



<http://dx.doi.org/10.11646/zootaxa.3861.1.4>

<http://zoobank.org/urn:lsid:zoobank.org:pub:02C2ECF4-E42C-4D7C-BEAE-E6C7D5D151D8>

Eriophyoid mites (Acari: Trombidiformes: Eriophyoidea) of Rosales trees in Iran: two new species and three new records

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Abstract

This paper describes two new species of Eriophyoidea associated with trees belonging to the order Rosales in the south-western portion of East Azerbaijan province, Iran, collected during a survey in 2011: *Aceria lobolinguae* n. sp. on *Elaeagnus angustifolia* L. (Elaeagnaceae) and *Rhinophytoptus nemalobos* n. sp. on *Prunus domestica* L. (Rosaceae). Additionally, *Phyllocoptes abaenus* Keifer on *Prunus armeniaca* L. (Rosaceae), *Aculus fockeui* (Nalepa & Trouessart) on *Prunus amygdalus* Stokes and *Malus domestica* Borkh. (Rosaceae), and *Aceria mori* (Keifer) on *Morus alba* L. (Moraceae) were collected and are new records for the mite fauna of Iran. New locality records and host plant data are provided for *Eriophyes similis* (Nalepa), *Eriophyes pyri* (Pagenstecher) and *Calepitrimerus baileyi* (Keifer) which are eriophyoid species previously known from Iran.

Key words: eriophyoid fauna, Eriophyidae, Diptilomiopidae, Azerbaijan, taxonomy

Introduction

The order Rosales includes the families Barbeyaceae, Cannabaceae, Dirachmaceae, Elaeagnaceae, Moraceae, Rhamnaceae, Rosaceae, Ulmaceae and Urticaceae (The Plant List 2010). As far as it is known, 24 eriophyoid mite species belonging to 11 genera have been recorded in Iran from plants of the order Rosales, particularly on plant species belonging to the Rosaceae, Rhamnaceae, Elaeagnaceae, Ulmaceae and Moraceae (Kamali *et al.* 2001; Xue *et al.* 2009; Xue *et al.* 2012).

Considering the importance of this plant order, a careful survey was carried out in 2011 for eriophyoid mites associated with the most common Rosales tree plant species found in East Azerbaijan, Iran.

Material and methods

Plant samples of *Cerasus vulgaris* Mill., *Malus domestica* Borkh., *Prunus amygdalus* Stokes, *Prunus armeniaca* L., *Prunus domestica* L., *Pyrus communis* L. (Rosaceae), *Elaeagnus angustifolia* L. (Elaeagnaceae) and *Morus alba* L. (Moraceae) were collected in the south western portion of East Azerbaijan during 2011 and later examined in the laboratory. Eriophyoid mites were recovered from plant material using the method of Monfreda *et al.* (2007) and slide mounted in modified Hoyer's solution according to the protocol reported in Baker *et al.* (1996). Further un-mounted mite specimens were preserved in Oudemans' fluid (Krantz & Walter 2009).

The terminology and setal notation in the morphological descriptions follow mainly Lindquist (1996). The number of measured specimens (n) is given within parentheses in the description. All measurements were made with a phase contrast microscope, Olympus BX50, according to Amrine and Manson (1996) and de Lillo *et al.*

***Phyllocoptes abaenus* Keifer, 1940**

(Fig. 3E)

Type data. *Prunus* sp. (a plum; Rosaceae); San Mateo, San Mateo Co., California, USA.

Relation to the host. This species is free-living on the lower leaf surface (Keifer 1975).

Geographic distribution. Antarctic, Australian, Nearctic, Neotropical, Palaearctic.

Distribution and host plants in Iran. 26 females and 1 male, from Azarshahr (37°46'24"N, 45°57'20"E), 1,353 m above sea level, on *P. domestica* (Rosaceae), 2 August 2011; 7 females and 2 males, from Azarshahr (37°46'24"N, 45°57'20"E), 1,353 m above sea level, on *P. armeniaca* (Rosaceae), 2 August 2011; 27 females, Kandovan village, Osku (37°47'31"N, 46°14'57"E), about 2,243 m above sea level, on *Cerasus vulgaris* Mill. (Rosaceae), 1 August 2011. All coll. P. Lotfollahi.

Remarks. This is the first record of *P. abaenus* from Iran. The morphometry of the female matches the original description by Keifer (1940) but the opisthosomal setae *d* (49–70) in the Iranian specimens are slightly longer than reported in Keifer's description, possibly due to differences in the quality of microscope equipment.

Tribe Anthocoptini

***Aculus fockeui* (Nalepa & Trouessart, 1890)**

(Fig. 3F)

Type data. *Prunus domestica* L. (Rosaceae); Lille, France, was the presumed locality, based on the working place of Trouessart (Amrine & Stasny 1994).

Relation to the host plant. This mite species induces yellow leaf spots in spring, upper longitudinal curls on young leaves, silvering on older leaves and mottling (Keifer 1975). Differences in symptoms can be observed on different host plant species.

Geographic distribution. Africotropical, Australian, Indomalayan, Nearctic, Neotropical, Palaearctic.

Distribution and host plants in Iran. 24 females and 5 males from Azarshahr (37°46'24"N, 45°57'20"E), 1,371 m above sea level, on *Prunus amygdalus* Stokes (Rosaceae), 2 August 2011; on *Malus domestica* Borkh (Rosaceae): 2 females and 2 males, from Kandovan village, Osku (38°01'24.7"N, 46°25'26"E), 1,655 m above sea level, 1 August 2011; 16 females and 7 males, from Azarshahr (37°46'24"N, 45°57'20"E), 1,371 m above sea level, 2 August 2011. All coll. P. Lotfollahi.

Remarks. This is the first record of *A. fockeui* from Iran. There were some differences found in the Iranian specimens when compared with Keifer's description in Baker *et al.* (1996) such as in the number of dorsal semiannuli (30–37 in Iranian specimens *versus* 23–30) and ventral semiannuli (66–82 in Iranian specimens *versus* 50–53), number of striae on the female genital coverflap (10–12 in Iranian specimens) and length of coxal seta *3a* (26–32 in Iranian specimens).

Acknowledgements

The authors are grateful to Emeritus Prof. James W. Amrine Jr. (West Virginia University, Morgantown, USA) for his critical review of an earlier version of this manuscript and Mahnaz Heydari Rikan (Azarbaijan Gharbi Agricultural & Natural Resources Research Centre, Orumiyeh, Iran) for host plant identification. This research was partially supported by the University of Tabriz, Iran and the University of Bari Aldo Moro, Italy.

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