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Faunistical and systematical studies on the genus ***Tephritis*** Latreille, 1804 (Diptera: Tephritidae) in the South West of Turkey along with new records*

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Summary

The present study is based on ***Tephritis*** Latreille samples collected from South West Anatolia Region of Turkey during the years of 1999 – 2001. During the study, eleven species belonging to the genus ***Tephritis*** were recorded. Among these species, ***Tephritis hyoscyami*** (Linnaeus), ***T. nigricauda*** (Loew), ***T. sauteri*** Merz, ***T. seperata*** Rondani, ***T. vespertina*** (Loew) are new records for the Tephritidae fauna of Turkey. Identification key to the species were prepared. The distribution of the species in Turkey and elsewhere in the world is reported.

Key words: ***Tephritis***, Tephritidae, South West Anatolia, Turkey

Anahtar sözcükler: ***Tephritis***, Tephritidae, Güneybatı Anadolu, Türkiye

Introduction

The genus ***Tephritis*** Latreille is distinguished from all other Tephritinae genera by the following combination of characters (only the major characters are listed; more complete lists of characters can be found in Freidberg & Kugler (1989) and Merz (1994)); two orbital setae, anterior seta acuminate and dark (brown or blackish), posterior seta usually lanceolate and pale (whitish or yellowish; in two species brown or black); two dark frontal setae; dorsocentral seta situated on or slightly posterior to transverse suture; scutellum flat, with two pairs of setae, apical seta about 0.4-0.6 times as long as basal seta; wing pattern highly variable among

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the species, usually reticulate with well developed apical fork, sometimes stellate (as in ***T. cometa*** (Loew)), or even banded (as in ***T. postica*** (Loew); oviscape (the first segment of ovipositor) somewhat flattened dorsoventrally.

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 stems or roots of Asteraceae (Freidberg, 1984; Merz, 1994). With about 170 species (Wang, 1996; Norrbom et al., 1999; Korneyev and Dirlbek, 2000), ***Tephritis*** is the sixth largest genus of Tephritidae and the third largest genus in the Tephritinae. Although the genus is known from most zoogeographic regions, the majority of the species (about 120) are Palaearctic. Sixteen species of ***Tephritis*** were found in Turkey (Giray, 1979; Foote, 1984; Kütük, 1998; Anay & Kornoşor, 2000) The most comprehensive key to species was given by Hering (1944), which is now of date. Modern keys to species for several countries are available (e.g. Hendel, 1927, for North and Central Europe; White, 1988, for Germany, Freidberg & Kugler, 1989, for Israel and nearby areas; Merz, 1994, for Great Britain; Wang, 1996, for China), but neither modern comprehensive treatments nor a phylogeny for the genus are available.

Material and Methods

South West Anatolia was selected as the research area (Antalya, Aydın, Burdur, Denizli, Isparta and Mugla provinces). Present study was conducted in the years 2001-2002. The samples of ***Tephritis*** were collected over a period 15-20 days in every month (April, May, June and July).

The adults of ***Tephritis*** were collected by standard sweep net. The samples were placed in the killing bottle that contained potassium cyanide. The samples were prepared at laboratory. The samples were housed in the museum of Science Faculty of Inönü University.

Species were identified by following the publications of Hering (1944), Freidberg & Kugler (1989) and Merz (1994). The identified specimens were checked by Dr. Amnon Freidberg (University of Tel Aviv, Life science, Department of Biology, Tel Aviv, Israel). The host plants were identified by Şemsettin Civelek (University of Fırat, Department of Biology, Elazığ, Turkey).

The primarily terminology followed were Freidberg & Mathis (1986), Freidberg & Kugler (1989), Merz (1994) and White et al. (2000).

A regional key of species was prepared. Examined materials, their host range, distribution and an original picture of the wing of all species were given.

Results and Discussion

During the study, eleven species belonging to the genus ***Tephritis*** were collected. Among those species ***Tephritis hyoscyami*** (Linneaus), ***T. nigricauda*** (Loew), ***T. sauteri*** Merz, ***T. seperata*** Rondani, ***T. vespertina*** (Loew) are new records for the fauna of Turkey.

