

## Records and checklist of Thysanoptera in Turkey

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**Abstract:** Thysanoptera specimens collected from different parts of Turkey, and especially from northwestern Anatolia, were studied. Data are presented on 65 species, of which 33 are from northwestern Anatolia. The species studied are either new records for the Turkish fauna or new locality records within Turkey. The following 9 species are new records for the Turkish fauna: *Bregmatothrips willcocksi* (Priesner), *Pseudodendrothrips mori* (Niwa), *Cephalothrips coxalis* Bagnall, *Chiraplothrips graminellus* Priesner, *Haplothrips arenarius* Priesner, *Haplothrips dianthinus* Priesner, *Haplothrips priesnerorum* Pelikan, *Haplothrips rabinovitchi* Priesner, and *Hoplandrothrips bidens* Bagnall. A checklist of Thysanoptera from Turkey that includes 193 species is presented. References of the first records of the species involved are also given.

**Key words:** Thysanoptera, thrips, new records, northwestern Anatolia, Turkey

Studies on the Thysanoptera (thrips) fauna of Turkey are relatively new. The earliest systematic faunistic report on the Turkish Thysanoptera dates back to 1934 (Bagnall, 1934). Since then, the Turkish Thysanoptera have attracted only a few thysanopterists and, consequently, the number of the species with a type locality in Turkey has remained rather low. The following species are known to have their type localities in Turkey: *Haplothrips globiceps* Bagnall (Bagnall, 1934); *Haplothrips bluncki* Priesner (Priesner, 1951); *Haplothrips plantaginis* Priesner (Priesner, 1957); *Melanthrips trifasciatus* Priesner, *Ropotamothrips resslı* (Priesner), and *Tenothrips anatolicus* (Priesner), (Priesner, 1961); *Haplothrips falsarius* Priesner (Priesner, 1966); *Chirothrips kurdistanus* zur Strassen (zur Strassen, 1967); *Eryngiothrips discolor* Bhatti (Bhatti, 1979); *Aeolothrips heinzi* zur Strassen (zur Strassen, 1990); *Rhipidothrips flavus* Tunç (Tunç, 1991a); *Thrips temperans* zur Strassen (zur Strassen, 1996a); and *Sinuothrips hasta* Collins (Collins, 2000). Major contributions in terms of new records for Turkey were made by Blunck (1958), Priesner (1961, 1966), Franz and Priesner (1961), Alkan (1962), Pelikan (1969), Tuatay et al. (1972), Cengiz (1974), zur Strassen (1963, 1967, 1968, 1975, 1978, 1980, 1983, 1987, 1993, 1996b, 2000, 2003), Tunç (1976, 1985, 1988, 1989, 1990a, 1990b, 1991a, 1992a, 1992b, 1992c.), Tunç and zur Strassen (1984), and Tunç et al. (2012a, 2012b). The Table contains further references for the first records of the species in Turkey. For new locality records within Turkey, besides

those mentioned above, the following reports are worth pointing out: those of Tunç (1991b), Kılıç and Yoldaş (2004, 2012), Atakan and Tunç (2004), Atakan and Uygur (2005), Nas et al. (2007), Tekşam and Tunç (2009), Hazır et al. (2011), and Özsemerci et al. (2011).

The material presented here was obtained from almost every region of Turkey; however, the main body is from northwestern Anatolia, which includes the southeastern Marmara and western Black Sea regions. Little information is available on the thrips fauna of this part of Turkey. Blunck (1958) reported material collected in the provinces of Bursa, Bilecik, and, to a much lesser extent, Düzce, but the areas of those provinces that he surveyed do not match those surveyed in the present study. Furthermore, the provinces of Sakarya, Zonguldak, Karabük, and Bartın were not included in that report.

A checklist for the Turkish Thysanoptera is presented with the references of the first records of the species included (Table). The species with type localities in Turkey are indicated. The first checklist of Thysanoptera in Turkey was compiled by Lodos (1993). The list also included information on Thysanoptera fauna from several neighboring areas, e.g., Cyprus, Iran, Caucasia, Sinai, Jordan, and Israel. However, this list is little known because it was published as a part of a textbook of limited distribution and therefore reached a narrow audience. Naturally, it is also out of date.

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**Table.** Checklist and references of the first records of Thysanoptera species in Turkey. <sup>1</sup>: Type locality in Turkey; <sup>2</sup>: In reference to “Oettingen, H.1952. Blasenfüsse. Leipzig, Germany: Die neue Brehm Bücherei”; <sup>3</sup>: In reference to “Schimitschek, E. 1944. Forstinsekten der Türkei und ihre Umwelt. Amsterdam, the Netherlands: Volk und Reich Verlag”.

