

## A new species of *Tephritis* Latreille (Diptera: Tephritidae) from Turkey

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**ABSTRACT.** *Tephritis erdemlii* n. sp., from Isparta province, Turkey, associated with *Cirsium vulgare* is described and illustrated. The new species is similar in wing pattern to *T. cometa israelis* Freidberg, and *T. acanthiophilopsis* Hering, differing in the details of wing pattern and the conspicuously longer aculeus.

**KEY WORDS :** *Tephritis*, new species, Tephritidae, Turkey.

### INTRODUCTION

With about 170 species (NORRBOM et al., 1999; KORNEYEV & DIRLBEK, 2000), *Tephritis* Latreille is the sixth largest genus of Tephritidae and third largest genus in the Tephritinae. Although the genus is known from most zoogeographic regions, the majority of the species (about 120) are Palaearctic. The most complete key to species is HERING (1944), which is outdated. Modern keys to species for several countries are available e.g., WHITE (1988) for Great Britain; FREIDBERG & KUGLER (1989) for Israel and nearby areas; MERZ (1994) for North and Central Europe; WANG (1996) for China, KÜTÜK (2003) for Turkey, but the coverage, especially for west Asia is partial.

Most species of *Tephritis* infest the flowerheads of Asteraceae hosts, collectively belonging to several tribes, with or without the induction of galls. A few species induce the formation of galls in the upper or subterranean parts of stems of Asteraceae (FREIDBERG, 1984).

In summer 1999, the author collected a series of adults of an uncommon species of the genus *Tephritis* that infested the flowerheads of *Cirsium vulgare* (SAVI.-TEN.) in Turkey, and which is similar to *T. acanthiophilopsis* and *T. cometa israelis*. The new species is described and figured below.

### MATERIALS AND METHODS

Terminology and morphological interpretations used in this paper follow WHITE et al. (1999). Type specimens are deposited in the Department of Biology, Faculty of Science & Art, Gaziantep University, Gaziantep, Turkey (GUGT). The possible host plant of the new species was identified by Prof. Şemsettin Civelek (Department of Biology, Firat University, Elazığ, Turkey).

*Tephritis erdemlii* Kütük n. sp.

(Figures 1-5)

#### Type Materials

Holotype: ♀, Turkey: Isparta, Yalvaç, Sultan mountain, 38° 16' N, 31° 25' E, 1520 m, 08.VII.1999, on *Cirsium*

*vulgare* (SAVI.-TEN.) (leg. M. Kütük). Paratypes; 7 ♂♂, 11 ♀♀, same data as holotype, collected on *Cirsium vulgare*. Additional paratypes; 2 ♂♂, Isparta, Yalvaç, 38° 15' N, 31° 22' E, 1570 m, 11.VI.1999, on *C. vulgare*; 2 ♂♂, 4 ♀♀, Antalya, Akseki, Göktepe plateau, 37° 40' N, 32° 00' E, 2100 m, 13.VII.1999, on *Cirsium vulgare*; 2 ♂♂, Isparta, Aksu, Çayır plateau, 37° 47' N, 31° 14' E, 1880 m, 14.VII.1999, on *C. vulgare*; 2 ♂♂, 2 ♀♀, Isparta, Yenişarbademli, 37° 43' N, 31° 18' E, 1780 m, 27.VI.2000, on *C. vulgare*. The holotype is in excellent condition, and deposited in the Department of Biology, University of Gaziantep, Gaziantep, Turkey, together with most paratypes.

