

Records of Two Species of *Terellia* Robineau-Desvoidy, 1830 (Diptera: Tephritidae) New to the Turkish Fauna

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Abstract: Samples collected from Turkey belonging to the genus *Terellia* Robineau-Desvoidy, 1830 were examined during 2000-2002. *Terellia gynaeochroma* (Hering, 1937) and *T. luteola* (Wiedemann, 1830) are new records for the fauna of Turkey.

Key Words: New records, Tephritidae, *Terellia gynaeochroma*, *T. luteola*, Turkey

Türkiye İçin *Terellia* Robineau-Desvoidy, 1830 Cinsine Bağlı (Diptera: Tephritidae) İki Yeni Kayıt

Özet: Bu çalışmada 2000 - 2002 yıllarında Türkiye'den toplanan *Terellia* Robineau-Desvoidy, 1830 cinsine bağlı örnekler incelenip bunlardan, *Terellia gynaeochroma* (Hering, 1937) ve *T. luteola* (Wiedemann, 1830) Türkiye faunası için yeni kayıttır.

Anahtar Sözcükler: Yeni kayıtlar, Tephritidae, *Terellia gynaeochroma*, *T. luteola* Türkiye

Introduction

Terellia is distinguished from other Terellinae genera by the following combination of characters [only the major characters are listed; more complete lists of characters can be found in Freidberg and Kugler (1989) and Merz (1994)]: frons flat or slightly convex; fronto-facial angle slightly projecting or rather rounded; face slightly concave; epistome projecting; palp usually spatulate to epistome; mesonotum usually flat and distinctly longer than wide, in *T. virens*, as long as wide and convex; dorcoentral setae situated or on very close to line of anterior supra-alars; wing banded, hyaline, at most slightly infuscate; stigma yellowish; veins r_{4+5} and m usually slightly convergent in their distal sections; terminal section of 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; most species of *Terellia* infest the flowerheads of Asteraceae hosts; their larvae developing in flowerheads.

With about 51 species (Thompson, 1998), the genus is known from most zoogeographic regions, the majority of species (about 40) being Palaearctic (Merz, 1994). Modern keys to species for several countries [Freidberg and Kugler (1989) for Israel and nearby areas, Merz (1994) for North and Central Europe, White (1988) for Great Britain, and Wang (1996) for China] are available. However, neither modern comprehensive treatments nor a phylogeny for the genus are available. The first list of Tephritid fauna was given by Giray (1979) from Turkey. Kütük and Özgür (2003) reported the Tephritidae fauna from the Southwest Anatolia region. Özgür and Kütük (2003) reported the Tephritidae fauna from Adana province.

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Materials and Methods

Samples were collected by standard sweep net during 2000-2002. The insect net was swung at random on host plants or adult specimens were collected. The samples were killed in a killing jar containing potassium cyanide. Original pictures of the wing and aculeus of species are presented. Materials were deposited in the İnönü University, Department of Biology, Malatya, Turkey. Identification of species was checked by Dr. Amnon Freidberg (University of Tel Aviv, Life Science, Department of Biology, Tel Aviv, Israel).

The terminology primarily follows Freidberg and Mathis (1986), Freidberg and Kugler (1989) and White et al. (2000).

Results

Samples were collected from Adana, Antalya, Burdur, Hatay, Isparta and Osmaniye provinces. According to the literature, *Terellia gynaecochochroma* and *T. luteola* species are reported as new records for the fauna of Turkey.

Terellia Robineau-Desvoidy, 1830

Essai sur les Mmiyodaires, 758.

Type species: *Terellia palpata* Robineau-Desvoidy, 1830.

Extensive synonymy and bibliography in Thomson (1998).

Terellia gynaecochochroma (Hering, 1937)

Bull. Sect. Sci. Acad. 18: 124-130.

Frons red; lower orbital setae black and acuminate; inner vertical setae brown, short and parallel; postorbital setae white; ocellar setae black and acuminate; third segment of antenna red; black hairs present on first and second segment of antenna; slender part of arista black; palp yellowish with white hairs; genal setae distinct and black; labellum short.

Thorax ground colour dark brown to black; white hairs present on mesonotum; mesonotum longer than wide; scutellum brown; prescutellar setae on black spot and parallel; dorsocentral setae situated to posterior anterior supra alar setae; scutellar setae long and crossed apically; 18-20 pairs of hairs present on scutellum, particularly near to side; humeral setae as long as notopleural setae.

Wing with 4 distinct yellow bands bordered with brown (Figure 1); second and third bands distinctly separated on costa; third and fourth bands separated on costa; second and third bands parallel; first band indistinct on anterior to pterostigma; first and second bands connected with infusate pattern; pterostigma yellow; veins r_{4+5} and m not parallel at apex of wing; cell cup with short point; hairs present on vein r_1 ; terminal section of vein m 2.1-2.2 times as long as penultimate section; tip of vein m on posterior margin of wing; costal spine distinct.

