

## A new species of *Terellia* Robineau-Desvoidy (Diptera: Tephritidae) from Turkey

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**Abstract:** *Terellia yukseli* n. sp. was collected in Turkey from *Centaurea urvillei* DC. and is described, illustrated, and placed in the subgenus *Cerajocera*. Type locality is Niğde Sazlıca, and specimens were collected from *Centaurea urvillei* DC. This species is most similar to *T. setifera* Hendel and *T. clarissima* Korneyev in having entirely hyaline wing. It can be distinguished from other species of *Terellia* by the lack of wing spot pattern, the presence of a spinose antennal horn, and characteristic glans and aculeus. Photographs of the specimens and detailed illustrations of the genitalia structures are provided.

**Key words:** *Terellia yukseli*, new species, Tephritidae, Turkey

### Türkiye'den *Terellia* Robineau-Desvoidy (Diptera: Tephritidae)'nın yeni bir türü

**Özet:** *Terellia* Robineau-Desvoidy, 1830'nin bir altcinsi *Cerajocera* içinde yer alan *Terellia yukseli* n. sp. Türkiye'den tanımlanmıştır. Tip lokalitesi Sazlıca, Niğde olup örnekler *Centaurea urvillei* DC. bitkisi üzerinden toplanmıştır. Bu tür *T. setifera* Hendel ve *T. clarissima* Korneyev türlerine saydam kanat bakımından benzemektedir. Diğer *Terellia* türlerinden kanat nokta deseni, antende mevcut çıkıntısı, karakteristik glans ve aculeus karakteristik yapıları ile ayrt edilmektedir. Türe ait fotoğraflar, genital yapıların ayrıntılı çizimleri verilmiştir.

**Anahtar sözcükler:** *Terellia yukseli*, yeni tür, Tephritidae, Türkiye

### Introduction

The genus *Terellia* Robineau-Desvoidy, 1830 (Diptera: Tephritidae) differs from other genera of Terellini by the following combination of characters (Merz, 1994) (for more complete list of characters): frons flat or slightly convex; fronto-facial angle slightly projecting or rather rounded; face slightly concave;

epistome projecting; palp usually spatulate and projecting anterior of epistome; mesonotum usually flat and distinctly longer than wide, but in *T. virens*, as long as wide and convex; dorsocentral setae situated on or very close to line of anterior supra-alars; wing either banded, or hyaline, or slightly infuscate; stigma yellowish; veins  $R_{4+5}$  and M, usually slightly convergent in their distal sections; terminal section of

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vein M usually at least twice as long as penultimate section; cell cup with short or indistinct point; abdomen often with 4 rows of black spots dorsally, some spots sometimes lacking; aculeus pointed or rounded at apex. Korneyev (1985) has revised the tribe Terelliini. He considered *Terellia* and *Cerajocera* as distinct genera differing in wing pattern and the shape of the male aedeagal glans. The apomorphic characters that Korneyev (1985) suggested as synapomorphies of *Terellia* were mostly related to the wing pattern, but also to the similar shape of the tip of the aculeus and the association with the Asteraceae hosts. Korneyev (1987) described *Terellia* (*Cerajocera*) *clarissima* reared from *Jurinea mollis* in southern Ukraine with entirely hyaline wings (as in typical *Terellia*) and the shape of the aedeagal glans as in *Cerajocera*. He considered *Cerajocera* a subgenus of *Terellia*. The known biology of species is associated with the capitula of some species of the Composite tribe Cardueae (White, 1988). Fifteen species of *Terellia* were recorded in the Turkish fauna.

In the summer of 2003, the author collected a series of uncommon species of the genus *Terellia* from *Centaurea urvillei* DC in Turkey. It was found to be an un-described species of vague relationships in the genus *Terellia*, which runs available keys to *T. clarissima* Korneyev and *T. setifera* Hendel. This new species is described and figured below.

### Materials and methods

This study is based mainly on 22 males and 16 females specimens collected from Niğde province in Turkey in 2003. The terminology and morphological interpretations used in this paper follow White et al. (1999). The specimens used in this study are deposited in the following institutions: Department of Biology, Faculty of Science & Arts, Gaziantep University, Gaziantep, Turkey (GUGT); Natural History Museum Geneva, Switzerland (NHMG); National Academy of Sciences of Ukraine, Ukraine (NASU); Zoological Museum, Tel Aviv University, Tel Aviv, Israel (ZMTI). Assistant Prof. Necattin Türkmen identified the host plant of the new species (Department of Biology, Çukurova University, Adana, Turkey). All specimens used in this study were collected in the summer of 2003 in Turkey.