Key to species of *Tephritis* occurring in South West Anatolia

1 Apical fork absent; only isolated brown spots present at the ends of vein r_{4+5} and vein m (fig. 1.7) 2
- Apical fork present (fig. 1.1) 4

2. Brown spots and pattern are larger than hyaline areas on wing (fig. 1.3) ..... ***formosa*** (Loew)
- Brown spots and pattern are smaller than hyaline areas on wing (fig. 1.7) 3

3. Stigma with hyaline tip; five or six circular hyaline areas present in cells R_{4+5} and BR; the pattern of wing bigger in these cells (fig. 1.5) ..... ***hyoscyami*** (Linnaeus)
- Stigma completely dark brown; only one or two hyaline areas present in cells R_{4+5} and BR; the pattern of wing smaller in these cells (fig. 1.7) ..... ***postica*** (Loew)

4. Branches of apical fork uniformly narrow along their entire length (fig. 1.4) 8
- Branches of apical fork widen distinctly towards wing margin (fig. 1.6) 5

5. Two hyaline areas present in cell R1 (fig. 1.6) 6
- Three hyaline areas present in cell R1 (fig. 1.9) 7

6. Pattern of wing usually dark brown; hyaline areas few and small; hyaline area triangular in the tip of cell R1 (fig. 1.8) ..... ***sauteri*** Merz
- Pattern of wing usually brown; hyaline areas more and bigger; two hyaline areas is rectangle in cell (fig. 1.6) ..... ***nigricauda*** (Loew)

7. Mesonotum is with grey pollinose (dusty); third segment of antenna about 1.4 times as long as wide; apical scutellar setae about 0.4 times as long as basal scutellar seta; hyaline areas between apical fork small (fig. 1.11) ..... ***vespertina*** (Loew)
- Mesonotum is with brown pollinose (dusty); third segment of antenna about 2 times as long as wide; apical scutellar setae about 0.6 times as long as basal scutellar setae; hyaline area branches of between apical fork is bigger (fig. 1.10) ..... ***simplex*** (Loew)

8. Brown pattern distinctly seen in cells DM and CuA_1 10
- Brown pattern absent in cells DM and CuA_1 or a few small spots present 9

9. Frons about 1.8 times as long as eyes wide; third segment of antenna about 1.7 times as long as wide; two or more hyaline areas present in cell M (fig. 1.2) ..... ***cometa*** Freidberg
- Frons about 1.2 times as long as eyes wide; third segment of antenna about 1,4 times as long as wide; only one hyaline area present in cell M (fig. 1.1) ..... ***acanthiophilopsis*** Hering

10. Two hyaline areas present in cell R1; pattern of wing indented shape V on basal of wing; small spots present in costal cell; (fig. 1.4) ..... ***hurtvitzi*** Freidberg
- Three hyaline areas present in cell R1; pattern of wing not indented on basal of wing; small spots absent in costal cell (fig. 1.9) ..... ***seperata*** Rondani

Tephritis acanthiophilopsis Hering, 1938
Konowia, 16: 247 (***Tephritis***)

Material examined: 2 ♂♂, 2 ♀♀, Antalya, Akseki, Bucakkısla, 37.03 N, 31.48 E, 1175 m, 12.VII.2000; 3 ♂♂, 2 ♀♀, Isparta, Yenisarbademli, 37.43 N, 31.17 E, 1800 m, 27.VI.2000.

Host plants: ***Cirsium arvense***, ***C. vulgare***, ***Carduus nutans*** and ***Centaurea iberica*** (Merz, 1994). In this study, host plants of the species are ***Cirsium arvense*** and ***C. iberica***.

Distribution: Afghanistan, Ukraine, Russia, Azerbaijan, Tajikistan, Armenia, Moldova and Switzerland (Foote, 1984; Merz, 1994). Foote (1984) recorded this species from Turkey.

Tephritis cometa Freidberg, 1974
Stettin. Ent. Ztg., 1: 157 (***Trypeta***)

