

SAYED MOSAYEB MAHDAVI¹

MAHDIEH ASADI²

SADEGH FARZAN³

**SPECIES DIVERSITY AND NEW HOST RECORDS
OF TETRANYCHIDAE AND TENUIPALPIDAE
(ACARI: TETRANYCHOIDAE) ON MEDICINAL PLANT
ARTEMISIA SPP. (ASTERACEAE) IN SOUTHEAST OF IRAN**

Abstract

During 2009–2011, in a faunistic survey of Kerman province (Southeast of Iran), the mite fauna of *Artemisia* (Asteraceae) was investigated. Six species belonging to superfamily Tetranychoidae were collected and identified. *Artemisia aucheri* (Asteraceae) is reported as a new host record for four species *Bryobia chryso-comae* Meyer, 1974; *Strunkobia pamirica* Livshitz & Mitrofanov, 1972; *Bryobia tuttlei* Smiley & Baker, 1995 and *Tetranychus urticae* Koch, 1836.

Keywords: *Artemisia*, medicinal plants, Tetranychoidae, new host record, Iran

¹ Department of plant protection, college of Agriculture, Shahid Bahonar University of Kerman, mahdavi.mosayeb@yahoo.com.

² farzan.sadegh@gmail.com.

³ asadi.mahd@yahoo.com.

Introduction

The *Artemisia* genus of Asteraceae family is represented by 34 known species in Iran Mozaffarian (1996). This plant occurs naturally as steppe vegetation of deserts and grasslands all around Iran (except in the west). *Artemisia* is used to treat many diseases such as malaria. In additions to medicinal uses of *Artemisia*, this plant has forage value for animals and also protects the area from desertification in arid and semi-arid areas of the country. Some pharmacological effects of some species of this plant such as spasmolytic, vermifugal Zargari (1996), insecticidal Negahban et al. (2007), anticandidal Mahboubi et al. (2008) were confirmed. During 2009–2011 A survey started to investigate the mite fauna of this medicinal plant in southeast of Iran. All of the collected species belong to the families Tetranychidae and Tenuipalpidae (Acari: Tetranychoida) that are of the most important pest families in the superfamily Krantz and Walter (2009). So far 27 species of Tetranychidae collected on *Artemisia* spp. Migeon and Dorkeld (2006-2013). This is the first report of *Artemisia aucheri* as a host plant for four species: *Bryobia chrysocoma* Meyer, 1974; *Strunkobia pamirica* Livshitz & Mitrofanov, 1972; *Bryobia tuttlei* Smiley & Baker, 1995 and *Tetranychus urticae* Koch, 1836.

Material and Methods

Leaves and twigs of *Artemisia* were collected from different areas, placed into plastic bags and transferred to the laboratory. Samples were washed in a solution of commercial detergent (5%). This solution was filtered by overlapping two sieves with different mesh sizes (16 Mesh; 400 Mesh), respectively. Mites retained in the smaller sieve were washed with 70% ethanol into a Petri dish. Mites were collected under a stereomicroscope, cleared with lactic acid (at 45°C in an Oven for four days) and mounted in Hoyer's medium. A phase contrast Olympus® Research Microscope (BX51 model) was used for the species designation.

Results and Discussion

In this study the following species were collected and identified:

Family Tetranychidae

Genus *Bryobia* Koch 1836

Bryobia chrysocomae Meyer, 1974

Collected from: Khabr, Baft, Kerman province, Iran (28°48'N–56°20'E) (Altitude 2115m), 13.X.2011, S. M. Mahdavi, ex. *Artemisia aucheri* (Asteraceae) (SBUC = collection of the Acarology laboratory, Shahid Bahonar University of Kerman, Kerman, Iran).

Bryobia tuttlei Smiley & Baker, 1995

Collected from: Bongan, Baft, Kerman province, Iran (29°32'N–56°43'E) (Altitude 2758m), 14.X.2011; Lalezar, Baft, Kerman province, Iran (29°32'N–56°50'E) (Altitude 2844m), 18.vii.2011; Khabr, Baft, Kerman province, Iran (28°48'N–56°20'E) (Altitude 2115m), 13.X.2011, S. M. Mahdavi, ex. *Artemisia aucheri* (Asteraceae) (SBUC).

