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New data on the fauna of Thysanoptera in Fars Province- Iran

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A survey for the thrips (Thysanoptera) fauna was conducted in Fars Province, Iran. A total of 13 species representing 8 genera belonging to 4 families were collected and identified. Of these, *Haplothrips (Haplothrips) knechteli* Priesner 1923 and *Haplothrips (Haplothrips) cahirensis* (Trybom 1911) are new records for the fauna of Iran. Distributional data for each species are included.

Key words: Fars Province, Iran, fauna, new record, thrips, Thysanoptera.

INTRODUCTION

There are 181 nominal species of Thysanoptera reported in Iran, including 136 species of Terebrantia in 47/49 genera, and 45 species of Tubulifera in 15 genera (Bhatti et al., 2009; Fallahzadeh et al., 2011). Recently, some faunistic studies on Iranian Thrips fauna have been generally focused on the Fars Province (Minaei and Alich, 2000a, b; Minaei et al., 2001; Minaei, 2002; Alemansour and Fallahzadeh, 2004; Minaei et al., 2007; Minaei and Mound, 2008; Fallahzadeh et al., 2011). The Fars Province is located in southern Iran between 27°01' and 31°51'N and between 50°27' and 55°45'E, covering an area of 125,000 km². The climate of the province is arid to semiarid. Here, we provide some additional information on the distribution of Thysanoptera in Fars Province-Iran from prior work (Fallahzadeh et al., 2011), add two species to the published records, and provide some new host records.

MATERIALS AND METHODS

Thrips specimens were collected at different localities in Fars Province, Iran during 2005. The specimens were captured by shaking and beating herbaceous plants, brushes, and branches of trees, shaking leaf litter beneath the trees, and picking flowers of trees and herbaceous plants. The specimens were stored in vials with alcohol-glycerin-acetic acid (AGA) (60% alcohol 10 parts,

glycerol 1 part, acetic acid 1 part) and examined with a microscope after slide preparations with Hoyer's medium, using the method outlined by Alavi and Kamali (2003). Voucher specimens of all thrips species were deposited in the Insect Collection of the Islamic Azad University, Jahrom Branch.

RESULTS

A total of 13 thrips species representing 8 genera belonging to 4 families were collected from different regions of Fars. The list of species and their distributional data are given as follows:

Terebrantia: Aelothripidae

Genus *Aeolothrips* Haliday, 1836

***Aeolothrips fasciatus* (Linnaeus, 1758)**

Material examined: Sepidan, 4 male, on *Malus pumila* Mill. (Rosaceae), 28. iv. 2005; Shiraz, 1 female, on *Morus alba* L. (Moraceae), 14. v. 2005.

Distribution: Europe, East Palaearctic, Near East, Nearctic region, Neotropical region, North Africa (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: East Azarbaijan Province (Hassanzadeh, 1997); Kerman Province (Kheyrandish et al., 2000b; Teraz and Kheyrandish, 2002); Yazd Province (Mohaghegh and Kheyrandish, 2002); Golestan Province (Gilasian et al., 2000); Isfahan Province (Etebari and Hesami, 2002; Bagheri and Nasr, 2002; Bagheri et al., 2003); Fars Province (Alemansour and Fallahzadeh, 2004).

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Terebrantia:Thripidae**Genus *Chirothrips* Haliday, 1836*****Chirothrips manicatus* (Haliday, 1836)**

Material examined: Marvdasht, Fat Abad, 2 male, on *Hordeum spontaneum* K. Koch (Poaceae), 20. iii. 2005; Marvdasht, Naghshe Rustam, 2 male; 8 female, on *H. spontaneum*, 2 male, on *Hordeum murinum* L. (Poaceae); Sidan, 1 female, on *H. spontaneum*, 3 female, on *Cardaria draba* (L.) Desv. (Brassicaceae), 24. iv. 2005; Farogh, 2 female, on *H. spontaneum*, 24. iv. 2005; Dolat Abad, 3 male; 5 female, on *Triticum aestivum* L. (Poaceae), 3 male; 2 female, on *Sinapis arvensis* (L.) (Brassicaceae), 5. v. 2005; Naghshe Rustam, 6 male; 2 female, on *T. aestivum*; 12 male, on *Raphanus raphanistrum* L. (Brassicaceae), 30. v. 2005.