Material examined: 2 ♂♂, 4 ♀♀, Antalya, Akseki, Goktepe plateau, 37.40 N, 32.00 E, 2100 m, 13.VII.1999; 3 ♂♂, Antalya, Elmalı, Elmalısu, 36.34 N, 32.21 E, 1320 m, 10.VII.2000; 2 ♂♂, 4 ♀♀, Burdur, Yesilova, Yarıslar, 37.35 N, 29.57 E, 930 m, 25.VI.1999; 5 ♂♂, 4 ♀♀, Burdur, Yesilova, Salda, 37.29 N, 29.36 E, 1180 m, 23.VI.2000; 2 ♂♂, Burdur, Center, Soganlı, 37.34 N, 30.15 E, 1515 m, 15.VII.2000; 4 ♂♂, Burdur, Yesilova, Salda, 37.29 N, 29.36 E, 1175 m, 16.VII.2000; 1 ♂, 2 ♀♀, Isparta, Yalvac, Sultan mountain, 38.15 N, 31.22 E, 1570 m, 15.VI.1999; 4 ♂♂, 9 ♀♀, Isparta, Yalvac, Sultan mountain, 38.16 N, 31.25 E, 1520 m, 08.VI.1999; 4 ♂♂, Isparta, Yenisarbademli, 37.43 N, 31.20 E, 1440 m, 14.VII.1999; 2 ♂♂, Isparta, Aksu, Cayır plateau, 37.47 N, 31.14 E, 1880 m, 14.VII.1999; 3 ♂♂, 3 ♀♀, Isparta Aksu, Yakakoy, 37.43 N, 31.17 E, 1800 m, 27.VI.2000; 3 ♀♀, Isparta, Yenisarbademli, Dedegol mountain, 37.41 N, 31.20 E, 1524 m, 13.VII.2000; 1 ♂, 2 ♀♀, Isparta, Aksu, Dedegol mountain, 37.42 N, 31.14 E, 1610 m, 13.VII.2000; 2 ♂♂, 3 ♀♀, Isparta, Keciborlu, Ozbahce, 38.01 N, 30.21 E, 1330 m, 19.VII.2000; 2 ♀♀, Isparta, Uluborlu, Ileydag, 38.03 N, 30.23 E, 1175 m, 13.VI.2001.

Host plants: ***Cirsium gaillardotii***, ***C. vulgare***, ***C. arvense***, ***C. palusre*** (Giray, 1979; White, 1988; Freidberg & Kugler, 1989; Merz, 1994). In this study, host plants of the species are ***C. gaillardotii***, ***C. vulgare***, ***C. arvense*** and ***Centaurea*** sp.

Distribution: West and Middle Asia, Israel, Afghanistan, Russia, Estonia, Latvia, Lithuania, Ukraine, Moldova, Azerbaijan, Georgia, Armenia, Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan, Turkmenistan, Switzerland, England and Germany, (Hendel, 1927; Foote, 1984; White, 1988; Freidberg & Kugler, 1989; Merz, 1994). Giray (1969, 1979) recorded this species from Denizli, Sinop and Amasya provinces.

Tephritis formosa (Loew, 1844)
Z. Ent. Leipzig, 5: 388 (***Trypeta***)

Material examined: 2 ♂♂, 4 ♀♀, Antalya, Alanya, Sıhlar, 36.39 N, 32.25 E, 1250 m, 16.V.1999; 1 ♂, 1 ♀, Antalya, Alanya, Demirtas, 36.26 N, 32.12 E, 80 m, 17.V.1999; 2 ♂♂, 4 ♀♀, Antalya, Manavgat, Eminler, 36.59 N, 31.12 E, 200 m, 10.VII.1999; 2 ♂♂, 3 ♀♀, Antalya, Elmalı, Gombe, 36.33 N, 29.36 E, 1960 m, 11.VII.1999; 5 ♂♂, 9 ♀♀, Antalya, Alanya, Gevne valley, 36.51 N, 32.21 E, 1585 m, 10.VII.2000; 2 ♂♂, 3 ♀♀, Antalya, Elmalı, Gombe, 36.33 N, 29.36 E, 1960 m, 14.VI.2001; 16 ♂♂, 8 ♀♀, Burdur, Golhisar, 37.05 N, 29.31 E, 910 m, 20.V.1999; 4♂♂, 2 ♀♀, Isparta, Yalvac, Sultan mountain, 38.15 N, 31.22 E, 1600 m, 08.VII.1999; 1 ♂, 2 ♀♀, Isparta, Yalvac, Elegi, 38.19 N, 31.07 E, 1260 m, 08.VII.1999; 1 ♂, 4 ♀♀, Isparta, Keciborlu, Ozbahce, 38.01 N, 30.21 E, 1300 m, 09.VII.1999; 1 ♂, Burdur, Yesilova, Guney, 37.30 N, 29.30 E, 1000 m, 23.VI.2000; 6 ♂♂, 8 ♀♀, Burdur, Golhisar, 37.05 N, 29.31 E, 910 m, 15.VI.2001.

Host plants: ***Sonchus oleraceus***, ***S. aspera***, ***S. arvensis***, ***Hypochaeris radicata***, ***Crepis virens*** (White, 1988; Freidberg & Kugler, 1989; Merz, 1994). In this study, host plants of the species is ***Sonchus aspera***.