Genus *Pseudobryobia* McGregor, 1950

Pseudobryobia sp. McGregor, 1950

Collected from: Lalezar, Baft, Kerman province, Iran (29°32'N–56°50'E) (Altitude 2844m), 18.vii.2011, S. M. Mahdavi, ex. *Artemisia aucheri* (Asteraceae) (SBUC).

Genus *Strunkobia* Livshitz & Mitrofanov, 1972

Strunkobia pamirica Livshitz & Mitrofanov, 1972

Collected from: Lalezar, Baft, Kerman province, Iran (29°32'N–56°50'E) (Altitude 2844m), 13.X.2011, S. M. Mahdavi, ex. *Artemisia aucheri* (Asteraceae) (SBUC).

Genus *Tetranychus* Dufour, 1832

Tetranychus urticae Koch, 1836

Collected from: Sirch, Kerman, Kerman province, Iran (30°12'N–57°32'E) (Altitude 1775m), 14.vii.2011; Kerman, Kerman province, Iran (30°20'N–57°10'E) (Altitude 1770m), 3.viii.2011, S. M. Mahdavi, ex. *Artemisia aucheri* (Asteraceae) (SBUC).

Family Tenuipalpidae

Genus *Aegyptobia* Sayed, 1950

Aegyptobia hormozgani Farzan et al., 2012

Type series. Khahr, Baft, Kerman province, Iran (27°24'N–56°10'E) (Altitude 1714m), 1.ix.2011, S. Farzan, ex. *Artemisia siberia* (Asteraceae) (SBUC).

Artemisia aucheri (Asteraceae) is a new host plant for *Bryobia chrysocomae*, *Bryobia tuttlei* and *Tetranychus urticae* but these species have originally been collected from different materials as follows:

Bryobia chrysocomae ex. *Berkheya annectens*, *Chrysocoma tenuifolia* (Asteraceae); *Mesembryanthemum magniflorum* (Aizoaceae), south Africa Meyer (1974); *Malus domestica* (Rosaceae), Ardebil, Iran Rahmani (2009).

Bryobia tuttlei ex. *Gaillardia* sp. (Asteraceae), Yemen Bolland (1998); Alfalfa, Hamedan, Iran Khanjani and Eghbalian (2008).

Strunkobia pamirica ex. *Euphorbia pamirica* (Euphorbiaceae), Tajikistan Livshitz & Mitrofanov (1972).

Tetranychus urticae and *Pseudobryobia* sp. have been found on a wide range of host plants, for example *T. urticae* on *Artemisia dracunculoides* Bolland et al. (1998), and the latter on wild safflower, tamarix, locoweed in Iran Kamali et al. (2001).

In this survey no species of the families Linotetranaeidae, Allochaetophoridae and Tuckerellidae were found on *Artemisia* spp.

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**RÓŻNORODNOŚĆ GATUNKOWA ROZTOCZY Z RODZIN
TETRANYCHIDAE I TENUIPALPIDAE (ACARI: TETRANYCHOIDAE)
WYSTĘPUJĄCYCH NA LECZNICZYCH ROŚLINACH *ARTEMISIA* SPP.
(ASTERACEAE) W POŁUDNIOWO-WSCHODNIM IRANIE,
Z PODANIEM NOWYCH GATUNKÓW ŻYWICIELSKICH**

Streszczenie

Podczas badań faunistycznych w latach 2009–2011 w prowincji Kerman (Południowy Iran), badano faunę roztoczy na roślinach z rodzaju *Artemisia* (Asteraceae). Stwierdzono sześć gatunków roztoczy należących do nadrodziny Tetranychoida. Odnotowano nowy gatunek żywicielski – *Artemisia aucheri* (Asteraceae) dla czterech gatunków: *Bryobia chrysocoma* Meyer, 1974; *Strunkobia pamirica* Livshitz & Mitrofanow, 1972; *B. tuttlei* Smiley & Baker, 1995 i *Tetranychus urticae* Koch, 1836.

Słowa kluczowe: *Artemisia*, rośliny lecznicze, Tetranychoida, nowa roślina żywicielska, Iran

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