### Result

#### *Terellia* (*Cerajocera*) *yukseli* n. sp.

(Figures 1-9)

#### Type material

Holotype: Female: TURKEY, Niğde, Sazlıca, 37°48' N, 34°35' E, 1140 m, 11.VI.2003, M. Kütük. Paratypes: (same collecting data as holotype); 12 ♂♂, 5 ♀♀; Additional paratypes: 6 ♂♂, 7 ♀♀, Niğde Hüyük, 38°05' N, 34°49' E, 1370 m, 11.VI.2003, M. Kütük. The holotype was in excellent condition, and was deposited in IUMT together with most paratypes. In addition, some specimens are deposited in other institutions: 1 ♂, 1 ♀ in NHMG, 2 ♂♂, 1 ♀ in NASU, 1 ♂, 1 ♀ in TAU.

#### Description

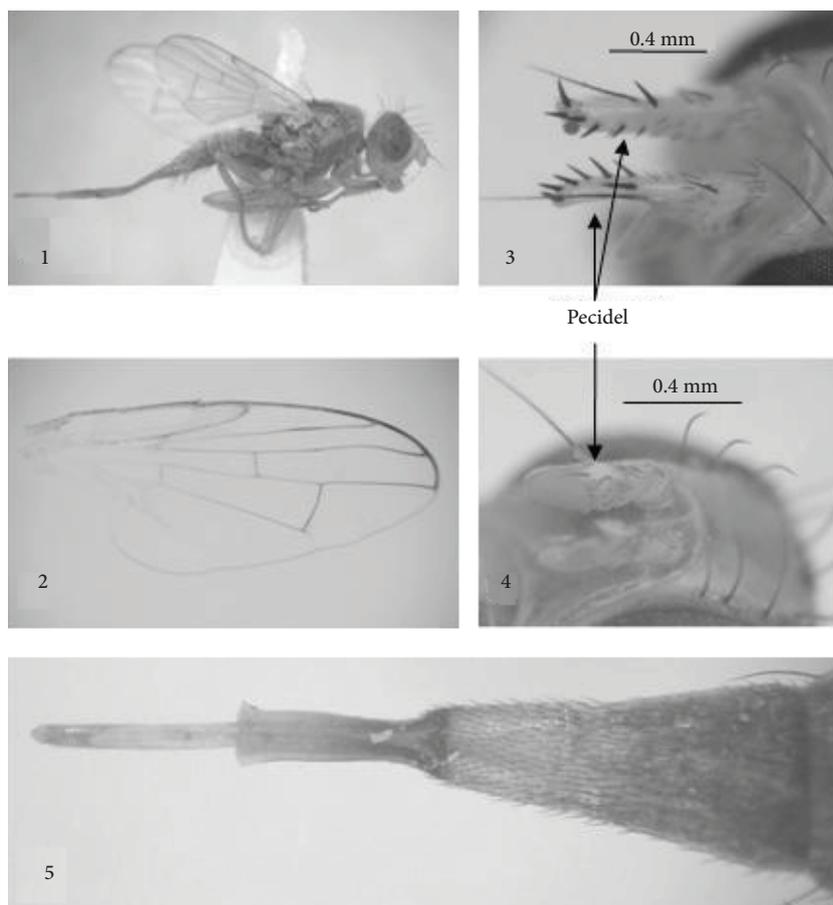
**Head:** Mostly red; ocellar spot black; 3 brown to black frontal setae; occiput reddish; postocellar seta white; anterior vertical setae longer than posterior orbital setae; posterior orbital setae proclinate and divergent; antenna yellow; pedicel (Figures 3 and 4) as in *Terellia ceratocera*; pedicel of male longer than that of female (Figure 3); base of arista red, other part black; fronto-facial angle about 100°-110°; genal setae distinct; palp yellow or reddish; palp with black spine and white hairs; labellum short and geniculate.

**Thorax:** Ground color red, tomentum black; mesonotum 1.3 times as long as wide, with white hairs; dorsocentral setae and prescutellar setae situated on black spots; dorsocentral setae, prescutellar setae and basal scutellar setae parallel; apical scutellar setae crossing apically; basal scutellar setae as long as apical scutellar setae; scutellum red to brown; humerus red; humeral hairs white.

**Legs:** Mostly yellow to red with black hairs; trochanter yellow; hind coxa mostly white.

**Wing:** Completely hyaline but pterostigma yellow (Figure 2); vein M ends at wing tip, last section of vein M 2.2 times as long as penultimate section; cell cup short pointed; costal spine distinct.

