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# Eriophyoid mite fauna (Acari: Eriophyoidea) of Maragheh county in Iran

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Mites of the superfamily Eriophyoidea Nalepa (Acari: Acarifomes) are obligate plant parasites with high host specialization and are the second most important group of mites causing damage to agricultural crops after the superfamily Tetranychoidea Donnadieu (Lindquist *et al.* 1996; Krantz and Walter 2009). Mites of this superfamily, with a global distribution, are known as bud mites, blister mites, erinose mites, rust mites and four-legged mites, and are currently included in three families: Eriophyidae Nalepa, Diptilomiopidae Keifer and Phytoptidae Murray. These mites feed on all aerial parts of annual, biennial and perennial plants and some ferns except the roots. Members of this superfamily account for more than 60% of herbivorous mites (Li *et al.* 2023). In addition to the direct damage caused by eriophyoid mites to agricultural crops, their ability to transmit plant viruses and their potential as biological control agents for some weeds are of great importance (Oldfield 2005). Therefore, because of their high importance, the eriophyoid mite fauna was surveyed in 15 locations of Maragheh county, East Azerbaijan province, Northwest of Iran, in summers 2023 and 2024 (Table 1; see supplement for Tables). Eriophyoid mites were recovered from the plant material by means of a modified washing method developed by Lotfollahi and Masoudi-Rad (2024). The collected specimens were slide mounted according to Lotfollahi and Masoudi-Rad (2024). In order to make the species identification possible, all measurements were taken using an Olympus BX53 microscope, through a phase contrast 100× oil immersion objective at 1,000 magnification, according to Amrine and Manson (1996) as modified by de Lillo *et al.* (2010), and counting of dorsal, ventral and coxigenital semiannuli follows Lotfollahi and Masoudi-Rad (2024). The genera classification follows Amrine *et al.* (2003) and comparisons were also made with new genera described since that publication. The examined materials are deposited at the Acarology Laboratory, Department of Plant Protection, Faculty of Agriculture, Azarbaijan Shahid Madani University, Tabriz (Iran). Host plant names and their synonymies are in accordance with "*The World Flora Online*" (2025).

In total specimens belonging to 12 species, two families, three subfamilies, four tribes, and 9 genera were collected and identified, and he information about them are provided herein. In this study, the highest number of mite specimens belonged to *Calepitrimerus baileyi* Keifer, 1938 and the lowest number belonged to the *cynodonis* Abou-Awad & Nasr, 1983.

## Family Eriophyidae Nalepa

## Subfamily Eriophyinae Nalepa

## Tribe Acerini Amrine & Stasney

## Genus *Aceria* Keifer

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### *Aceria lactulignae* Honarmand & Lotfollahi, 2024

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2024; on plants and localities listed in Table 2.

**Previous provincial records for Iran –** East Azerbaijan (Honarmand and Lotfollahi 2024).

**Remarks –** It should be supposed that this mite species can be subjected to wind dispersal and can be landed on non-elective host plant species, considering the collection of solely few females. This is a new record to the fauna of Maragheh County.

### *Aceria xeranthemis* Lotfollahi, Haddad, khanjani, Moghaddam & de Lillo, 2013

**Locality and host plant –** Collected by N. Yousefnezhad during summers 2023 and 2024; on plants and localities listed in Table 3.

**Previous provincial records for Iran –** Ardabil, East Azerbaijan (Lotfollahi *et al.* 2013; Hemmatzadeh-khorshidabadi *et al.* 2023)

**Remarks –** No apparent symptom was observed on the elective host plants.

## Subfamily Phyllocoptinae Nalepa

## Tribe Tegonotini Bagdasarian

## Genus *Shevtchenkella* Bagdasarian

### *Shevtchenkella denticulata* Lotfollahi, de Lillo & Haddad, 2014a

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2024; on plants and localities listed in Table 5.

**Previous provincial records for Iran –** East Azerbaijan, West Azerbaijan (Lotfollahi *et al.* 2014a, 2023).

**Remarks –** No apparent symptom was observed on the host plant. This is a new record to the fauna of Maragheh County.

## Tribe Phyllocoptini Nalepa

## Genus *Phyllocoptes* Nalepa

### *Phyllocoptes abaenus* Keifer, 1940

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2023; on plants and localities listed in Table 6.