Species	First record	Species	First record
AEOLOTHRIPIDAE		<i>Rubiothrips validus</i> (Karny)	Tunç et al., 2012a
<i>Aeolothrips albicinctus</i> Haliday	Tunç and zur Strassen, 1984	<i>Rubiothrips vitalbae</i> (Bagnall)	Tunç and zur Strassen, 1984
<i>Aeolothrips astutus</i> Priesner	Priesner, 1964	<i>Rubiothrips vitis</i> (Priesner)	Blunck, 1958
<i>Aeolothrips balati</i> Pelikan	Priesner, 1966	<i>Scirtothrips canizoi</i> Titschak	Tunç, 1992b
<i>Aeolothrips collaris</i> Priesner	Blunck, 1958	<i>Scirtothrips dignus</i> zur Strassen	Tunç, 1992b
<i>Aeolothrips cursor</i> Priesner	Tunç and zur Strassen, 1984	<i>Scirtothrips mangiferae</i> Priesner	Tunç, 1992b
<i>Aeolothrips ericae</i> Bagnall	Blunck, 1958	<i>Scolothrips longicornis</i> Priesner	Tuatay et al., 1972
<i>Aeolothrips fasciatus</i> (Linnaeus)	Franz and Priesner, 1961	<i>Scolothrips latipennis</i> Priesner	Yiğit and Uygun, 1982
<i>Aeolothrips gloriosus</i> Bagnall	Blunck, 1958	<i>Sericothrips bicornis</i> (Karnyi)	Priesner, 1966
<i>Aeolothrips heinzi</i> zur Strassen <sup>1</sup>	zur Strassen, 1990	<i>Sitothrips arabicus</i> Priesner	Priesner, 1966
<i>Aeolothrips intermedius</i> Bagnall	Blunck, 1958	<i>Stenothrips graminum</i> Uzel	Blunck, 1958
<i>Aeolothrips linarius</i> Priesner	zur Strassen, 2003	<i>Taeniothrips inconsequens</i> (Uzel)	Düzgüneş, 1955
<i>Aeolothrips melaleucus</i> Haliday	Priesner, 1966	<i>Tameothrips tamicola</i> (Bagnall)	Priesner, 1966
<i>Aeolothrips propinquus</i> Bagnall	Blunck, 1958	<i>Tenothrips anatolicus</i> (Priesner) <sup>1</sup>	Priesner, 1961a
<i>Aeolothrips tenuicornis</i> Bagnall	Blunck, 1958	<i>Tenothrips discolor</i> (Karny)	Blunck, 1958
<i>Aeolothrips versicolor</i> Uzel	Franz and Priesner, 1961	<i>Tenothrips frici</i> (Uzel)	Blunck, 1958
<i>Ankothrips mavromoustakisi</i> Priesner	Tunç, 1990a	<i>Thermothrips mohelensis</i> Pelikan	Tunç, 1992b
<i>Melanthrips fuscus</i> (Sulzer)	Blunck, 1958	<i>Thrips angusticeps</i> Uzel	Blunck, 1958
<i>Melanthrips knechteli</i> Priesner	zur Strassen, 2003	<i>Thrips atratus</i> Haliday	Blunck, 1958
<i>Melanthrips pallidior</i> Priesner	Blunck, 1958	<i>Thrips dubius</i> Priesner	Priesner, 1966
<i>Melanthrips paspalevi</i> Pelikan	Priesner, 1966	<i>Thrips euphorbiae</i> Knechtel	zur Strassen, 1978
<i>Melanthrips rivnayi</i> Priesner	Halperin and zur Strassen, 1981	<i>Thrips fedorovi</i> (Priesner)	Tunç and zur Strassen, 1984
<i>Melanthrips separandus</i> Priesner	Priesner, 1966	<i>Thrips flavus</i> Schrank	Alkan, 1962
<i>Melanthrips titschaki</i> Pelikan	Priesner, 1966	<i>Thrips fuscipennis</i> Haliday	Blunck, 1958
<i>Melanthrips trifasciatus</i> Priesner <sup>1</sup>	Priesner, 1961a	<i>Thrips hawaiiensis</i> (Morgan)	Atakan et al., 2015
<i>Melanthrips tristis</i> Priesner	Tunç and zur Strassen, 1984	<i>Thrips italicus</i> (Bagnall)	Blunck, 1958
<i>Orothrips priesneri</i> (Titschack)	Priesner, 1961a	<i>Thrips linarius</i> Uzel	Blunck, 1958
<i>Rhipidothrips brunneus</i> Williams	Tunç, 1989	<i>Thrips major</i> Uzel	Priesner, 1951
<i>Rhipidothrips flavus</i> Tunç <sup>1</sup>	Tunç, 1991a	<i>Thrips mareoticus</i> (Priesner)	Blunck, 1958
<i>Rhipidothrips gratosus</i> Uzel	Blunck, 1958	<i>Thrips meridionalis</i> (Priesner)	Blunck, 1958
FAURIELLIDAE		<i>Thrips minutissimus</i> Linnaeus	Cengiz, 1974
<i>Ropotamothrips resslis</i> (Priesner) <sup>1</sup>	Priesner, 1961a	<i>Thrips nigropilosus</i> Uzel	Blunck, 1958
THRIPIDAE		<i>Thrips pelikani</i> Schliephake	zur Strassen, 1978
<i>Agrostothrips meridionalis</i> (Bagnall)	Tunç, 1990a	<i>Thrips physapus</i> Linnaeus	Blunck, 1958
<i>Anaphothrips graminum</i> Priesner	zur Strassen, 1993	<i>Thrips pillichii</i> Priesner	Franz and Priesner, 1961
<i>Anaphothrips obscurus</i> (Müller)	Tunç, 1976	<i>Thrips simplex</i> (Morison)	Düzgüneş, 1952
<i>Anaphothrips sudanensis</i> Trybom	Tunç, 1989	<i>Thrips tabaci</i> Lindeman	Blunck, 1958
<i>Aptinothrips elegans</i> Priesner	Tunç and zur Strassen, 1984	<i>Thrips temperans</i> zur Strassen <sup>1</sup>	zur Strassen, 1996a
<i>Aptinothrips rufus</i> Haliday	Priesner, 1966	<i>Thrips trehernei</i> Priesner	Blunck, 1958
<i>Aptinothrips rufus f.stylogera</i> Haliday	Tunç, 1990a	<i>Thrips verbasci</i> (Priesner)	Blunck, 1958
<i>Asphodelothrips croceicollis</i> (Karny)	Blunck, 1958	<i>Thrips viminalis</i> Uzel	Tunç and zur Strassen, 1984
<i>Bregmatothrips dimorphus</i> (Priesner)	Tunç et al., 2012b	<i>Thrips vUILletti</i> (Bagnall)	Blunck, 1958
<i>Bregmatothrips willcocksii</i> (Priesner)	Present study	<i>Thrips vulgatissimus</i> Haliday	Cengiz, 1974
<i>Ceratothrips ericae</i> (Haliday)	Blunck, 1958	PHLAEOTHRIPIDAE	
<i>Chirothrips aculeatus</i> Bagnall	Tunç, 1990a	<i>Acanthothrips nodicornis</i> (O.M. Reuter)	Pelikan, 1969
<i>Chirothrips kurdistanus</i> zur Strassen <sup>1</sup>	zur Strassen, 1967	<i>Apterygothrips priesneri</i> zur Strassen	Priesner, 1966
<i>Chirothrips manicatus</i> Haliday	Priesner, 1961a	<i>Bolothrips bicolor</i> (Heeger)	zur Strassen, 1980
<i>Chirothrips molestus</i> Priesner	zur Strassen, 1963	<i>Bolothrips icarus</i> (Uzel)	zur Strassen, 1980

Table. (Continued).

