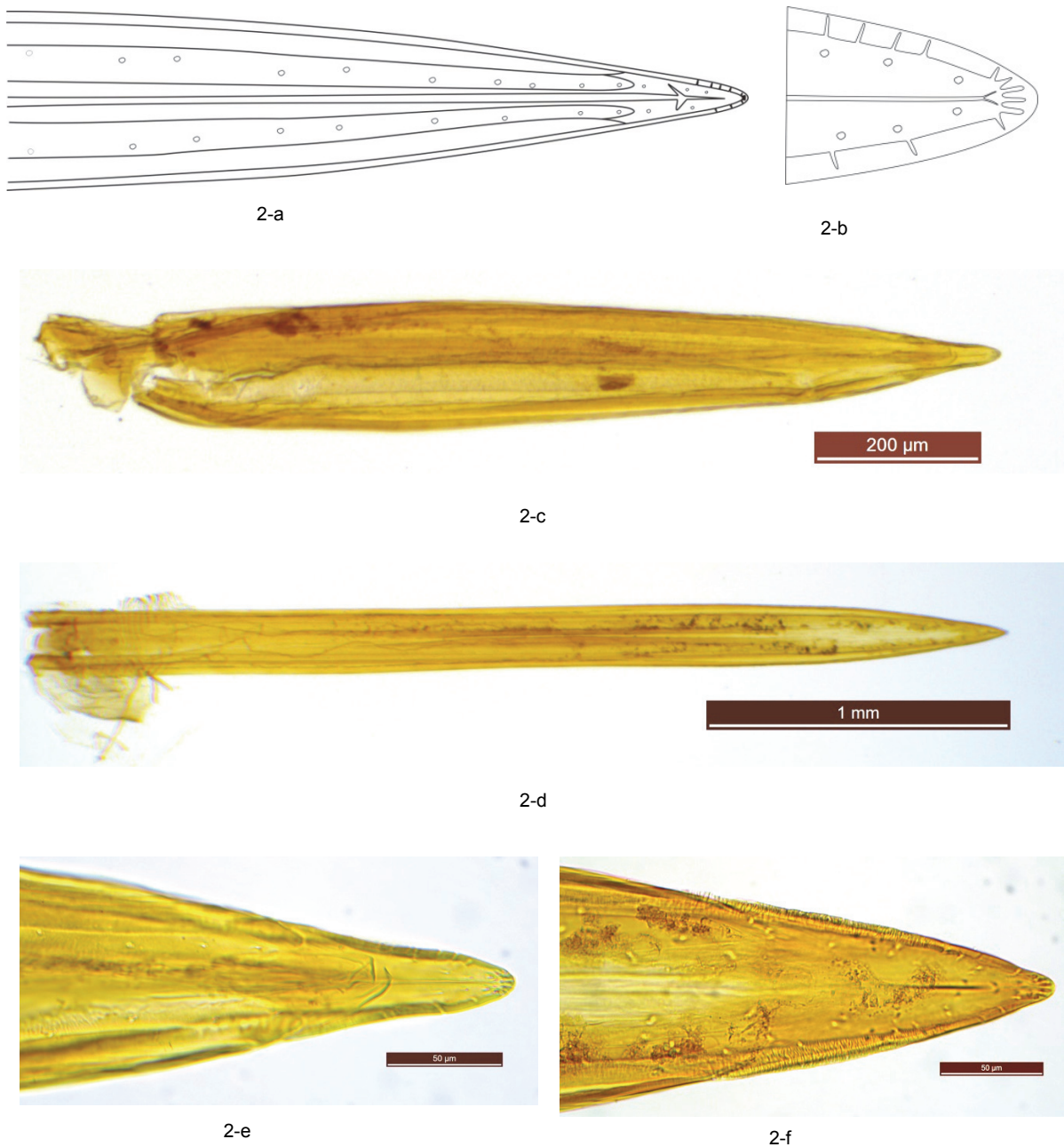


Figure 2. a) Aculeus of *Urophora turkeyensis*, b) Aculeus of *U. turkeyensis* (enlarged at apex), c) Aculeus of *U. turkeyensis*, d) Aculeus of *U. dzieduszyckii*, e) Aculeus of *U. turkeyensis* (enlarged at apex), f) Aculeus of *U. dzieduszyckii* (enlarged at apex).



Figure 3- a) Epandrium of *Urophora turkeyensis*, b) Distiphallus of *U. turkeyensis*

## Discussion

*Urophora turkeyensis* was compared with species of the *U. dzieduszyckii* group below and was placed in this group.

The new species differs from *U. dzieduszyckii* by the following characters: aculeus of *U. turkeyensis* narrowed at apex (Figure 2-e) On the other hand aculeus of *dzieduszyckii* is wider than *turkeyensis* at apex (Figure 2-f). Aculeus of *U. turkeyensis* is approximately 1,1-1,2 mm but aculeus of *U. dzieduszyckii* is approximately 3-3,2 mm. First flagellomere of antenna black for all specimens of *U. turkeyensis* is without variation, but *U. dzieduszyckii* has regional variation (yellow or brown). All specimens of *U. turkeyensis* have blackish tibia without variation. Maximum length of *U. turkeyensis* is 3,8 mm, whereas of *U. dzieduszyckii* is 6-6,5 mm, *U. dzieduszyckii* is approximately two times bigger than *U. turkeyensis*. (specimens size is generally equal in *dzieduszyckii* populations that we sampled in Turkey and israeli populations that Amnon Freidberg (Freidberg and Kugler, 1989) collected in Israel).

The new species differs from *U. pontica* by the following characters: first flagellomere of antenna black (first flagellomere of *U. pontica* yellow), blackish tibia (tibia of *U. pontica* yellow to brown) and proximal margin of preapical crossband sinuous (in *U. pontica* straight).

The new species differs from *U. notata* by the following characters: first flagellomere of antenna black (first flagellomere of *U. notata* yellow), black scutum (scutum of *U. notata* yellow), having four well developed crossbands in the wing (in *U. notata* three well developed crossbands).

*Urophora dzieduszyckii* is associated with *Echinops viscosus*, *U. pontica* is associated with *E. ritro* and *E. tjanshanicus*; Whereas the new species was swept from *E. ritro* as *U. pontica*.

## Etymology

This species was named '*turkeyensis*' referring to the type locality (Turkey).

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