**Female abdomen:** Ground color red to brown mostly with whitish hairs; often with 2-4 rows of black spots dorsally, some spots sometimes lacking; 6<sup>th</sup> tergite 1.2 times as long as tergite 5; posterior margin of tergite yellowish banded; *postabdomen*: basal half of oviscape brown, apical half red; oviscape with black



Figures 1-5. *Terellia yukseli* n. sp.; 1- holotype female; 2- female wing; 3- male pedicel; 4- female pedicel; 5- female postabdomen.

hairs; oviscape as long as posterior 4 tergites; aculeus apex rounded, with 3 pairs of hairs (Figure 9).

*Male abdomen:* Coloration is, as in female; epandrium (Figures 6-7) yellow brown with dark brown setulae; surstyli as in Figure 6; proctiger yellow with dark brown setulae (Figure 7); glans sclerotized (Figure 8).

Measurements: (length in mm): Female *body* 5.5-6.3; *wing* 3.7-4.4; *aculeus*: 2.1. Male *body* 4.1 -4.7; *wing* 3.4-4.0.

*Host plant and biology:* Unknown, specimens were collected from *Centaurea urvillei* D.C. (Asteraceae).

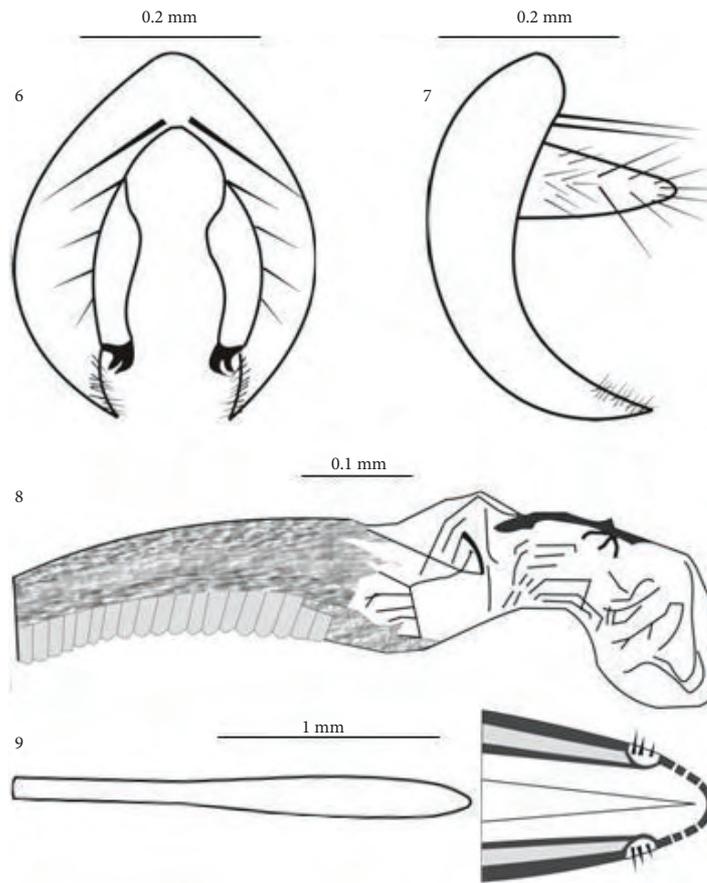
### Etymology

This species is named after Prof. Eşref Yüksel, a friend and excellent biologist, who contributed much to the study of cytogenetics in Turkey.

### Discussion and conclusion

The new species is similar to *T. setifera* Hendel and *T. clarissima* Korneyev in having entirely hyaline wing. The adeagal glans of *T. yukseli* differs from *T. clarissima* and *T. setifera*. Ultimate section of the vein M 2.2 times as long as penultimate part, apical scutellar setae across apically, basal scutellar setae as long as apical scutellar setae, mesonotum 1.3 times as long as wide in *T. yukseli*, whereas ultimate section of vein M 2 times as long as penultimate; apical scutellar setae parallel; basal scutellar setae 1.2 times as long as apical scutellar setae in *T. clarissima*.

All the compared species are associated with different host plants. The host plant of *T. clarissima* is *Jurinea cyanoides* (Asteraceae) and of *T. setifera* is *J. mollis*, whereas *T. yukseli* is thought to feed in the flower heads of *Centaurea urvillei* DC.



Figures 6-9. *Terellia yukseli* n. sp.; 6- epandrium and surstyli, posterior view (proctiger removed); 7- epandrium and proctiger, lateral view; 8- glands, dorsolateral view; 9- aculeus, dorsal view and enlarged at apex.

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