Distribution: Caucasus, Israel, Persia, Russia, Ukraine, Moldova, Azerbaijan, Georgia, Armenia, England, Switzerland and Germany (Hendel, 1927; Foote, 1984; White, 1988; Freidberg & Kugler, 1989; Merz, 1994). Giray (1979) recorded this species from Balıkesir, Bilecik, Sinop, Antalya and Izmir provinces and also Kütük (1998) recorded the same species from Malatya province.

Tephritis hurtvitzi Freidberg, 1981
J. Wash. Acad. Sci., 70: 28 (***Tephritis***)

Material examined: 1 ♂, 2 ♀♀, Antalya, Elmalı, Calpınar, 36.54 N, 30.02 E, 1200 m, 11.VII.1999; 1 ♂, 3 ♀♀, Antalya, Ibradı, Ibradı plateau, 37.15 N, 31.28 E, 1270 m, 13.VII.2000; 4 ♂♂, 2 ♀♀, Burdur, Central province, Karacaoren, 37.32. N, 30.13 E, 1435 m, 15.VII.2000; 1 ♂, 2 ♀♀, Denizli, Cardak, Acıgol, 37.49 N, 29.45 E, 860 m, 19.VII.2000; 2 ♂♂, 3 ♀♀, Isparta, Keciborlu, 37.56 N, 30.14 E, 1065 m, 22.V.1999; 2 ♂♂, 1 ♀, Isparta, Yalvac, Yarıkkaya, 38.27 N, 31.02 E, 1450 m, 08.VII.1999; 2 ♀♀, Isparta, Yalvac, Elegi 38.19 N, 31.07 E, 1260 m, 08.VII.1999; 1 ♂, 1 ♀, Isparta, Keciborlu, Ozbahce, 38.01 N, 30.21 E, 1300 m, 09.VII.1999; 2 ♂♂, Isparta, Aksu, Dedegol Mountain, 37.42 N, 31.17 E, 1610 m, 13.VII.2000; 1 ♂, 2 ♀♀, Isparta, Aksu, Cayır plateau, 37.49 N, 31.11 E, 1900 m, 14.VI.2000; 2 ♀♀, Isparta, Yalvac, Sultan Mountain, 38.15 N, 31.22 E, 1560 m, 20.VII.2000; 2 ♂♂, Mugla, Koycegiz, Yayla, 37.03 N, 28.47 E, 1790 m, 17.VII.2000.

Host plants: ***Scorzonera syrica***, ***Tragopogon longirostris*** (Freidberg & Kugler, 1989). In this study, host plants of the species is ***S. syriaca***.

Distribution: Greece, Cyprus, Persia, Russia, Uzbekistan, and Israel (Foote, 1984; Freidberg & Kugler, 1989). Freidberg & Kugler (1989) recorded this species from Turkey.

Tephritis hyoscyami (Linnaeus, 1758)
Syst. Nat. Ed. 10, 1: 600 (***Musca***)

Synonym: ***Musca dilacerata*** Zetterstedt, 1849; ***Tephritis personata*** Loew, 1869.

Material examined: 1 ♂, 1 ♀, Antalya, Alanya, Sıhlar, 36.39 N, 32.25 E, 1250 m, 16.V.1999; 1 ♂, Antalya, Ibradı, Ibradı Plateau, 37.16 N, 31.17 E, 1300 m, 23.VI.1999; 1 ♀, Antalya, Ibradı, 37.15 N, 31.28 E, 1270 m, 13.VII.2000; 2 ♂♂, Mugla, Koycegiz, Yayla, 37.03 N, 28.47 E, 1790 m, 17.VII.2000.

Host plants: ***Carduus crispus***, ***C. defloratus***, ***C. personata*** and ***C. aconthoides*** (Merz, 1994). In this study, host plants of the species is ***C. acanthoides***.

Distribution: North and Middle Europe, Russia, Estonia, Latvia, Ukraine, Lithuania, Moldova, Azerbaijan, Georgia, Armenia, China and Switzerland (Foote, 1984; Merz, 1994). This species is a new record for Turkey.