Abdominal ground colour brown and with white hairs; the end of fifth terga with long hairs; fifth abdominal terga of male as long as combined lengths penultimate 2 terga or longer; sixth abdomen terga of female longer than penultimate terga; oviscape red and with black hairs; oviscape as long as combined length posterior 3 terga; aculeus rounded at apex (Figure 2a); 3 pairs of hairs present on apex of aculeus (Figure 2b).

Material examined: 2 ♂♂, 2 ♀♀, Antalya, Kaş, Kalkan, 36 ° 17 ' N, 29 ° 24 ' E, 23 m, 21.05.2000; 2 ♂♂, Burdur, side of lake, 37 ° 41 ' N, 30 ° 11 ' E, 875 m, 13.06.2001; 1 ♀, 1 ♂, Hatay, Yayladağı, Sebenoba, 36 ° 03 ' N, 36 ° 01 ' E, 545 m, 10.05.2002; 2 ♂♂, Isparta, Aksu, Yakaköy, 37 ° 43 ' N, 31 ° 17 ' E, 1800 m, 27.06.2000; 2 ♀♀, Isparta, Aksu, Yakaköy, 37 ° 43 ' N, 31 ° 16 ' E, 1760 m, 12.05.2001; 1 ♂, 2 ♀♀, Osmaniye, Düziçi, Gökçayır, 37 ° 17 ' N, 36 ° 27 ' E, 375 m, 10.06.2002; 2 ♂♂, 2 ♀♀, Osmaniye, Yarpuz plateau, 37 ° 02 ' N, 36 ° 26 ' E, 1075 m, 11.06.2002.

Measurements: (length in mm): Male body 6.0-6.5; wing 4.5-5.2. Female body 6.3- 7.0; wing 4.5-5.1.

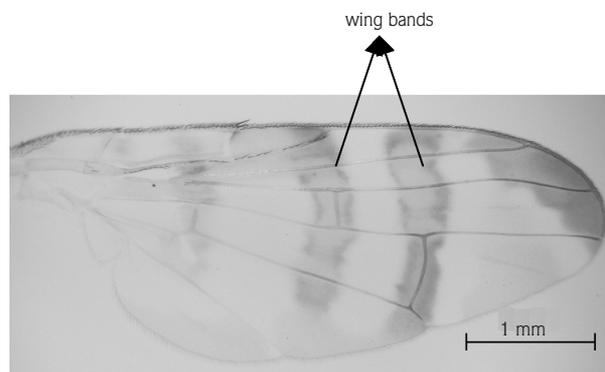


Figure 1. The wing of *Terellia gynaecochochroma* (Hering, 1937).

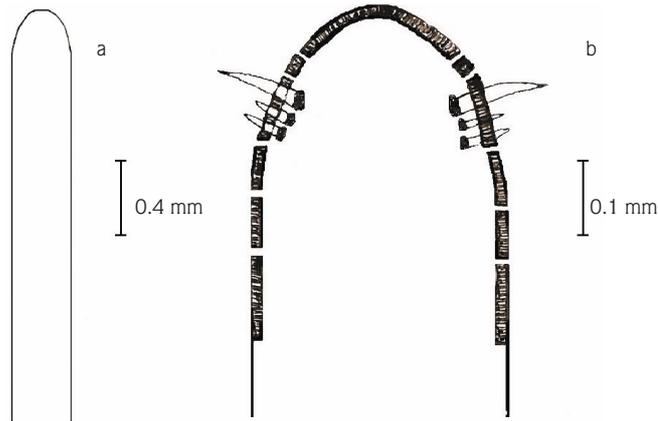


Figure 2. The aculeus of *Terellia gynaecochoroma* (Hering, 1937): a- aculeus, b-enlarged aculeus apex.

Host plants: *Onopordum anisacanthum* Boiss. and *O. illyricum* L. (Khouzama et al., 2002). In this study, the host plant of the species is *O. acanthium* L.

Distribution: Central and South Europe, Caucasus, Cyprus, Israel, Iran and Lebanon (Thompson, 1998; Khouzama et al., 2002).

***Terellia luteola* (Wiedemann, 1830)**

Auss. Zweiflu. Insekt. 2. 491 (Trypeta).

Frons red; lower orbital setae 3 pairs, black and acuminate; ocellar setae black and acuminate; postorbital setae white; postocellar setae white and parallel; inner vertical setae long, black and acuminate; anterior outer vertical setae to out, posterior outer vertical setae to in bend down; third segment of antenna black with rounded apex; first and second segments of antenna with hairs; arista black, basal partition brown; palp brownish; hairs present on palp and with black hairs on apex; genal setae distinct; labellum short and spatulate.

Mesonotal ground colour black; mesonotum as long as wide and mostly with white hairs; dorsocentral setae shorter than prescutellar setae; prescutellar setae black and parallel; apical scutellar setae crossed apically; basal scutellar setae parallel; basal scutellar setae longer than apical scutellar setae; scutellum yellow or reddish; 13-14 pairs of hairs present on scutellum; prescutellar setae situated on black spot.