Distribution: Europe, Australian region, East Palaearctic, Near East, Nearctic region, Neotropical region, North Africa, Oriental region (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: Khorasan-e-Shomali Province (Alavi and Kamali, 1995; Alavi and Kamali, 2003), Kerman Province (Kheyrandish et al., 2000a; Teraz and Kheyrandish, 2002), Khuzestan Province (Cheraghian, 1996; Cheraghian and Hojat, 1998; Bagheri et al., 2005a), Yazd Province (Mohaghegh and Kheyrandish, 2002), Golestan Province (Alavi et al., 2007), Iran (Minaei and Mound, 2010).

Genus *Frankliniella* Karny, 1910***Frankliniella occidentalis* (Pergande, 1895)**

Material examined: Sidan, 2 male; 2 female, on *H. murinum* L. (Poaceae), 24. iii. 2005; Shole, 10 male; 3 female, on *Phalaris* sp. (Poaceae), 19. iii. 2005; Dolat Abad, 12 male; 16 female, on *T. aestivum*, 4. iii. 2005; Naghshe Rustam, 3 male; 4 female, on *Cardaria draba* (L.) Desv. (Brassicaceae).

Distribution: Cosmopolitan (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: Iran (Bhatti et al., 2003); Tehran and Markazi Provinces (Jalili and Azmayesh, 2004); Khuzestan Province (Bagheri et al., 2005a; Bagheri and Alavi, 2006).

***Frankliniella pallida* (Uzel, 1895)**

Material examined: Marvdasht, Olia, 2 male, on *Hordeum murinum* L. (Poaceae); 4 female, on *Cardaria draba* (L.) Desv. (Brassicaceae), 25. iii. 2005; Emad Abad, 1 male, on *Cardaria draba*, 25. iii. 2005; Dolat Abad, 8 male, on *Cardaria draba*, 25. iii. 2005; Mian Ghalae, 3 male; 4 female, on *T. aestivum*; L. (Poaceae) 4. iv. 2005; Mian Ghalae, 2 female, on *Avena fatua* L. (Poaceae), 30. iv. 2005.

Distribution: Europe (Albania, Austria, Croatia, Czech Republic, Danish mainland, Finland, French mainland, Germany, Hungary, Italian mainland, Latvia, Lithuania, Moldova, Poland, Romania, Russia East, Slovakia, Slovenia, Spanish mainland, Sweden, Switzerland, Ukraine, Yugoslavia) (zur Strassen, 2003; Fauna

Europaea Web Service, 2004).

Iranian records: Khorasan-e-Shomali Province (Alavi and Kamali, 1995; Alavi and Kamali, 2003; Alavi, 2004); Fars Province (Minaei and Alich, 2000a; Minaei et al., 2002); Khuzestan Province (Bagheri et al., 2002; Bagheri et al., 2005c); Lorestan Province (Jafari and Fallahzadeh, 2004); Tehran and Markazi Provinces (Jalili and Azmayesh, 2004).

Genus *Scirtothrips* Shull, 1909***Scirtothrips mangiferae* Priesner, 1932**

Material examined: Lar, 1 male, on *Prosopis* sp. (Fabaceae), 13. iv. 2005.

Distribution: Europe (Greek mainland), Afro-tropical region, Near East, North Africa (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: Fars Province (Minaei and Alich, 2000a; Minaei and Alich, 2007; Minaei et al., 2002); Isfahan Province (Etebari and Hesami, 2002); Khuzestan Province (Bagheri et al., 2005 a, c).

Genus *Scolothrips* Hinds, 1902***Scolothrips longicornis* Priesner, 1926**

Material examined: Qir, 1 male, on *Citrus aurantiifolia* (Christm.) (Rutaceae), 22. iv. 2005.