Tephritis nigricauda (Loew, 1856)
Prog. K. Realschul. Meseritz, 1856: 53 (***Trypeta***)

Synonym: ***Tephritis matricaria***, Fraunfeld, 1861; ***Tephritis matutina*** Rondani, 1871

Material examined: 2 ♂♂, 1 ♀, Antalya, Alanya, Kaplanhanı, 36.35 N, 32.22 E, 1228 m, 16.V.1999; 5 ♀♀, Antalya, Alanya, Demirtas, 36.26 N, 32.12 E, 80 m, 16.V.1999; 5 ♂♂, 3 ♀♀, Antalya, Manavgat, Oymapınar, 36.53 N, 31.30 E, 40 m, 17.V.1999; 2 ♂♂, 5 ♀♀, Antalya, Manavgat, Sagırini, 37.04 N, 31.14 E, 100 m, 17.V.1999; 2 ♂♂, 3 ♀♀, Antalya, Elmalı, 36.50 N, 29.54 E, 1600 m, 17.VI.1999; 2 ♂♂, 3 ♀♀, Antalya, Kas, Sinekcibeli, 36.26 N, 29.39 E, 1490 m, 21.V.2000; 3 ♀♀, Antalya, Ibradı, Ibradı Plateau, 37.19 N, 31.26 E, 1225 m, 13.VII.2000; 1 ♂, 2 ♀♀, Burdur, Golhisar, 37.05 N, 29.31 E, 910 m, 20.V.1999; 3 ♀♀, Burdur, Yesilova, Eseler Mountain, 37.30 N, 29.39 E, 1390 m, 21.V.1999; 3 ♂♂, Burdur, Aglasun, Yesilbaskoy, 37.39 N, 30.27 E, 1400 m, 15.VII.2000; 3 ♂♂, Burdur, Central province, Soganlı, 37.34 N, 30.15 E, 1515 m, 15.VII.2000; 1 ♂, 1 ♀, Burdur, Yesilova, Salda, 37.29 N, 29.36 E, 1185 m, 13.VI.2001; 2 ♂♂, Isparta, Egirdir, Akbelenli, 37.34 N, 30.52 E, 890 m, 19.V.2000; 2 ♂♂, 2 ♀♀, Isparta, Yenisarbademli, Yakakoy, 37.43 N, 31.18 E, 1780 m, 27.VI.2000; 3 ♂♂, Isparta, Aksu, Cayır Plateau, 37.45 N, 31.14 E, 1760 m, 14.VII.2000; 2 ♀♀, Isparta, Sütcüler, Sipahiler, 37.38 N, 30.59 E, 1185 m, 15.VII.2000; 2 ♀♀, Isparta, Sütcüler, 37.31 N, 30.57 E, 960 m, 15.VII.2000; 2 ♂♂, 2 ♀♀, Isparta, Keciborlu, Ozbahce, 38.01 N, 30.21 E, 1330 m, 19.VII.2000; 2 ♂♂, 4 ♀♀, Isparta, Yalvac, Sultan Mountain, 38.15 N, 31.22 E, 1560 m, 20.VII.2000.

Host plants: ***Anthemis arvensis*** and ***Achillea millefolium*** (Merz, 1994). In this study, host plants of the species is ***A. arvensis***.

Distribution: Austria, Switzerland, Russia, Estonia, Latvia, Lithuania, Ukraine, Moldova, Syria and Afghanistan (Foote, 1984; Merz, 1994). This species is a new record for Turkey.

Tephritis postica (Loew, 1844)
Z. Ent. Leipzig, 5: 393 (***Trypeta***)

Synonym: ***Tephritis posis*** Hering, 1939

Material examined: 3 ♂♂, 1 ♀, Antalya, Kas, Ahatlı, 36.15 N, 29.41 E, 390 m, 20.V.2000; 2 ♂♂, 1 ♀, Antalya, Kaş, Sinekcibeli, 36.26 N, 29.39 E, 1490 m, 21.V.2000; 2 ♂♂, 1 ♀, Antalya, Elmalı, Yakaciftlik, 36.38 N, 29.55 E, 1040 m, 14.VI.2001; 2 ♂♂, Aydın Karacasu, Ataeymir, 37.41 N, 28.47 E, 640 m,