Species	First record	Species	First record
<i>Collemboothrips mediterraneus</i> Priesner	zur Strassen, 1975	<i>Cephalothrips coxalis</i> Bagnall	Present study
<i>Dendrothrips degeeri</i> Uzel	Priesner, 1966	<i>Cephalothrips monilicornis</i> O. M. Reuter	Tekşam and Tunç, 2009
<i>Dendrothrips karnyi</i> Priesner	Tunç, 1992a	<i>Chiraplothrips graminellus</i> Priesner	Present study
<i>Dendrothrips phyllireae</i> Bagnall	Tunç, 1990a	<i>Compsothrips albosignatus</i> (O.M. Reuter)	Tuatay et al., 1972
<i>Dendrothrips saltatrix</i> Uzel	Tunç, 1985	<i>Cryptothrips nigripes</i> (O.M. Reuter)	Pelikan, 1969
<i>Drepanothrips reuteri</i> Uzel	Cengiz, 1974	<i>Gynaikothrips ficorum</i> (Marchal)	Toros and Tunç, 1988
<i>Eremiothrips dubius</i> (Priesner)	Tunç et al., 2012b	<i>Haplothrips acanthoscelis</i> (Karny)	Cengiz, 1974
<i>Eremiothrips taghizadehi</i> (zur Strassen)	Tunç et al., 2012b	<i>Haplothrips aculeatus</i> (Fabricius)	Blunck, 1958
<i>Eryngyothrips discolor</i> Bhatti <sup>1</sup>	Bhatti, 1979	<i>Haplothrips alexandrinus</i> Priesner	Tunç and zur Strassen, 1984
<i>Euphysothrips minozzii</i> Bagnall	Tunç and zur Strassen, 1984	<i>Haplothrips andresi</i> Priesner	Priesner, 1964
<i>Frankliniella intonsa</i> (Trybom)	Blunck, 1958	<i>Haplothrips angusticornis</i> Priesner	Blunck, 1958
<i>Frankliniella occidentalis</i> (Pergande)	Tunç and Göçmen, 1994	<i>Haplothrips anthemidinus</i> Priesner	Cengiz, 1974
<i>Frankliniella pallida</i> (Uzel)	zur Strassen, 1978	<i>Haplothrips arenarius</i> Priesner	Present study
<i>Frankliniella tenuicornis</i> (Uzel)	Blunck, 1958	<i>Haplothrips bluncki</i> Priesner <sup>1</sup>	Priesner, 1951
<i>Heliothrips haemorrhoidalis</i> (Bouche)	Blunck, 1958	<i>Haplothrips bolacophilus</i> Priesner	Blunck, 1958
<i>Hercinothrips femoralis</i> (O.M. Reuter)	Alkan, 1962	<i>Haplothrips cerealis</i> Priesner	Priesner, 1961
<i>Iridothrips iridis</i> (Watson)	Tunç et al., 2012b	<i>Haplothrips cotei</i> (Vuillet)	zur Strassen, 1983
<i>Isoneurothrips australis</i> Bagnall	Priesner, 1966	<i>Haplothrips dianthinus</i> Priesner	Present study
<i>Kakothrips priesneri</i> Pelikan	zur Strassen, 1978	<i>Haplothrips distinguendus</i> (Uzel)	Blunck, 1958
<i>Kakothrips robustus</i> (Uzel)	Priesner, 1961a	<i>Haplothrips falsarius</i> Priesner <sup>1</sup>	Priesner, 1966
<i>Limothrips angulicornis</i> Jablonowski	Tunç, 1976	<i>Haplothrips flavicinctus</i> (Karny)	Tunç and zur Strassen, 1984
<i>Limothrips cerealium</i> Haliday	Blunck, 1958	<i>Haplothrips globiceps</i> Bagnall <sup>1</sup>	Bagnall, 1934
<i>Limothrips denticornis</i> Haliday	Blunck, 1958	<i>Haplothrips gowdeyi</i> (Franklin)	zur Strassen, 1968
<i>Limothrips transcaucasicus</i> Sawenko	zur Strassen, 1978	<i>Haplothrips hispanicus</i> Priesner	Priesner, 1966
<i>Microcephalothrips abdominalis</i> (D.L. Crawford)	Tunç, 1992b	<i>Haplothrips knechteli</i> Priesner	Tunç, 1988
<i>Mycterothrips albidicornis</i> (Knechtel)	Cengiz, 1974	<i>Haplothrips kurdjumovi</i> Karny	Blunck, 1958
<i>Mycterothrips annulicornis</i> (Uzel)	Tunç et al., 2012b	<i>Haplothrips leucanthemi</i> (Schrank)	Blunck, 1958
<i>Mycterothrips salicis</i> (O.M. Reuter)	Tunç and zur Strassen, 1984	<i>Haplothrips niger</i> (Osborn)	Blunck, 1958
<i>Mycterothrips tschirkunae</i> (Jachontov)	Tunç and zur Strassen, 1984	<i>Haplothrips palaestinisensis</i> Priesner	Priesner, 1966
<i>Neohydatothrips gracilicornis</i> (Williams)	Blunck, 1958	<i>Haplothrips plantaginis</i> Priesner <sup>1</sup>	Priesner, 1957
<i>Odonthrips aemulans</i> Priesner	Tunç, 1988	<i>Haplothrips priesnerorum</i> Pelikan	Present study
<i>Odonthrips confusus</i> Priesner	Alkan, 1962 <sup>2</sup>	<i>Haplothrips rabinovitchi</i> Priesner	Present study
<i>Odonthrips dorcynii</i> Priesner	zur Strassen, 1987	<i>Haplothrips reuteri</i> (Karny)	Blunck, 1958
<i>Odonthrips karnyi</i> Priesner	Tunç, 1992b	<i>Haplothrips setiger</i> Priesner	Tunç and zur Strassen, 1984
<i>Odonthrips loti</i> (Haliday)	Tunç, 1992b	<i>Haplothrips siwanus</i> Priesner	Priesner, 1966
<i>Odonthrips meliloti</i> Priesner	Priesner, 1961b	<i>Haplothrips tritici</i> Kurdjumov	Blunck, 1958
<i>Odonthrips meridionalis</i> Priesner	Blunck, 1958	<i>Haplothrips verbasci</i> (Osborn)	Blunck, 1958
<i>Oxythrips ajugae</i> Uzel	Blunck, 1958	<i>Haplothrips vuilleti</i> Priesner	Blunck, 1958
<i>Oxythrips halidayi</i> Bagnall	Tunç et al., 2012a	<i>Hoplandrothrips bidens</i> Bagnall	Present study
<i>Oxythrips priesneri</i> Pelikan	Tunç, 1992b	<i>Hoplandrothrips hungaricus</i> Priesner	Pelikan, 1969
<i>Oxythrips tristis</i> Bagnall	zur Strassen, 2003	<i>Karyothrips flavipes</i> Jones	Tunç, 1990a
<i>Oxythrips ulmifoliorum</i> (Haliday)	Blunck, 1958	<i>Liothrips austriacus</i> (Karny)	zur Strassen, 1970
<i>Oxythrips uncinatus</i> Priesner	zur Strassen, 2003	<i>Liothrips oleae</i> (Costa)	Alkan, 1962
<i>Parascolothrips priesneri</i> Mound	Tunç, 1990b	<i>Liothrips pragensis</i> Uzel	Priesner, 1961a
<i>Peladonthrips biunculatus</i> Priesner	zur Strassen, 1978	<i>Liothrips setinodis</i> (O.M. Reuter)	Alkan, 1962 <sup>3</sup>
<i>Pezothrips bactrianus</i> (Pelikan)	zur Strassen, 1978	<i>Megathrips flavipes</i> (O.M. Reuter)	Priesner, 1966
<i>Pezothrips kellyanus</i> (Bagnall)	zur Strassen, 1996b	<i>Megathrips lativentris</i> (Heeger)	Priesner, 1961a
<i>Pezothrips nigriventris</i> (Pelikan)	Tunç, 1992a	<i>Neoheegeria dalmatica</i> Schmutz	Priesner, 1961a
<i>Prosopothrips nigriceps</i> Bagnall	Tunç et al., 2012a	<i>Pseudocryptothrips meridionalis</i> Priesner	Tunç and zur Strassen, 1984
<i>Pseudodendrothrips mori</i> (Niwa)	Present study	<i>Sinuothrips hasta</i> Collins <sup>1</sup>	Collins, 2000
<i>Retithrips syriacus</i> (Mayet)	Doğanlar and Yiğit, 2002		