Distribution: Europe, Afro-tropical region, East Palaearctic, Near East, Nearctic region (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: Iran (Mortazawiha, 1995); Khuzestan Province (Cheraghian and Hojat, 1998; Mohiseni et al., 1998; Bagheri et al., 2005b); Kerman Province (Kheyrandish et al., 2000b); Isfahan Province (Ghahhari and Hatami, 2000); Golestan Province (Gilasian et al., 2000; Alavi and zur Strassen, 2002); Kerman Province (Teraz and Kheyrandish, 2002); Khorasan-e-Shomali Province (Alavi, 2004; Alavi and Kamali, 1995; Alavi and Kamali, 2003), Fars Province (Minaei and Alich, 2000b; Alemansour and Fallahzadeh, 2004), Tehran and Markazi Provinces (Jalili and Azmayesh, 2004); Tehran Province (Minaei and Azmayesh, 2005); Yazd Province (Mohaghegh and Kheyrandish, 2002).

Genus *Thrips* Linnaeus, 1758***Thrips vuilleti* (Bagnall, 1933)**

Material examined: Shiraz, 13 female; 2 male, on *Tagetes lucida* Cav. (Asteraceae), 29.ix.2005.

Distribution: Europe (Bulgaria, Cyprus, French mainland, Italian mainland, Spanish mainland), Near East (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: Khorasan-e-Shomali Province (Alavi and Kamali, 2003; Alavi, 2004); Lorestan Province (Jafari and Fallahzadeh, 2004); Khuzestan Province (Bagheri et al., 2005a; Bagheri and Alavi, 2006); Tehran Province (Pirafkan et al., 2006).

***Thrips vulgatissimus* Haliday, 1836**

Material examined: Sepidan, 5 male; 2 female, on *M. pumila* Mill. (Rosaceae), 28. iv. 2005.

Distribution: Europe, Australian region, East Palaearctic, Near East, Nearctic region (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: Tehran and Markazi Provinces (Jalili and Azmayesh, 2004); Fars Province (Keyhanian et al., 2005).

Terebrantia: Melanthripidae

Genus *Melanthrips* Haliday, 1836

***Melanthrips pallidior* Priesner, 1919**

Material examined: Joium, 3 male; 6 female, on *Achillea* sp. (Asteraceae), 22. iv. 2005.

Distribution: Europe, East Palaearctic, Near East (zur Strassen, 2003; Fauna Europaea Web Service, 2004).

Iranian records: Golestan and Tehran Provinces (Mortazawiha and Dern, 1977), Kerman Province (Kheyrandish, 2000; Kheyrandish et al., 2000a; Teraz and Kheyrandish, 2002), Khorasan-e-Shomali Province (Alavi and Kamali, 2003), Khuzestan Province (Cheraghian and Hojat, 1998), Golestan Province (Alavi et al., 2007).

Tubulifera: Phlaeothripidae

Genus *Haplothrips* Amyot & Serville, 1843

***Haplothrips (Haplothrips) knechteli* Priesner, 1923**

Material examined: Emad Abad, 13 female, on *T. aestivum* L. (Poaceae), 8. iv. 2005; Olia, 1 male; 10 female, on *T. aestivum*, 8. iv. 2005.

Distribution: Europe (Greek mainland, Italian mainland, Spanish mainland, Ukraine), Near East (Fauna Europaea Web Service, 2004), New record for Iran fauna.

***Haplothrips (Haplothrips) reuteri* (Karny, 1907)**

Material examined: Qir, 3 male, on *C. aurantiifolia* (Christm.) (Rutaceae), 22. iv. 2005; Shiraz, 1 male, on *Nerium oleander* L. (Apocynaceae), 14. v. 2005.

Distribution: Europe, Afro-tropical region, East Palaearctic, Near East, North Africa, Oriental region (Fauna Europaea Web Service, 2004).