23.V.2000; 1 ♂, 2 ♀♀, Burdur, Golhisar, 37.06 N, 29.37 E, 1000 m, 20.V.1999; 2 ♂♂, 1 ♀, Burdur, Yesilova, Karaatlı, 37.38 N, 29.43 E, 1150 m, 25.VI.1999; 2 ♂♂, Burdur, Bucak, Cobanlar, 37.15 N, 30.48 E, 135 m, 19.V.2000; 1 ♂, Burdur, Golhisar, Karapınar, 37.00 N, 29.32 E, 1020 m, 23.VI.2000; 1 ♂, Burdur, Aglasun, 37.39 N, 30.27 E, 1400 m, 15.VII.2000; 4 ♂♂, 2 ♀♀, Burdur Yesilova, Caltepe, 37.26 N, 29.49 E, 1210 m, 14.VI.2001; 3 ♂♂, 7 ♀♀, Denizli, Serinhisar, 37.37 N, 29.17 E, 1250 m, 21.V.1999; 11 ♂♂, 8 ♀♀, Denizli, Cavdır, Acıgol, 37.48 N, 29.42 E, 900 m, 22.V.1999; 2 ♀♀, Denizli, Acıpayam; Bedirbey, 37.20 N, 29.35 E, 860 m, 23.VI.2000; 2 ♂♂, 2 ♀♀, Denizli, Tavas, Solmaz, 37.30 N, 28.33 E, 920 m, 18.VII.2000; 2 ♀♀, Denizli, Serinhisar, 37.35 N, 29.23 E, 1080 m, 18.VII.2000; 3 ♂♂, Isparta Yalvac, Kuyucak, 38.12 N, 31.13 E, 1200 m, 15.VI.1999; 5 ♂♂, 6 ♀♀, Isparta, Senirkent, Gencali, 38.13 N, 31.03 E, 925 m, 16.VI.1999; 2 ♂♂, Isparta, Sütcüler, Ayvalıpınar, 37.40 N, 31.01 E, 1070 m, 24.VI.1999; 2 ♂♂, 1 ♀, Isparta, Central province, 37.51 N, 30.59 E, 1025 m, 25.VI.1999; 4 ♂♂, 1 ♀, Isparta, Yalvac, Sucullu, 38.22 N, 31.08 E, 1170 m, 08.VII.1999; 2 ♀♀, Isparta, Egirdir, Kovada lake, 37.37 N, 3.52 E, 927 m, 19.V.2000; 4 ♂♂, 2 ♀♀, Isparta, Egirdir, Yukarı Gokdere, 37.34 N, 30.43 E, 432 m, 19.V.2000; 1 ♂, Isparta, Yalvac, Kuyucak, 38.14 N, 31.12 E, 1170 m, 21.VI.2000; 5 ♂♂, 4 ♀♀, Isparta, Yalvac, Sucullu, 38.22 N, 31.08 E, 1200 m, 21.VI.2000; 13 ♂♂, 6 ♀♀, Isparta, Sutculer, Kuzca, 37.39 N, 30.59 E, 1250 m, 26.VI.2000; 3 ♂♂, 1 ♀, Isparta, Aksu, Karagı, 37.45 N, 31.07 E, 1210 m, 27.VI.2000; 4 ♂♂, 3 ♀♀, Isparta, Sarkikaraagac, Belcegiz, 37.59 N, 31.18 E, 1150 m, 27.VI.2000; 3 ♂♂, 1 ♀, 37.03 N, 31.48 E, 1175 m, 12.VII.2000; 2 ♂♂, 1 ♀, Isparta, Uluborlu, Ileydag, 38.01 N, 30.23 E, 1160 m, 19.VII.2000; 3 ♂♂, 1 ♀, Isparta, Yenisarbademli, Yakakoy, 37.44 N, 31.14 E, 1414 m, 12.VI.2001; 2 ♂♂, 2 ♀♀, Isparta, Uluborlu, Ileydag, 38.03 N, 30.23 E, 1172 m, 13.VI.2001.

Host plants: ***Onopordum cynarocephalum*** and ***O. acanthium*** (Freidberg & Kugler, 1989; Merz, 1994). In this study, host plants of the species is ***O. acanthium***.

Distribution: North Europe, West Asia, Persia, Israel, France, Switzerland and Germany (Hendel, 1927; Foote, 1984; Freidberg & Kugler, 1989; Merz, 1994). Giray (1969, 1979) recorded this species from Kutahya, Kastamonu, Amasya, Burdur, Erzurum, Elazıg, Izmir and Manisa provinces.

Tephritis sauteri Merz, 1992
Entomologica Scand., 23 (2): 215-231, (***Tephritis***)

Material examined: 1 ♂, 1 ♀, Antalya, Alanya, Sıhlar, 36.39 N, 32.25 E, 1250 m, 16.V.1999; 1 ♂, Antalya, Ibradı, Ibradı Plateau, 37.16 N, 31.17 E, 1300 m, 23.VI.1999; 1 ♀, Antalya, Ibradı, Ibradı, Plateau, 37.15 N, 31.28 E, 1270 m, 13.VII.2000; 2 ♂♂, Mugla, Koycegiz, Yayla, 37.03 N, 28.47 E, 1790 m, 17.VII.2000.

