Zootaxa 3860 (5): 479–486
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3860.5.6
http://zoobank.org/urn:lsid:zoobank.org:pub:05E44FB8-BCD2-47B0-A3BF-6394A4FADFDC

The Iranian Dendrothripinae (Thysanoptera: Thripidae) with description of a new genus and species

JALIL ALAVI[1], KAMBIZ MINAEI[2] & LIDA FEKRAT[3]

[1]*Agricultural and Natural Resources Research Center of Khorasan-e Shomali, Bojnourd, Iran. E-mail: j.alavi@areo.ir*
[2]*Department of Plant Protection, College of Agriculture, Shiraz University, Shiraz, Iran. E-mail: kminaei@shirazu.ac.ir*
[3]*Department of Plant Protection, College of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran. E-mail: fekrat@ferdowsi.um.ac.ir*

Abstract

Iranodendrothrips kamalii **gen. et sp. n.** is described from northeast of Iran and the morphological relationships among the closely related genera, *Dendrothrips* and *Filicopsothrips*, are discussed. *Pseudodendrothrips bhattii* is reported for the first time from Iran. Illustrated keys are provided to the genera and species of Dendrothripinae from Iran.

Key words: Dendrothripinae, *Iranodendrothrips*, new record, new species, *Pseudodendrothrips*

Introduction

The Dendrothripinae, with approximately 100 species is the smallest of the four subfamilies in the family Thripidae (ThripsWiki 2014). They are all leaf-feeding insects, often small and brightly coloured, and commonly associated with young leaves. These thrips are found mainly in the tropics and subtropics of the Old World, between Europe and Australia but with few species recorded from Southeast Asia (Mound 1999).

Species of Dendrothripinae share only one synapomorphy, a remarkably elongate 'lyre-shaped' metasternal endofurca. This furca provides the insertion points for muscles involved in the jumping ability of adults.The lateral walls of the metathorax are swollen, and the body surface often bears elaborate sculpture, and the median pair of setae on the abdominal tergites are long and close together (Mound 1999; Mound & Morris 2004).

Earlier authors followed Priesner (1925), and recognized the dendrothripines as tribe Dendrothripini in the subfamily Sericothripinae. Since Bhatti (1989), this group has been recognized as a subfamily. Although the subfamily was recovered as monophyletic in a molecular phylogeny (Buckman *et al*. 2013), its relationship with other subfamilies within Thripidae is unclear. Some morphological character states, including the lyre-shaped metafurca and the pair of long setae medially on the tergites, occur in some panchaetothripines, suggesting that dendrothripines are most closely related to the members of the subfamily Panchaetothripinae (Mound 1999; Mound & Morris 2004; Mound & Morris 2007).

Bhatti (2006) erected a superfamily Dendrothripoidea for two families, Retithripidae and Dendrothripidae, and placed 10 of the 11 extant dendrothripine genera, except *Projectothripoides*, in the family Dendrothripidae. However, this classification was discussed and criticized by Mound and Morris (2007).

Dendrothripines are not usually considered important pests, although the widespread mulberry thrips, *Pseudodendrothrips mori*, is sometimes a minor problem on trees grown for silkworm farming (Mound *et al*. 2014). Morover, *Dendrothrips ornatus* can cause some distortion to the leaves of privet, *Ligustrum*, a flowering plant in the family Oleaceae, (Mound *et al*. 2014), and *Leucothrips nigripennis* is reported as a pest of fern in Australia (Mound 1999). In Iran, Alavi (2002) reported damage by *Dendrothrips phyllireae* (Bagnall) in olive orchards and nurseries, and also mulberry thrips have been considered the dominant pest of mulberry along the northern coast of the Caspian Sea (Etebari & Matindoost 2004).