Iranian records: Fars Province (Priesner, 1954; Minaei and Alich, 2001), Ghazwin Province (Mortazawiha and Dern, 1977), Ghom Province (Mortazawiha and Dern, 1977), Kerman Province (Kheyrandish, 2000; Kheyrandish et al., 2000b; Moharrampour et al., 2000; Teraz and Kheyrandish, 2002), Khorasan-e-Janubi Province (Rahimi et al., 2003; Rahimi et al., 2004), Khorasan-e-Shomali Province (Alavi and Kamali, 2003), Khuzestan Province (Cheraghian and Hojat, 1998; Bagheri et al., 2002; Bagheri et al., 2005c), Lorestan Province (Jafari and Fallahzadeh, 2004), Mazandaran Province (Cheraghian and Barimani, 2000), Tehran Province (Mortazawiha and Dern, 1977; Jalili and Azmayesh, 2004), Zanjan Province (Mortazawiha and Dern, 1977), Yazd Province (Mohaghegh and Kheyrandish, 2002), Golestan Province (Alavi et al., 2007), Fars, Mazandaran and Tehran Provinces (Minaei and Mound, 2008).

***Haplothrips (Haplothrips) tritici* (Kurdjumov, 1912)**

Material examined: Fath Abad, 2 male; 1 female, on *Alopecurus myosuroides* Huds. (Poaceae), 10. iii. 2005; Emad Abad, 10 male; 4 female, on *T. aestivum* L. (Poaceae), 8. iv. 2005; Olia, 2 male; 9 female, on *T. aestivum*, 8. iv. 2005.

Distribution: Europe, East Palaearctic, Near East, North Africa (Fauna Europaea Web Service, 2004).

Iranian records: Tehran Province (Davatchi, 1949) Yazd Province, Kerman Province, Azarbaijan-e-Gharbi Province (Farahbakhsh, 1961; Behdad, 1982), Azarbaijan-e-Sharghi Province (Farahbakhsh, 1961; Behdad, 1982; Hassan-Zadeh, 1997), Chaharmahal-Bakhtiary Province (Behdad, 1982; Rowshandel, 2002), Fars Province (Minaei and Alich, 2001), Isfahan Province (Behdad, 1982), Kerman Province (Davatchi, 1954; Behdad, 1982; Kheyrandish, 2000; Takaloozadeh and Zohdi, 2000; Teraz and Kheyrandish, 2002), Kermanshah Province (Farahbakhsh, 1961; Behdad, 1982), Khorasan-e-Shomali Province (Alavi and Kamali, 2003), Khuzestan Province (Behdad, 1982; Cheraghian, 1996; Cheraghian and Hojat, 1998), Kordestan Province (Kamangar and Radjabi, 2000), Lorestan Province (Shekarian and Rajabi, 2004), Tehran Province (Farahbakhsh, 1961; Behdad, 1982; Azmayesh and Faridi, 1993), Semnan Province (Behdad, 1982), Yazd Province (Davatchi, 1954; Behdad, 1982; Mohaghegh and Kheyrandish, 2002; Teraz and Kheyrandish, 2002), Zanjan Province (Azmayesh and Faridi, 1993), Golestan Province (Alavi et al., 2007), Fars, Mazandaran, Tehran and Zanjan Provinces (Minaei and Mound, 2008).

***Haplothrips (Haplothrips) cahirensis* (Trybom, 1911)**

Material examined: Qir, 1 male; 19 female, on *C. aurantiifolia* (Christm.) (Rutaceae), 22. iv. 2005.

Distribution: Egypt, Israel, Kenya (Mound, 2010), New record for Iran fauna.

The present survey provides a novel distribution, host information of Thysanoptera in Fars Province of Iran, and this work will form the foundation for future studies. We also reported two new records for thrips present in Iran. As it seems that thrips species are important pests on various plants (Azmayesh and Faridi, 1993; Behdad, 1996; Bagheri et al., 2002) and also predators of other arthropods (Farahbakhsh, 1961; Minaei and Alich, 2000b; Rahimi et al., 2004; Keyhanian et al., 2005; Bhatti et al., 2009; Mound, 2010), further study of their occurrence, and biology, especially host specificity, should be encouraged.

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