Surveys in northwestern Anatolia were conducted by the first author in the following provinces (and their districts): Bilecik (Osmaneli), Bursa (İznik), Sakarya (Pamukova, Sapanca, Karasu), Düzce (Akçakoca), Zonguldak (Alaplı, Ereğli, Beycuma), Bartın, and Karabük (Safranbolu). The material was collected on 2–7 August 1992 and 9–14 August 1993.

Further material collected by the same author originated from the following provinces: Ankara, Antalya, Aydın, Burdur, Denizli, Isparta, Konya, and Muğla. For the material submitted by other researchers, the collector is stated. The methods of collection, handling, and processing are described by Tunç et al. (2012b).

The material is deposited in the Department of Plant Protection, Faculty of Agriculture, Akdeniz University, unless stated otherwise. The material deposited at Akdeniz University was identified by the first author.

Additional material, which was collected from Turkey and deposited at the Senckenberg Research Institute and Natural History Museum Frankfurt, Frankfurt am Main, Germany, denoted 'SMF', is also included. This material includes 6 species that are first records for Turkey. Additionally, collection data are presented for a further 4 species that were initially stated to occur in Turkey by zur Strassen (2003), without any specific location. The material that is deposited at Senckenberg was identified by zur Strassen.

It should be noted that (2003) first records of the species reported by Franz and Priesner (1961), Alkan (1962), Priesner (1964) and zur Strassen lack collection data because of the nature of the publications in which they were included.

Collection data are presented on a provincial basis. After each hyphen (-) comes the name of the province, district, and village or collection site as applicable.

#### AEOLOTHRIPIDAE

##### *Aeolothrips collaris* Priesner

**Material:** Bilecik, Osmaneli, *Daucus* sp., 1♀; *Anchusa* sp., 1♀, 1♂; herb, 1♀, 02.VIII.1992-Bursa, İznik Lake, *Vitex agnus-castus*, 1♀, herb, 1♀, *Medicago* sp., 1♀, 1♂, 03.VIII.1992; *Daucus* sp., 1♀, 04.VIII.1992; *Chenopodium* sp., 1♀, *Amaranthus* sp., 2♀♀, 1♂, *Senecio* sp., 1♀, *Quercus* sp., 1♀, *Helianthus annuus*, 1♀, 1♂, 14.VIII.1993-Sakarya, Sapanca Lake, herb, 1♂, 07.VIII.1992-Sakarya, Pamukova, Mekece, *Centaurea solstitialis*, 1♀, 09.VIII.1993.

##### *Aeolothrips ericae* Bagnall

**Material:** Bursa, İznik Lake, *Genista* sp., 2♀♀, *Medicago* sp., 2♀♀, herb, 1♀, 1♂, 03.VIII.1992.

##### *Aeolothrips fasciatus* (Linnaeus)

**Material:** Bilecik, Osmaneli, *Vitis vinifera*, 1♀, 2♂♂, 02.VIII.1992.

##### *Aeolothrips intermedius* Bagnall

**Material:** Bursa, İznik Lake, herb, 1♀, 1♂, *Rosa* sp., 1♀, 03.VIII.1992-Sakarya, Sapanca Lake, *Chenopodium* sp.,

1♀, 06.VIII.1992; herb, 2♀♀, 07.VIII.1992; *Convolvulus* sp., 2♀♀, 14.VIII.1993-Zonguldak, Beycuma, Apiaceae, 3♀♀, 1♂, 10.VIII.1993-Bartın, *Senecio* sp., herb, 6♀♀, 11.VIII.1993-Karabük, Safranbolu, herb, 2♀♀, 11.VIII.1993.

##### *Aeolothrips linarius* Priesner

**Material:** Hatay, Reyhanlı, flowers of *Linum mucronatum*, 2♀♀ (SMF T 7896), 17.IV.1978, leg. W. Heinz.

**Remarks:** Its occurrence in Turkey was reported by zur Strassen (2003) for the first time. The collection data of this record are herewith disclosed. It was also found in Denizli and Afyon provinces (Tunç et al., 2012a, 2012b).

##### *Aeolothrips propinquus* Bagnall

**Material:** Antalya, Kumluca, Kavak, *Anchusa* sp., 1♀, 20.IV.1989.

##### *Melanthrips knechteli* Priesner

**Material:** Afyon, Sultandağ, swept by net, 1♀ (SMF), 22.V.1960, leg. F. Ressler.

**Remarks:** Its occurrence in Turkey was reported by zur Strassen (2003) for the first time. Its collection data are herewith disclosed. Further records were reported by Tunç et al. (2012b) in Afyon and Denizli provinces.

