

NEW LOCALITY RECORDS AND ADDITIONAL INFORMATION ON DERMAPTERA (INSECTA) FAUNA OF TURKEY

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ABSTRACT: Examined material in this study collected from different regions of Turkey in 2004-2016 and seven species belonging to Anisolabididae, Labiduridae, Spongiphoridae and Forficulidae (Dermaptera) families were reported. *Euborellia annulipes* (Lucas, 1847) from Manisa, *Isolaboides kosswigi* (Burr, 1947) from Kütahya, *Forficula aetolica* Brunner, 1882 from Muğla and *F. auricularia* Linnaeus, 1758 from Denizli are recorded for the first time in mentioned provinces. In addition, *Isolaboides kosswigi* (Burr, 1947) is endemic to Anatolia.

KEY WORDS: Dermaptera, Anisolabididae, Labiduridae, Spongiphoridae, Forficulidae, fauna, Turkey

Dermaptera comprises 2.200 species all over the world which of 19 species occurring in Turkey and *I. kosswigi* is only one endemic species to Anatolia (Popham, 2000; Anlaş & Kočárek, 2012). Dermaptera species feed on animal and plant material and they can damage to mature soft fruits, flowers and above ground organs of plants, but at same time, they are one of the important predator of psyllids and aphids (Carroll & Hoyt, 1984; Anlaş et al., 2010; Özgen & Anlaş, 2011). So that, some species have also beneficial role in the agricultural fields (Tezcan & Kočárek, 2009).

The aim of this study is to give new faunistic records on Turkish Dermaptera.

MATERIAL AND METHODS

Field studies were conducted from different regions of Turkey between the years of 2004-2016. Some of the material were collected by two types of bait traps in fig (*Ficus carica*) orchards of Tire, İzmir (Balbakan et al., 2019).

Examined material in this study is deposited in the following collections:

AZMM – Alaşehir Zoological Museum, Manisa, Turkey

LEMT – Lodos Entomological Museum, İzmir, Turkey

Identification of the specimens and nomenclature used here follows Steinmann (1990, 1993) and Anlaş & Kočárek (2012).

RESULTS

Seven species belonging to Anisolabididae, Labiduridae, Spongiphoridae and Forficulidae families were reported with this study. Four of them were recorded for the first time in their collected provinces.

Anisolabididae

Euborellia annulipes (Lucas, 1847)

Material: Manisa: 2 exs., 20.III.2013, Turgutlu, Baktırlı 2 km W, 38°25'38"N, 27°52'44"E, 780 m, leg. Anlaş, Yağmur & Örgel. **Distribution in Turkey:** Adana, Antalya, Bolu, Burdur, Bursa, Hatay, İstanbul, İzmir, Yalova (Anlaş & Koçârek, 2012). This species is recorded for the first time from Manisa. **Distribution in the world:** According to Steinmann (1989), this species is cosmopolitan.

Labiduridae

Labidura riparia (Pallas, 1773)

Material: Adıyaman: 1 ex., 11.III.2007, Gölbaşı, Köşüklü, leg. Yağmur. **Ankara:** 1 ex., 25.XII.2007, Gölbaşı, Karaoğlan 2,5 km SE, leg. Anlaş. **Bursa:** 4 exs., 30.VIII.2008, Uludağ, Aynalı Gölü, 40°04'13"N, 29°14'01"E, 2310 m, leg. Koç. **İzmir:** 2 exs., 03.III.2013, Buca, Kaynaklar, leg. Yağmur. **Distribution in Turkey:** Adana, Adıyaman, Afyonkarahisar, Ankara, Aydın, Balıkesir, Batman, Burdur, Bursa, Diyarbakır, Edirne, Elazığ, Eskişehir, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Kayseri, Kırklareli, Kilis, Konya, Kütahya, Malatya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Osmaniye, Şanlıurfa, Tunceli, Uşak, Van, Yalova (Anlaş & Koçârek, 2012). **Distribution in the world:** This is a cosmopolitan species (Steinmann, 1989).

Spongiphoridae

Isolaboides kosswigi (Burr, 1947)

Material: Afyonkarahisar: 2 exs., 20.VI.2013, Sandıklı Dağları, 38°28'25,2"N, 30°23'19,9"E, 1937 m, leg. Yağmur. **Kütahya:** 1 ex., 07.IV.2014, Şaphane Dağı, 39°03'03"N, 29°14'56"E, 996 m, leg. Yağmur. **Distribution in Turkey:** Afyonkarahisar, Bolu, Burdur, Bursa, Denizli, Gaziantep, İzmir, Konya, Manisa, Malatya, Muğla (Anlaş & Koçârek, 2012; Özgen et al., 2016). This species is recorded for the first time from Kütahya. **Distribution in the world:** This species is an Anatolian endemic species (Steinmann, 1990; Anlaş & Koçârek, 2012).

Forficulidae

Forficula aetolica Brunner, 1882

Material: İzmir: 1 ex., 21.V.2006, Ödemiş, Bozdağlar, road to ski resort, ca., 38°21'N, 28°06'E, 1600 m, leg. Anlaş. **Manisa:** 1 ex., 24.IV.2006, Spil Dağı, 38°33'44"N, 27°23'10"E, 1100 m, leg. Anlaş. **Muğla:** 1 ex., 17.VI.2004, Marmaris, leg. Anlaş. **Distribution in Turkey:** Burdur, Bursa, Elazığ, Gaziantep, İzmir, Manisa, Malatya, Mersin, Osmaniye, Siirt, Şanlıurfa, Van, Yozgat (Tezcan et al., 2011; Anlaş & Koçârek, 2012; Özgen et al., 2016). This species is recorded for the first time from Muğla. **Distribution in the world:** The known distribution of *F. aetolica* is confined to Crimea, Caucasus, Asia Minor, Lebanon, Greece and Cyprus (Steinmann, 1993; Anlaş & Koçârek, 2012).