Host plants: ***Aster alpinus*** (Merz, 1994). In this study, host plants of the species is ***Scorzonera syriaca***.

Distribution: Switzerland and Greece (Merz, 1994). This species is a new record for Turkey.

Tephritis seperata Rondani, 1871
Dipt. Ital. Prodromus, 7 (4): 18 (***Tephritis***)

Material examined: 3 ♂♂, 2 ♀♀, Isparta, Keciborlu, Ozbahce, 38.01 N, 30.21 E, 1300 m, 09.VII.1999; 1 ♂, 3 ♀♀, Isparta, Yenisarbademli, 37.43 N, 31.16 E, 1620 m, 14.VII.2000.

Host plants: ***Leucanthemum vulgare*** (White, 1988; Merz, 1994). In this study, host plants of the species is ***Centaurea iberica***.

Distribution: Italy, Albania, France, Switzerland, England, Estonia, Latvia, Lithuania, Russia and Ukraine (Foote, 1984; White, 1988; Freidberg & Kugler, 1989; Merz, 1994). This species is a new record for Turkey.

Tephritis simplex (Loew, 1844)
Z. Ent. Leipzig, 5: 379 (***Trypeta***)

Synonym: ***Tephritis fratella*** Becker, 1907

Material examined: 1 ♂, 2 ♀♀, Antalya Alanya, Gokbel Plateau, 36.35 N, 32.21 E, 1450 m, 10.VII.2000; 1 ♂, 2 ♀♀, Isparta, Yenisarbademli, Golgeli Mountain, 37.43 N, 31.17 E, 1760 m, 14.VII.1999; 2 ♂♂, Mugla, Fethiye, Ugurlu, 36.37 N, 29.20 E, 140 m, 22.V.2000; 3 ♂♂, 1 ♀, Mugla Koycegiz, Yayla, 37.03 N, 28.47 E, 1790 m, 17.VII.2000.

Host plants: ***Crepis albida*** (Merz, 1994). In this study, host plants of the species are ***Cirsium vulgare*** and ***C. arvense***.

Distribution: North Europe, Cyprus, Israel, Tunisia, Albania, Austria, Switzerland and Germany (Hendel, 1927; Foote, 1984; Freidberg & Kugler, 1989; Merz, 1994). Giray (1979) recorded this species from Manisa, Bitlis, Adıyaman and Izmir provinces.

Tephritis vespertina (Loew, 1844)
Z. Ent. Leipzig, 5: 387 (***Trypeta***).

Synonym: ***Tephritis apicalis*** Becker, 1907

Material examined: 2 ♂♂, 4 ♀, Isparta Yenisarbademli, 37.44 N, 31.27 E, 1070 m, 13.VII.1999; 3 ♂♂, 1 ♀, Isparta Yenisarbademli, 37.42 N, 31.24 E, 1180 m, 13.VII.2000; 2 ♂♂, 2 ♀♀, Isparta, Yenisarbademli, 37.41 N, 31.21 E, 1230 m, 12.VI.2001.

Host plants: ***Hypochoeris radicata*** (Merz, 1994). In this study, host plant of the species is ***H. radicata***.

Distribution: North Europe, Switzerland, Russia, Austria, Germany and North Africa (Hendel, 1927; Foote, 1984; Merz, 1994). This species is a new record for Turkey.