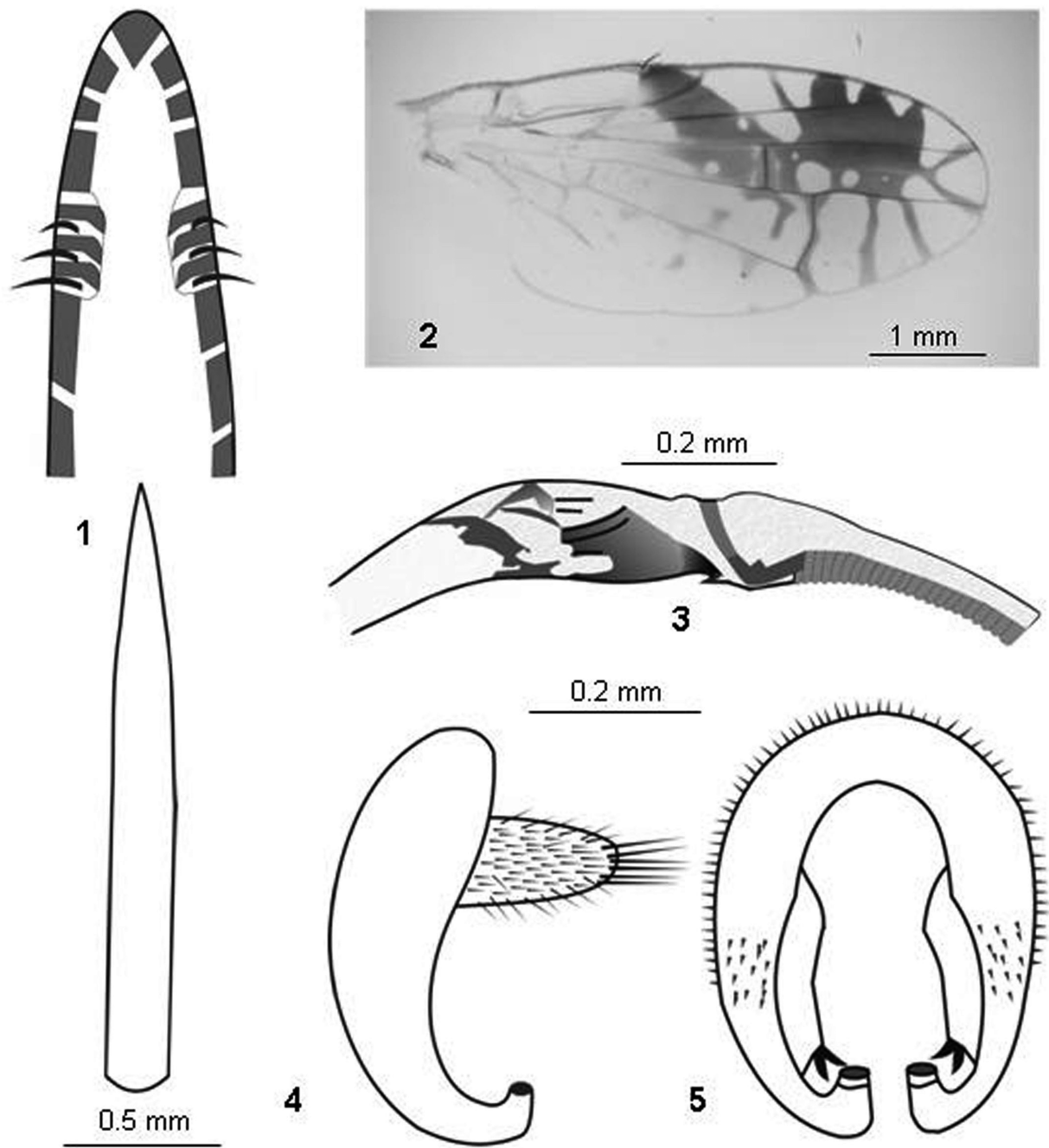
### Description

Head: Mostly yellow to brown; blackish on occiput and ocellar tubercle; first flagellomere red to brown; basal half of arista brown, apical half black; pedicel 0.4-0.5 times as long as first flagellomere and with black setulae; palpus mostly red, brownish at apex; fronto-facial angle about 135°; genital seta distinct and whitish.