##### *Melanthrips tristis* Priesner

**Material:** Isparta, Kozluca, *Ajuga* sp., 1♀, 14.05.1992; Muğla, Bafa, *Satureja thymbra*, 1♀, 2.V.1995.

#### THRIPIDAE

##### *Anaphothrips obscurus* (Müller)

**Material:** Bursa, İznik Lake, *Cynodon dactylon*, 1♀, 03.VIII.1992-Sakarya, Sapanca Lake, *Sorghum halepense*, 1♀, 06.VIII.1992-Zonguldak, Ereğli, *Alopecurus* sp., 1♀, 10.VIII.1993.

##### *Aptinothrips rufus* Haliday

Sakarya, Sapanca Lake, *Matricaria* sp., 1♀, Poaceae, 2♀♀, 06.VIII.1992.

##### *Bregmatothrips willcocksii* (Priesner)

**Material:** Gaziantep, Nizip, Orul, *Zea mays*, 1♀, 25.IX.1983, leg. N. Sinsek.

**Remarks:** First record for Turkey.

##### *Chirothrips kurdistanus* zur Strassen

**Material:** Bursa, İznik Lake, *Sorghum halepense*, 6♀♀, 2♂♂, 04.VIII.1992; *Echinochloa crus-galli*, 2♀♀, 1♂, 14.VIII.1993-Adana, Kozan, *Zea mays*, 3♀♀, 7.VIII.1982, leg. N. Sinsek-Mersin, Tarsus, *Zea mays*, ♀♀, 19.VIII.1982, leg. N. Sinsek.

##### *Chirothrips manicatus* Haliday

**Material:** Bilecik, Osmaneli, *Morus alba*, 1♂, 02.VIII.1992-Bursa, İznik Lake, herb, 1♂, *Sorghum* sp., 2♀♀, 03.VIII.1992; *Phragmites* sp., 1♀, 04.VIII.1992-Sakarya, Sapanca Lake, *Echinochloa crus-galli*, 1♀, *Poa pratensis*, 4♀♀, 17♂♂, herb, 1♂, 07.VIII.1992-Zonguldak, Ereğli, *Alopecurus* sp., 1♀, 10.VIII.1993.

***Dendrothrips saltatrix* Uzel**

**Material:** Zonguldak, Beycuma, *Prunus domestica*, 2♀♀, 10.VIII.1993-Bartın, *Pinus* sp., 1♀, 11.VIII.1993.

***Drepanothrips reuteri* Uzel**

**Material:** Bursa, İznik Lake, *Rubus fruticosus*, 4♀♀, *Rubus fruticosus*, 3♀♀, 2♂♂, 04.VIII.1992-Düzce, Akçakoca, *Corylus avellana*, 5♀♀, 1♂, 10.VIII.1993-Zonguldak, *Prunus domestica*, 1♀, 10.VIII.1993.

***Eremiothrips dubius* (Priesner)**

**Material:** Aydın, Buharkent, *Chenopodium* sp., 1♂, 15.VI.1993.

***Eremiothrips taghizadehi* (zur Strassen)**

**Material:** Manisa, Alaşehir, *Vitis vinifera*, 1♀, 25.VIII.2005, leg. F. Özsemerci.

***Frankliniella intonsa* (Trybom)**

**Material:** Bursa, İznik Lake, *Onobrychis sativa*, 4♀♀, herb, 11♀♀, 2♂♂, herb, 1♀, *Rosa* sp., 1♀, 03.VIII.1992; *Rubus fruticosus*, 1♀, *Daucus* sp., 1♀, herb, 1♀, *Phragmites* sp., 1♀, 04.VIII.1992; *Prunus domestica*, 1♀, *Lamium* sp., 4♀♀, *Convolvulus* sp., 2♀♀, *Rubus fruticosus*, 2♀♀, *Amaranthus* sp., 1♀, herb, 4♀♀, 14.VIII.1993-Sakarya, Sapanca Lake, *Solidago* sp., 5♀♀, 3♂♂, unknown tree, 2♀♀, *Echinochloa crus-galli*, 1♀, 06.VIII.1992; *Echinochloa crus-galli*, 1♀, herb, 1♀, *Lythrum* sp., 1♀, *Solidago* sp., 4♀♀, *Onobrychis viciifolia*, 5♀♀, 3♂♂, herb, 4♀♀, 07.VIII.1992-Sakarya, Karasu, *Onobrychis viciifolia*, 5♀♀, 1♂, *Sambucus* sp., 1♂, 09.VIII.1993-Düzce, Akçakoca, *Rubus fruticosus*, 6♀♀, 10.VIII.1993-Zonguldak, Ereğli, *Onobrychis viciifolia*, 6♀♀, 3♂♂, 10.VIII.1993; Beycuma, Apiaceae, 1♀, *Corylus avellana*, 1♀, 10.VIII.1993-Bartın, herb, 7♀♀, *Pinus* sp., 1♀, *Onobrychis* sp., 2♀♀, 11.VIII.1993.

***Frankliniella occidentalis* (Pergande)**

**Material:** Bursa, İznik Lake, *Althaea* sp., 1♀, 03.VIII.1992.

**Remarks:** This record confirms once again that the species was introduced to Turkey before 1993 and suggests that this introduction took place through European Turkey, not only via Mediterranean Turkey as was assumed before (Tunç and Göçmen, 1994; Tunç et al., 2012b).

***Frankliniella tenuicornis* (Uzel)**

**Material:** Zonguldak, Beycuma, *Zea mays*, 1♀, 10.VIII.1993-Bursa, İznik, *Zea mays*, 1♀, 1♂, 14.VIII.1993.

***Kakothrips priesneri* Pelikan**

**Material:** Gaziantep, Oğuzeli, B. Karacaören, *Lens culinaris*, 2♀♀, Zeytinli, *Lens culinaris*, 2♀♀, 29.IV.1986, leg. O. Zeren-Kilis, Küplüce, *Lens culinaris*, 3♀♀, 29.IV.1986, leg. O. Zeren-Yozgat, *Lens culinaris*, 2♀♀, 21.VI.1991, leg. A. Tamer-Urfa, *Lens culinaris*, 1♀, 30.IV.1991, leg. unknown.

***Limothrips angulicornis* Jablonowski**

**Material:** Adana, Doğan kent, *Hordeum* sp., 1♂, 21.V.1998, leg. N. Uygun.

***Mycterothrips albidicornis* (Knechtel)**

**Material:** Bilecik, Osmaneli, *Vitis vinifera*, 1♀, 02.VIII.1992-Bursa, İznik, *Vitis vinifera*, 1♀, *Vitis vinifera*, 3♂♂, 14.VIII.1993.