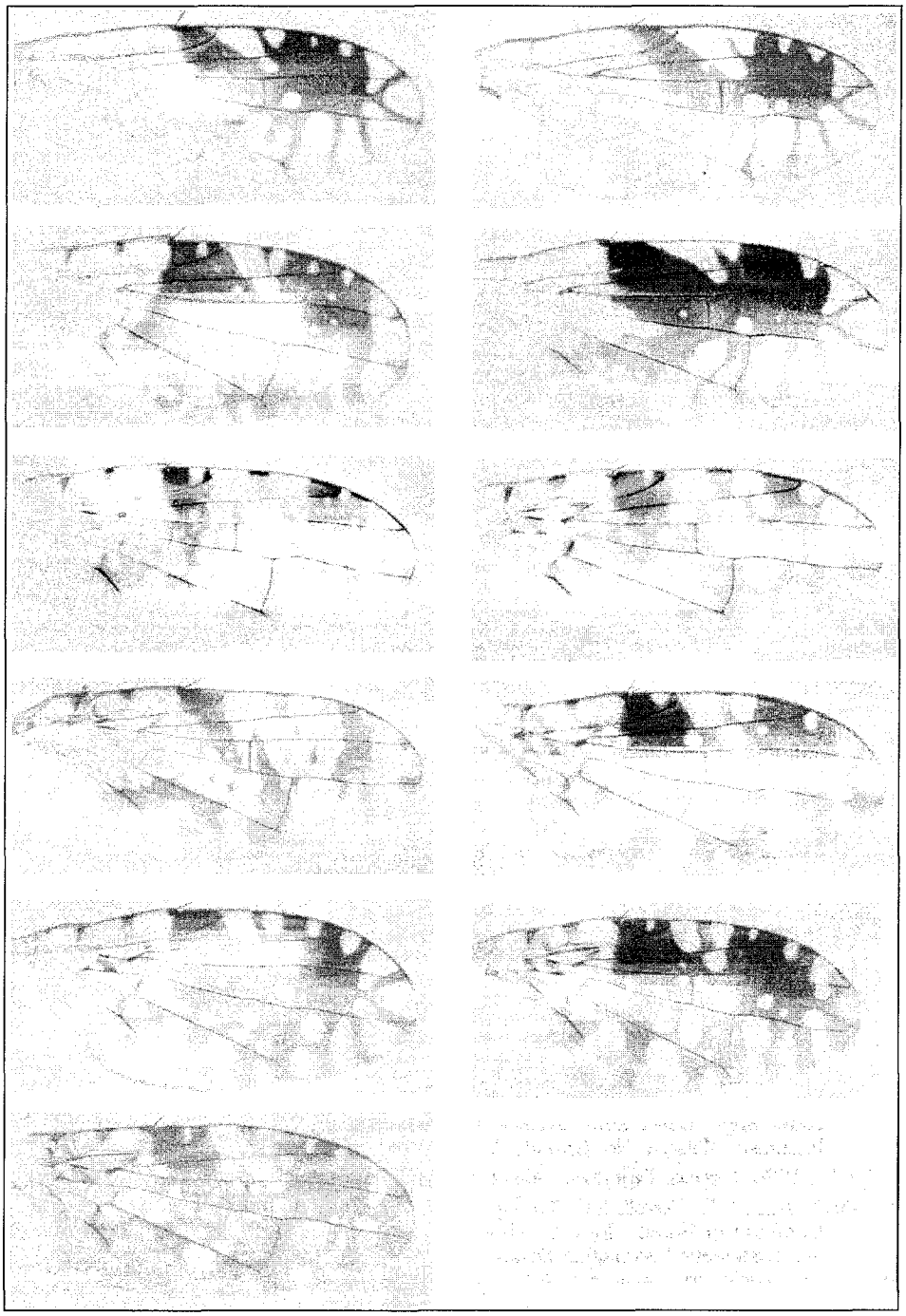

Figure 1-11. Wings of ***Tephritis***: 1- ***Tephritis acanthiophilopsis*** Hering, 2- ***T. cometa*** Freidberg, 3- ***T. formosa*** Loew, 4- ***T. hurtvitzi*** Freidberg, 5- ***T. hyoscyami*** Linnaeus, 6- ***T. nigricauda*** Loew, 7- ***T. postica*** Loew, 8- ***T. sauteri*** Merz, 9- ***T. seperata*** Rondani, 10- ***T. simplex*** Loew, 11- ***T. vespertina*** Loew.

Özet

Güneybatı Anadolu Bölgesi *Tephritis* Latreille, 1804 (Diptera: Tephritidae) faunası, sistematiği ve yeni kayıtlar

Bu çalışma 1999 - 2001 yılları arasında Güneybatı Anadolu Bölgesi'nden toplanan ***Tephritis*** Latreille türleri üzerinde yapılan faunistik ve sistematik bir araştırmadır. Onbir ***Tephritis*** Latreille türü tespit edilmiş, bunlardan ***Tephritis hyoscyami*** (Linnaeus), ***T. nigricauda*** (Loew), ***T. sauteri*** Merz, ***T. seperata*** Rondani, ***T. vespertina*** (Loew) türlerinin Türkiye faunası için ilk kayıt oldukları saptanmıştır. Türler için teşhis anahtarı hazırlanmış, Türkiye ve Dünyadaki yayılışları verilmiştir.

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