Thorax: Ground colour predominantly black; microtrichia dark gray, more silvery on scutum; most setae dark brown and acuminate; posterior notopleural seta yellowish and lanceolate; setulae whitish, 13-16 pairs present on margin of scutellum; basal scutellar seta 2 times as long as apical scutellar seta; halter yellow.

Legs: Setulae mostly yellowish, some black; tarsi dark red to brown.

Wing: Venation typical for genus. Vein  $R_{4+5}$  ventrally with 5-8 (usually 6) setulae, on basal section 0-5, (usually 4). Pattern: Basal half mostly hyaline, apical half brown stellate; wide hyaline costal indentation present distal to pterostigma (including apex of pterostigma), ending slightly distal to crossvein R-M and extending to vein  $R_{4+5}$ ; cell  $r_1$  with two additional hyaline areas (3 total) extending to vein  $R_{2+3}$  (Fig. 2) including one near apex of vein  $R_{2+3}$ ; ultimate section of vein M 3.6 times as long as penultimate section.



Figs 1-5. – *Tephritis erdemlii* n. sp; 1- aculeus, 2- wing, 3- glans (dorsolateral view), 4- epandrium and proctiger (lateral view), 5- epandrium and surstyli (posterior view).

Female abdomen: Ground colour black; microtrichia dark gray; setulae whitish oviscape dark brown to black, 0.6 times as long as preabdomen; aculeus pointed (Fig. 1), with three pairs of hairs at apex.

Male abdomen: Epandrium (Figs 4; 5) yellow to brown; proctiger pale yellow with brown setulae (Fig. 5); glans sclerotized brownish and pointed at margin near base (Fig. 3).

Measurements (length in mm): Female body 5.8-7.7, wing 4.2-5.4; Male: body 4.7-5.4; wing 4.0-4.8.

#### Comparative notes

The new species is similar to *Tephritis acanthiphilopsis* Hering from Turkey, and to *T. cometa israelis* (Loew), known from Greece, Syria and Israel, sharing with them similar wing patterns (basal half mostly hyaline, apical

half brown stellate, wide hyaline costal indentation present beyond pterostigma, including apex of pterostigma).

*T. acanthiophilopsis* has a similar wing pattern but the hyaline areas are more restricted, including the large hyaline costal indentation, which often does not extend to vein  $R_{4+5}$  and is often divided into anterior and posterior, rounded spots, the two other hyaline spots usually not extending to vein  $R_{2+3}$ ; oviscapae 0.4 times as long as preabdomen, length of female specimens less than 5.4 mm. *T. cometa israelis* has similar wing pattern but only one hyaline spot extending to vein  $R_{2+3}$ , two other hyaline areas not extending to vein  $R_{2+3}$  in cell  $r_1$ , oviscapae 0.3 times as long as preabdomen, length of female specimens less than 4.5 mm. The new species differs from both species by the hyaline spots of the wing (three hyaline spots extending to or crossing vein  $R_{2+3}$  in cell  $r_1$ ), oviscapae 0.6 times as long as preabdomen, length of female specimens more than 5.8 (5.8-7.7) mm.

*T. seperata* is similar to the new species in having three hyaline spots extending to vein  $R_{2+3}$  in the cell  $r_1$  but has three round hyaline spots present anterior of vein R-M in cell br (only one round hyaline spot present anterior of vein R-M in *T. erdemlii*).

All compared species are apparently associated with different host plants: *T. cometa israelis* - with *Cirsium gaillardotii* (FREIDBERG & KUGLER, 1989), *T. acanthiophilopsis* - with unknown host (HENDEL, 1927) Replace by: *Cirsium tuberosum* (A. Freidberg, pers. comm.). *T. erdemlii* n. sp. is believed to feed in the flower heads of *Cirsium vulgare* (Asteraceae).

### Etymology

This species is named after Prof. Ümit Erdemli, a friend and excellent hydrobiologist, who has contributed much to the study of Pisces and Crustaceae in Turkey.

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