***Mycterothrips annulicornis* (Uzel)**

**Material:** Bilecik, Osmaneli, *Daucus* sp., 3♀♀, 02.VIII.1992.

***Mycterothrips salicis* (O.M. Reuter)**

**Material:** Bursa, İznik Lake, *Populus* sp., 3♀♀, 2♂♂, 03.VIII.1992.

***Neohydatothrips gracilicornis* (Williams)**

**Material:** Bilecik, Osmaneli, *Juniperus communis*, 1♀, 02.VIII.1992.

***Odontothrips confusus* Priesner**

**Material:** Bilecik, Osmaneli, *Daucus* sp., 1♂, 02.VIII.1992.

***Odontothrips meridionalis* Priesner**

**Material:** Bursa, İznik Lake, *Spartium junceum*, 4♀♀, 3♂♂, *Genista* sp. 1♀, 10♂♂, *Medicago* sp., 1♀, 03.VIII.1992.

***Oxythrips tristis* Bagnall**

**Material:** Ankara, Şereflikoçhisar, flowers of *Alyssum* sp., 1♀ (SMF T 7900), 21.IV.1978, leg. W. Heinz.

**Remarks:** It was reported from Turkey by zur Strassen (2003) for the first time. The data related to this record are herewith disclosed.

***Oxythrips uncinatus* Priesner**

**Material:** Hatay, Hassa, Akbez, near the Syrian border, flowers of *Scandix australis*, 1♀ (SMF T 9567), 16.IV.1980, leg. W. Heinz.

**Remarks:** This is also one of the species that was reported from Turkey by zur Strassen (2003) for the first time. Its collection data are herewith disclosed.

***Pseudodendrothrips mori* (Niwa)**

**Material:** Bartın, *Morus alba*, 1♀, 2♂♂, 23.X.1991, leg. C. Zeki-Bilecik, Osmaneli, *Morus alba*, 2♀♀, 1♂, 02.VIII.1992.

**Remarks:** First record for Turkey.

***Rubiothrips vitis* (Priesner)**

**Material:** Ankara, Kalecik, *Amygdalus communis*, 1♀, 28.IV.1977.

**Remarks:** It was formerly misidentified as *Rubiothrips sordidus* (Uzel) (Tunç and zur Strassen, 1984).

***Scolothrips longicornis* Priesner**

**Material:** İznik Lake, *Prunus domestica*, 1♀, 03.VIII.1992; *Prunus domestica*, 3♀♀, 14.VIII.1993-Karabük, 300 m, *Typha* sp., 1♀, 11.VIII.1993.

***Scirtothrips canizoi* Titschack**

**Material:** Ankara, Kalecik, *Amygdalus communis*, 1♀, 28.IV.1977.

***Scirtothrips mangiferae* Priesner**

**Material:** Manisa, vineyard, extracted from plant debris, 1♀, 31.I.2005, leg. F. Özsemerci.

***Tenothrips discolor* (Karny)**

**Material:** Bursa, İznik Lake, *Cichorium intybus*, 1♀, 04.VIII.1992; *Chenopodium* sp., 1♀, 14.VIII.1993-Sakarya, Pamukova, Mekece, *Verbascum* sp., 1♀, 4♂♂, *Centaurea solstitialis*, 2♀♀, 09.VIII.1993.

***Tenothrips frici* (Uzel)**

**Material:** Bursa, İznik Lake, *Cichorium intybus*, 1♂, herb, 2♀♀, 2♂♂, 03.VIII.1992, *Cichorium intybus*, 2♀♀, 04.VIII.1992; *Senecio* sp., 1♀, herb, 4♀♀, *Zea mays*, 1♀, *Helianthus annuus*, 4♂♂, 14.VIII.1993-Sakarya, Pamukova, Mekece, Asteraceae, 2♀♀, 2♂♂, *Verbascum* sp., 1♀, 1♂, 09.VIII.1993-Zonguldak, Ereğli, forest, *Solidago* sp., 7♀♀, 7♂♂, 10.VIII.1993- Karabük, *Typha* sp., 1♀; Safranbolu, herb, 1♀, 11.VIII.1993.

***Thrips atratus* Haliday**

**Material:** Bursa, İznik Lake, *Cichorium intybus*, 2♀♀, 2♂♂, herb, 1♀, *Althaea* sp., 1♀, 2♂♂, *Convolvulus* sp., 1♀, 1♂, herb, 1♂, 03.VIII.1992; *Lamium* sp., 3♀♀, 14.VIII.1993-Sakarya, Sapanca Lake, herb, 3♀♀, 06.VIII.1992-Düzce, Akçakoca, herb, 8♀♀, 5♂♂, 10.VIII.1993-Zonguldak, Alaplı, *Verbascum* sp., 3♀♀, 1♂; Ereğli, herb, 8♀♀, 5♂♂, *Pinus* sp., 1♀, 10.VIII.1993-Karabük, *Malus communis*, 2♀♀, 5♂♂, Safranbolu, *Euphorbia* sp., 1♀, 11.VIII.1993.

***Thrips fuscipennis* Haliday**

**Material:** Sakarya, Sapanca Lake, *Phaseolus vulgaris*, 2♀♀, *Sorghum halepense*, 1♀, *Chenopodium* sp., 4♀♀, *Raphanus* sp., 2♀♀, *Solidago* sp., 2♀♀, 06.VIII.1992; Karasu, *Sambucus* sp., 11♀♀, 3♂♂, 09.VIII.1993-Sakarya, Ereğli, woody plant, 2♀♀, 10.VIII.1993-Bartın, *Senecio* sp., 1♀, 1♂, *Onobrychis* sp., 3♀♀, *Sambucus* sp., 6♂♂, 11.VIII.1993-Erzincan, Ortayurt, *Phaseolus vulgaris*, 3♀♀, 22.VIII.1980, leg. M. Aydemir.

***Thrips major* Uzel**

**Material:** Bursa, İznik Lake, herb, 3♀♀, 03.VIII.1992-Sakarya, Sapanca Lake, *Sambucus* sp., 1♀, 06.VIII.1992; Karasu, *Onobrychis vicifolia*, 10♀♀, 4♂♂, 09.VIII.1993-Bartın, *Onobrychis* sp., 1♂, 11.VIII.1993.