Wing hyaline but pterostigma yellow (Figure 3); vein m reaching posterior margin of wing; terminal section of vein m 1.7-1.8 times as long as penultimate section; hairs present on veins r_{4+5} and m parallel; vein cell cup with short point; costal spine distinct.

Abdominal ground colour yellow; black hairs present on tergum; fifth terga of male as long as combined penultimate 2 terga; posterior margin of fifth terga with long black hairs; sixth terga of female; longer than fifth terga; oviscapae red; black hairs present on aviscapae; aculeus side indented around apex (Figure 4a); 3 pairs of hairs present on apex of aculeus (Figure 4b).

Material examined: 2 ♂♂, Adana, Pozantı, Alpu, 37 ° 28 ' N , 34 ° 54 ' E , 1120 m, 30.05.2002; 2 ♂♂, 1 ♀, Adana, Karahan, 37 ° 01 ' N , 35 ° 10 ' N , 70 m, 23.05.2001; 2 ♀♀, Burdur Yeşilova, Karaatlı, 37 ° 33 ' N , 29 ° 48 ' E 1160 m, 13.06.2001; 2 ♂♂, Hatay, Narlıca, 36 ° 15 ' N , 36 ° 14 ' E , 110 m, 08.05.2002; 1 ♂, 2 ♀♀, Hatay, Dörtöyl, Yeniuyurt, 36 ° 53 ' N , 36 ° 07 ' E , 23 m, 08.05.2002; 2 ♂♂, 2 ♀♀, Hatay, Belen, Kıcı, 36 ° 29 ' N , 36 ° 16 ' E , 575 m, 08.05.2002; 2 ♂♂, 2 ♀♀, Hatay,

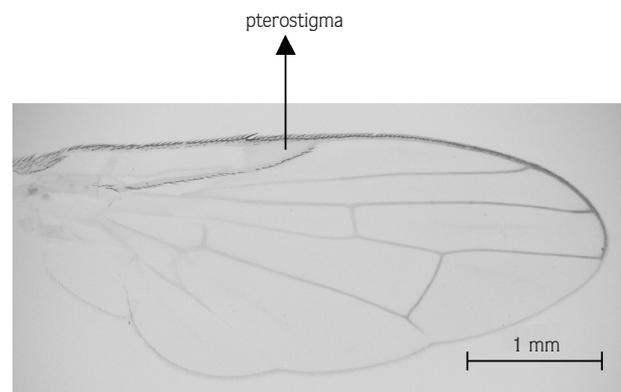


Figure 3. The wing of *Terellia luteola* (Wiedemann, 1830).

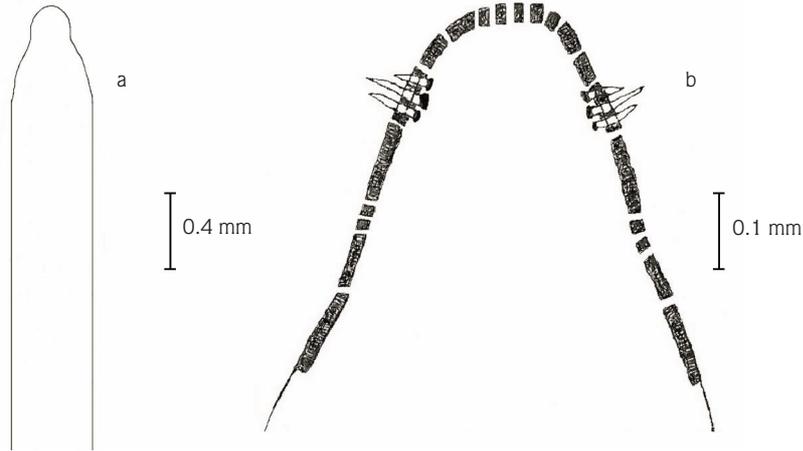


Figure 4. The aculeus of *Terellia luteola* (Wiedemann, 1830): a- aculeus, b- enlarged aculeus apex.

Yayladağı, Leylekli, 35 ° 57 ' N, 36 ° 02 ' E, 545 m, 10.05.2002;. 1 ♂, 1 ♀, Isparta, Yalvaç, 38 ° 16 ' N, 31 ° 25 ' E, 1520 m, 08.07.2000.

Measurements: (length in mm): Male body 4.5-5.1; wing 3.7-4.1. Female body 6.0- 6.4; wing 3.8-4.3.

Host plants: *Carthamus syriacum* (Boiss.) and *C. tenuis* (Boiss. & Blanche) (Khouzama et al., 2002). In this study, the host plant of the species is *Onopordum acanthium* L. and *Carthamus tinctorius* (Boiss.).

Distribution: Spain, Italy, Greece, Israel, Egypt, Tunisia and Lebanon (Thompson, 1998; Khouzama et al., 2002).

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