In the Dendrothripinae, two genera and five species (*Dendrothrips* and *Pseudodendrothrips*) have hitherto

Accepted by L. Mound: 25 Aug. 2014; published: 9 Sept. 2014

Key to Iranian *Pseudodendrothrips* species

1. Pronotum and interantennal region without brown markings (Fig. 21); antennal segments I–II paler than or as dark as IV–VIII; fore wing uniformly pale, with 24–26 costal setae; hind tarsus about 0.8 times as long as hind tibia . . . . . *mori*
- Pronotum with two longitudinal brown markings, head with interantennal region brown (Fig. 20); antennal segments I–II distinctly darker than IV–VIII; fore wing with light brown band in middle, fading towards apex, with 19–22 costal setae; hind tarsus about 0.7 times as long as hind tibia . . . . . *bhattii*

Pseudodendrothrips bhatti

The characters of female specimens collected in Iran closely conform to the published description of this species by Kudô (1984). However, differences in some characters are as follows: pronotum with 12 discal setae, with about 35 lines of sculpture at middle; fore wing with light brown band, paler at base and distally, clavus pale, shaded at apex; fore and mid tibiae not shaded. In this respect, Iranian specimens of *P. bhattii* are very similar to samples from Pakistan (see Akram *et al*. 2003). Mound (1999) indicated that *P. bhattii* cannot be distinguished from the Australian species, *P. darci*, but did not synonymise these two because of the difference in host plant records; *P. bhattii* has been reported only on *Morus*, whereas *P. darci* only on *Ficus*. Interestingly, we collected two specimens of *P. bhattii*, one from *Ficus* and another from *Morus*. Observation of this species on these two mentioned plants reinforces the suggestion by Mound (1999) of synonymy of this species with *P. darci.*

Material studied. IRAN, Khorasan-e Shomali province, Bojnourd, 1 female on *Ficus carica*, 15. vi.1993, J. Alavi. Kohnekand Research Station, 1 female on *Morus alba*. 14.ix.2011, J. Alavi.

Acknowledgments

We are grateful to Dr. L. A. Mound (CSIRO, Canberra, Australia) for editorial help in completing this paper. We also thank A. Hastenpflug-Vesmanis (Senckenberg Museum, Frankfurt, Germany) for sending some references, Eng. M. Rezaei (Office of Plant Protection of Khorasan-e Shomali province, Iran) for their help in photography. The authors are grateful to two anonymous referees for their helpful comments.

References

Akram, W., Shin, B.S., Hwang, C.Y. & Lee, J.J. (2003) Saltatorial leaf feeding genus *Pseudodendrothrips* (Terebrantia: Thysanoptera) and its species from Pakistan. *Korean Journal of Entomology*, 33 (2), 69–72. http://dx.doi.org/ 10.1111/j.1748-5967.2003.tb00051.x

Alavi, J. (2002) *Dendrothrips phyllireae* Bagnall (Thysanoptera: Thripidae) a pest of olive in Golestan province. *Proceedings of the 15th Iranian Plant Protection Congress*, 1, 109.

Alavi, J. & Kamali, K. (2003) The fauna of Thysanoptera in Bojnourd region of Khorasan province, Iran. *Thrips*, 2, 25–40.

Bagheri, S. & Alavi, J. (2007) Report of *Dendrothrips karnyi* (Thysanoptera: Thripidae) from Iran. *Iranian Journal of Forest and Range Protection Research*, 5 (1), 103–104.

Bhatti, J.S. (1989) The classification of Thysanoptera into families. *Zoology (Journal of Pure and Applied Zoology)*, 2, 1–23.

Bhatti, J.S. (1999) Enigmatic complete anterior tentorium and tentorial body in adults of the Onion thrips *Thrips tabaci* (Thripidae), with review of the tentorium in the Order Terebrantia. *Thrips*, 1, 15–30.