***Thrips mareoticus* (Priesner)**

**Material:** Hatay, Erzin, *Matricaria* sp., 1♀, 24.IV.1989, leg. E. Şekeroğlu.

***Thrips nigropilosus* Uzel**

**Material:** Bursa, İznik Lake, *Cichorium intybus*, 1♀, 4.VIII.1992.

***Thrips physapus* Linnaeus**

**Material:** Bursa, İznik Lake, *Centaurea solstitialis*, 4♀♀, 1♂, 04.VIII.1992-Sakarya, Sapanca Lake, *Centaurea* sp., 3♀♀, 1♂, 07.VIII.1992; Pamukova, Mekece, *Centaurea solstitialis*, 1♀, 09.VIII.1993-Bartın, *Senecio* sp., 2♀♀, 1♂, herb, 1♂, *Centaurea solstitialis*, 3♀♀, 11.VIII.1993.

***Thrips simplex* (Morison)**

**Material:** İzmir, Urla, *Gladiolus* sp., 33♀, 3♂, 16.IV.1991, leg. N. Akbulut.

***Thrips tabaci* Lindeman**

**Material:** Bilecik, Osmaneli, *Morus alba*, 1♀; *Daucus* sp., 7♀♀; herb, 7♀♀; herb, 1♀, 02.VIII.1992-Bursa, İznik Lake, *Onobrychis sativa*, 1♀, herb, 5♀♀; *Vitex agnus-castus*, 8♀♀, *Cichorium intybus*, 1♀, herb, 1♀, *Medicago* sp., 1♀, *Rosa* sp., 1♀, *Tagetes* sp., 7♀♀, 03.VIII.1992; *Hedera* sp., 3♀♀, *Verbascum* sp., 8♀♀, *Rubus fruticosus*, 2♀♀, herb, 6♀♀, *Daucus* sp., 1♀, *Solidago* sp., 2♀♀, *Vitex agnus-castus*, 2♀♀, *Chenopodium* sp., 10♀♀, 04.VIII.1992; *Chenopodium* sp., 2♀♀, *Amaranthus* sp., 1♀, Brassicaceae, 8♀♀, 14.VIII.1993-Sakarya, Sapanca Lake, *Matricaria* sp., 1♀, 06.VIII.1992-Zonguldak, Ereğli, *Alopecurus* sp., 1♀, herb, 1♀, 10.VIII.1993-Bartın, *Centaurea solstitialis*, 1♀, *Sambucus* sp., 6♀♀, 11.VIII.1993.

***Thrips trehernei* Priesner**

**Material:** Denizli, Acıpayam, *Iris* sp., 1♂, *Carthamus* sp., 1♂, 14.VI.1993-Burdur, Çavdır, *Coronilla varia*, 1♀, 1♂, 14.VI.1993.

***Thrips verbasci* (Priesner)**

**Material:** Sakarya, Sapanca Lake, *Verbascum* sp., 1♀, 2♂♂, *Verbascum* sp., 1♀, 06.VIII.1992-Zonguldak, Alaplı, herb, 3♀♀, *Verbascum* sp., 1♀, 10.VIII.1993.

***Thrips vuilleti* (Bagnall)**

**Material:** Aksaray, Çimenli, *Helianthus annuus*, 1♀, 25.VIII.1987, leg. H. Zeki-Adana, Balcalı, *Carthamus tinctorius*, 1♀, 8.VI.1997, leg. M. D. Ghawami.

**PHLAEOTHIRIPIDAE*****Cephalothrips coxalis* Bagnall**

**Material:** Antalya, Döşemealtı, Yenice, beaten from grass, 1♀, (SMF T 18132), 30.IV.1998, leg. R. zur Strassen.

**Remarks:** First record for Turkey.

***Cephalothrips monilicornis* O. M. Reuter**

**Material:** Bursa, İznik Lake, *Juncus* sp., 5♀♀, 04.VIII.1992-Sakarya, Mekece, *Verbascum* sp., 1♀, 09.VIII.1993.

***Chiraplothrips graminellus* Priesner**

**Material:** Antalya, Kumluca, flowers of *Hyparrhenia hirta*, 5♂♂, 7♀♀, 3 larvae II (SMF T 18164), 6.V.1998, leg. R. zur Strassen.

**Remarks:** First record for Turkey. This species is included in the checklist of Lodos (1993). However, since this report was not supported by collection data, the present record is considered new for Turkey.

***Cryptothrips nigripes* (O.M. Reuter)**

**Material:** Artvin, Yusufeli, *Abies orientalis*, in scolytid galleries, 1♂, 3.IV.1997, leg. S. Ünal.

***Haplothrips aculeatus* (Fabricius)**

**Material:** Bursa, İznik Lake, *Sorghum* sp., 3♀♀, 03.VIII.1992; *Zea mays*, 1♂, *Helianthus annuus*, 5♀♀, 1♂, 14.VIII.1993-Sakarya, Sapanca Lake, *Zea mays*, 2♀♀, 1♂, *Matricaria* sp., 1♀, *Cynodon dactylon*, 4♀♀, 7♂♂, 07.VIII.1992-Zonguldak, Ereğli, *Alopecurus* sp., 1♀; Beycuma, *Quercus* sp., 2♂♂, *Zea mays*, 6♀♀, 1♂, 10.VIII.1993.

***Haplothrips anthemidinus*** Priesner

**Material:** Konya, Beyşehir Lake, *Gagea* sp., 1♀, 15.V.1992.

***Haplothrips arenarius*** Priesner

**Material:** Erzurum, Kireçli-Pass, flowers of *Helichrysum* sp., 22♀♀, 9♂♂ (SMF T 12354), 23.VII.1983, leg. W. Heinz.

**Remarks:** First record for Turkey.

***Haplothrips dianthinus*** Priesner

**Material:** Kars, Sarıkamış, flowers of *Dianthus* cf. *calocephalus*, 13♀♀ (SMF T 12359), 26.VII.1983, leg. W. Heinz.

**Remarks:** First record for Turkey.

***Haplothrips flavicinctus*** (Karny)

**Material:** Sakarya, Sapanca Lake, *Cynodon dactylon*, 1♂, 07.VIII.1992.

***Haplothrips gowdeyi*** (Franklin)

**Material:** Hatay, Dörtyol, *Zea mays*, 2♀♀, 1♂, 2.VIII.1982, leg. N. Sinsek.

***Haplothrips knechteli*** Priesner

**Material:** Ankara, *Quercus pubescens*, 1♀, 13.VII.1978- Antalya, Akseki, *Amygdalus communis*, 1♀, Murtiç, *Quercus* sp., 1♀, 14.VII.1988, Geriş, 1♀, 29.VI.1989; Gündoğmuş, Güzelbağ, *Amygdalus communis*, 1♀, 21.VII.1988; Konyaaltı, Geyikbayırı, *Amygdalus communis*, 1♂, 23.II.1989.