Forficula auricularia Linnaeus, 1758

Material: Afyonkarahisar: 1 ex., 02.V.2015, Ahır Dağları, Büyükhacet Tepe, 38°39'42"N, 30°06'05"E, 1925 m, leg. Yağmur. **Aydın:** 1 ex., 24.III.2014, İmambaba Tepesi, 37°56'41"N, 27°53'46"E, 1430 m, leg. Anlaş. **Denizli:** 1 ex., 01.V.2013, Çal, 38°02'00"N, 29°21'25"E, 1365 m, leg. Yağmur. **İzmir:** 1 ex., 24.IV.2016, Tire, Akyurt, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 01.V.2016, Tire, Akyurt, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 15.V.2016, Tire, Akyurt, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 24.IV.2016, Tire, Başköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 18.V.2016, Tire, Central province 1, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 18.V.2016, Tire, Central province 2, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 10.IV.2016, Tire, Dereli, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 24.IV.2016, Tire, Ortaköy, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 15.V.2016, Tire, Ortaköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 12.VI.2016, Tire, Ortaköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 29.VI.2016, Tire, Ortaköy, bait trap with fig in fig orchard, leg. Balbakan. **Siirt:** 6 exs., 05.IX.2008, *Pistacia vera*; 1 ex., 30.V.2008, *Pistacia vera*. **Distribution in Turkey:** This species is widespread in Turkey (Tezcan et al., 2011; Anlaş & Koçârek, 2012; Kaçar & Nishikawa, 2014; Özgen et al., 2016). But it has

not been recorded from Denizli up to now. **Distribution in the world:** This is a cosmopolitan species (Steinmann, 1989).

***Forficula lurida* Fischer, 1853**

Material: **İzmir:** 3 exs., 15.V.2016, Tire, Akyurt, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 24.IV.2016, Tire, Başköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 01.V.2016, Tire, Başköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 08.V.2016, Tire, Başköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 15.V.2016, Tire, Başköy, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 29.VI.2016, Tire, Başköy, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 10.IV.2016, Tire, Dereli, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 11.V.2016, Tire, Dereli, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 17.IV.2016, Tire, Ortaköy, bait trap with fig in fig orchard, leg. Balbakan; 2 exs., 24.IV.2016, Tire, Ortaköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 15.V.2016, Tire, Ortaköy, bait trap with wine in fig orchard, leg. Balbakan. **Manisa:** 3 exs., 20.III.2013, Turgutlu, Bakırlı 2 km W, 38°25'38"N, 27°52'44"E, 780 m, leg. Anlaş. **Muğla:** 1 ex., 04.IV.2013, Datça, 36°47'27"N, 28°03'05"E, 42 m, leg. Anlaş & Yağmur. **Distribution in Turkey:** This species is widespread in Turkey (Tezcan et al., 2011; Anlaş & Kočárek, 2012; Kaçar & Nishikawa, 2014). **Distribution in the world:** The known distribution of *F. lurida* is confined to South-Eastern Europe, Asia Minor, Syria, Israel, Iran and Iraq (Steinmann, 1989, 1993).

***Forficula smyrnensis* Audinet-Serville, 1839**

Material: **İzmir:** 1 ex., 10.IV.2016, Tire, Akyurt, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 24.IV.2016, Tire, Akyurt, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 15.V.2016, Tire, Akyurt, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 05.VI.2016, Tire, Başköy, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 15.VI.2016, Tire, Başköy, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 10.VII.2016, Tire, Başköy, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 27.IV.2016, Tire, Central province 1, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 04.V.2016, Tire, Central province 1, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 11.V.2016, Tire, Central province 1, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 08.VI.2016, Tire, Central province 2, bait trap with wine in fig orchard, leg. Balbakan; 5 exs., 04.V.2016, Tire, Dereli, bait trap with fig in fig orchard, leg. Balbakan; 3 exs., 11.V.2016, Tire, Dereli, bait trap with fig in fig orchard, leg. Balbakan; 2 exs., 18.V.2016, Tire, Dereli, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 01.VI.2016, Tire, Dereli, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 01.V.2016, Tire, Ortaköy, bait trap with wine in fig orchard, leg. Balbakan; 1 ex., 29.VI.2016, Tire, Ortaköy, bait trap with fig in fig orchard, leg. Balbakan; 1 ex., 25.IX.2016, Tire, Ortaköy, bait trap with wine in fig orchard, leg. Balbakan; 2 exs., 01.V.2013, Karaburun 5 km SW, leg. Anlaş & Yağmur; 1 ex., 21.X.2012, Nif Dağı, leg. Anlaş. **Distribution in Turkey:** Adana, Ağrı, Amasya, Antalya, Bursa, Denizli, Hatay, İstanbul, İzmir, Karabük, Kütahya, Manisa, Mersin, Muğla, Trabzon, Yalova (Tezcan et al., 2011; Anlaş & Kočárek, 2012). **Distribution in the world:** This species was recorded from Hungary, Bulgaria, Yugoslavia, Corsica, Lebanon, Iraq, the Caucasus, Syria and Turkey (Anlaş & Kočárek, 2012; Steinmann, 1993).

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