Bhatti, J.S. (2006) The classification of Terebrantia (Insecta) into families. *Oriental Insects*, 40, 339–375. http://dx.doi.org/ 10.1080/00305316.2006.10417487

Bhatti, J.S., Alavi, J., zur Strassen, R. & Telmadarraiy, Z. (2009) Thysanoptera in Iran 1938–2007, An Overview. *Thrips*, 7–8, 1–373.

Buckman, R.S., Mound, L.A. & Whiting, M.F. (2013) Phylogeny of Thrips (Insecta: Thysanoptera) based on five molecular loci. *Systematic Entomology*, 38 (1), 123–133. http://dx.doi.org/ 10.1111/j.1365-3113.2012.00650.x

Cheraghian, A. (2000) First report of two genera and four species of Thysanoptera for the insect fauna of Iran. *Proceedings of the 14th Iranian Plant Protection Congress*, 1, 359.

Etebari, K. & Matindoost, L. (2004) An appraisal of sprinkling irrigation and spring pruning on population density of mulberry thrips *Pseudodendrothrips mori* (Niwa) (Thys.,Thripidae). *Journal of Entomological Society of Iran*, 23 (2), 1–14.

Kudô, I. (1984) The Japanese Dendrothripini with descriptions of four new species (Thysanoptera, Thripidae). *Kontyû*, 52 (4),

487–505.
Marullo, R. (2003) Host relationships at plant family level in *Dendrothrips* Uzel (Thysanoptera: Thripidae: Dendrothripinae) with a new Australian species. *Australian Journal of Entomology*, 42, 46–50. http://dx.doi.org/ 10.1046/j.1440-6055.2003.00321.x
Minaei, K. (2013) Thrips (Insecta, Thysanoptera) of Iran: a revised and updated checklist. *Zookeys*, 330, 53–74. http://dx.doi.org/10.3897/zookeys.330.5939
Mound, L.A. (1999) Saltatorial leaf-feeding Thysanoptera (Thripidae, Dendrothripinae) in Australia and New Caledonia, with newly recorded pests of ferns, figs and mulberries. *Australian Journal of Entomology*, 38 (4), 257–273. http://dx.doi.org/10.1046/j.1440-6055.1999.00112.x
Mound, L.A., Morison, G.D., Pitkin, B.R. & Palmer, J.M. (1976) Thysanoptera. *Handbooks for the Identification of British Insects*, 1 (11), 1–79.
Mound, L.A. & Morris, D.C. (2004) Thysanoptera phylogeny- the morphological background. *Acta Pathologica et Entomologica Hungarica*, 39 (1–3), 101–113. http://dx.doi.org/10.1556/APhyt.39.2004.1-3.10
Mound, L.A. & Morris, D.C. (2007) The insect Order Thysanoptera: classification versus systematics. *Zootaxa*, 1668, 395–411.
Mound, L.A. & Tree, D.J. (2007) Oriental and Pacific Thripidae (Thysanoptera) new to Australia, with a new species of *Pseudodendrothrips* Schmutz. *Australian Entomologist*, 34 (1), 7–14.
Mound, L.A., Tree, D.J. & Paris, D. (2014) OZ THRIPS, Thysanoptera in Australia. Available from: http://www.ozthrips.org/ (accessed 30 May 2014)
Priesner, H. (1925) Katalog der europäischenThysanoptera. *Konowia*, 4, 141–159.
Schmutz, K. (1913) Zur Kenntnis der Thysanopterenfauna von Ceylon. *Sitzungsberichte der Kaiserlichen Akademie der Wissenschaften*, 122 (7), 991–1089.
ThripsWiki (2014) ThripsWiki-providing information on the World's thrips. Available from: http://thrips.info/wiki/ (accessed 30 May 2014)
Uzel, H. (1895) Monographie der Ordnung Thysanoptera. *Königratz, Bohemia*, 1–472.
zur Strassen, R. (2003) Die terebranten Thysanopteren Europas und des Mittelmeer-Gebietes. *Die Tierwelt Deutschlands und der angrenzenden Meeresteile*, 74, 1–277.