***Haplothrips priesnerorum*** Pelikan

**Material:** Kars, Kağızman, violet flowers of *Halanthium* cf. *roseum*, 3♀♀, 3♂♂ (SMF T 12356), 25.VII.1983, leg. W. Heinz; flowers of *Halanthium* cf. *roseum*, 17♀♀, 6♂♂ (SMF T 14394), 9.VIII.1985, leg. W. Heinz.

**Remarks:** First record for Turkey.

***Haplothrips rabinovitchi*** Priesner

**Material:** Kilis, flowers of Fabaceae, *Ulex* sp., 1♀ (SMF T 7085), 13.IV.1976, leg. W. Heinz.

**Remarks:** First record for Turkey.

***Haplothrips reuteri*** (Karny)

**Material:** Sakarya, Pamukova, Mekece, *Centaurea solstitialis*, 1♀, 2♂♂, 09.VIII.1993-Karabük, Safranbolu, herb, 1♀, 11.VIII.1993.

***Hoplandrothrips bidens*** Bagnall

**Material:** Artvin, Yusufeli, İşhan, *Lycopersicon esculentum*, 1♂, 7.VII.1997, leg. Ş. Güçlü.

**Remarks:** First record for Turkey.

***Liothrips austriacus*** (Karny)

**Material:** Burdur, Salda Lake, *Amygdalus communis*, 1♀, 11.V.1992.

***Liothrips pragensis*** Uzel

**Material:** Manisa, Salihli, *Vitis vinifera*, 1♂, 25.VI.2003, leg. F. Özsemerci.

In this study, data on 65 Thysanoptera species from Turkey are presented. Among them, 33 are from

northwestern Anatolia. Although thrips were only collected during the summer, in August the species composition of the thrips fauna of northwestern Anatolia is almost similar to that of the parts of Turkey that have already been studied. However, *Thrips atratus* Haliday and *Thrips fuscipennis* Haliday seem to be more frequent and abundant in northwestern Anatolia than in other parts of the country. Frequency and abundance of *T. fuscipennis* is likely to increase in northern Turkey, such as in the Black Sea region (Tunç, 1985), whereas it cannot be traced to the Mediterranean region and inner parts of Turkey.

Among the 65 species presented, 9 are new records for Turkey and the rest are new locality records. New records for Turkish fauna are *Bregmatothrips willcocksii* (Priesner), *Pseudodendrothrips mori* (Niwa), *Cephalothrips coxalis* Bagnall, *Chiraplothrips graminellus* Priesner, *Haplothrips arenarius* Priesner, *Haplothrips dianthinus* Priesner, *Haplothrips priesnerorum* Pelikan, *Haplothrips rabinovitchi* Priesner, and *Hoplandrothrips bidens* Bagnall.

A total of 193 Thysanoptera species have been recorded from Turkey to date. With the addition of the material deposited at Akdeniz University that remains to be identified down to the species level, this number well exceeds 200. This number is still comparatively low considering the area and location of the country and the rich diversity of its topography, climate, and flora. Extensive discoveries on the Thysanoptera of Turkey are expected. This is also the case for 2 neighboring countries in which, among all neighbors of Turkey, the highest numbers of Thysanoptera species have been recorded so far: Bulgaria with 155 species (Karadjova and Krumov, 2013) and Iran with 201 species (Minaei, 2015).

The checklist of the Turkish Thysanoptera reported by Lodos (1993) included 154 species. However, for the reasons specified below, the list may be considered to include less than 140 species. First, the list includes species that are of doubtful status, since they lack collection data. Therefore, the following species are excluded from the present list: *Aptinothrips styliifer* Trybom, *Chaetanaphothrips signipennis* Bagnall, *Dendrothrips ornatus* (Jablonowski), *Melanthrips acetosellae* John, *Limothrips consimilis* Priesner, *Limothrips schmutzi* Priesner, *Tenothrips croceicollis* (Priesner) (synonym: *Physothrips hispanicus* Bagnall), *Apterygothrips hispanicus* Bagnall, *Haplothrips simplex* (Buffa), *Haplothrips tardus* Priesner, and *Liothrips reuteri* Bagnall. Second, the changes in nomenclature that preceded or followed the publication of the list were not reflected. Consequently, some species were listed twice with the inclusion of their synonyms, e.g., *Aeolothrips tenuicornis* Bagnall with *clavicornis* Bagnall, *Aeolothrips collaris* Priesner with *meridionalis* Priesner, *Thrips flavus* Schrank with *obscuricornis* Priesner, *Thrips major* Uzel with *phytolaccae* Priesner, and *Neoheegeria dalmatica*



Schmütz with *Neoheegeria hamanni* Priesner. The latter is one of the examples of the changes in nomenclature that succeeded the disclosure of the list (Minaei et al., 2007).

On the other hand, the status of *Retithrips syriacus* (Mayet), which was included in the list of Lodos (1993), is disputable. Data on its presence in Turkey were presented only by Doğanlar and Yiğit (2002). Therefore, the latter should be considered to have recorded this species for the first time in Turkey.

The species that were reported as crop pests in Turkey without supporting data, e.g., *Thrips flavus* Schrank, *Hercinothrips femoralis* (O.M. Reuter), and *Liothrips oleae* (Costa) (Alkan, 1962; Lodos, 1993), could not yet be traced in Turkey. Alkan (1962) stated that some species (it was not clear which species) that he had listed had been confirmed by the British Museum of Natural History. Therefore, these 3 species were retained in the checklist, as they may be among those confirmed then.

*Agrostothrips meridionalis* (Bagnall) (syn: *Chirothrips meridionalis* Bagnall) was erroneously stated as *Chirothrips aculeatus* Bagnall (Tunç et al., 2012a). *C. aculeatus* has thus far been recorded only in the Manavgat district (locations: Bekirler and Bucakşeyhler) of Antalya Province in Turkey (Tunç, 1992a).

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