**Previous provincial records for Iran –** Ardabil, East Azerbaijan, Hamedan, Mazandaran, West Azerbaijan (Lotfollahi *et al.* 2014b; Gol *et al.* 2018; Mehri-Heyran *et al.* 2020; Jafari and Khanjani 2021; Shalchi-zonouz *et al.* 2022; Hemmatzadeh-khorshidabadi *et al.* 2023; Lotfollahi *et al.* 2023; Ranjbar-Varandi *et al.* 2023).

**Remarks –** It should be supposed that this mite species can be subjected to wind dispersal and can be landed on non-elective host plant species, considering the collection of solely few females. No apparent symptom was observed on the elective and non-elective host plants. This is a new record to the fauna of Maragheh County.

## Genus *Calepitrimerus* Keifer

### *Calepitrimerus achilleae* Roivainen, 1950

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2024; on plants and localities listed in Table 7.

**Previous provincial records for Iran –** No previous record.

**Remarks –** No apparent symptom was observed on the elective host plant. This is a new record to the fauna of Iran.

### *Calepitrimerus baileyi* Keifer, 1938

**Locality and host plant –** Collected by N. Yousefnezhad during summers 2023 and 2024; on plants and localities listed in Table 8.

**Previous provincial records for Iran –** Ardabil, East Azerbaijan, Golestan, Lorestan, West Azerbaijan (Lotfollahi *et al.* 2014b; Gol *et al.* 2018; Mehri-Heyran *et al.* 2020; Bahirai *et al.* 2021; Hemmatzadeh-khorshidabadi *et al.* 2023; Lotfollahi *et al.* 2023).

**Remarks –** It should be supposed that this mite species can be subjected to wind dispersal and can be landed on non-elective host plant species, considering the collection of solely few females. No apparent symptom was observed on the elective and non-elective host plants. This is a new record to the fauna of Maragheh County.

## Tribe Anthocoptini Amrine & Stasny

## Genus *Aculus* Keifer

### *Aculus fockeui* (Nalepa & Trouessart, 1891)

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2023; on plants and localities listed in Table 9.

**Previous provincial records for Iran –** Ardabil, East Azerbaijan, Hamedan, Lorestan, West Azerbaijan (Lotfollahi *et al.* 2014b; Mehri-Heyran *et al.* 2020; Bahirai *et al.* 2021; Jafari and Khanjani 2021; Shalchi-Zonouz *et al.* 2022; Hemmatzadeh-khorshidabadi *et al.* 2023; Lotfollahi *et al.* 2023).

**Remarks –** It should be supposed that this mite species can be subjected to wind dispersal and can be landed on non-selective host plant species, considering the collection of solely few females.

### *Aculus comatus* (Nalepa, 1892)

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2023; on plants and localities listed in Table 10.

**Previous provincial records for Iran –** East Azerbaijan (Bagheri *et al.* 2024).

**Remarks –** No apparent symptom was observed on the elective host plant. This is a new record to the fauna of Maragheh County.

## Genus *Aculops* Keifer

### *Aculops pachyphora* Honarmand, Sadeghi & de Lillo, 2020

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2023; on plants and localities listed in Table 11.

**Previous provincial records for Iran –** South Khorasan, West Azerbaijan (Honarmand *et al.* 2020; Lotfollahi *et al.* 2023).

**Remarks–** No apparent symptom was observed on the elective host plant. This is a new record to the fauna of East Azerbaijan province.

## Genus *Anthocoptes* Nalepa

### *Anthocoptes salicis* (Nalepa, 1894)

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2023; on plants and localities listed in Table 12.

**Previous provincial records for Iran –** East Azerbaijan, Lorestan, Mazandaran, Zanjan (Tarasi and Taghaddosi 2005, Lotfollahi *et al.* 2014c, Bahirai *et al.* 2021; Ranjbar-Varandi *et al.* 2023).

**Remarks –** It should be supposed that this mite species can be subjected to wind dispersal and can be landed on non-elective host plant species. This is a new record to the fauna of Maragheh County.

### Genus *Abacarus* Keifer

### *Abacarus cynodonis* Abou-Awad et Nasr, 1983

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2023; on plants and localities listed in Table 13.

**Previous provincial records for Iran –** West Azerbaijan (Lotfollahi *et al.* 2023).

**Remarks –** It should be supposed that this mite species can be subjected to wind dispersal and can be landed on non-elective host plant species, considering the collection of solely one female. This is a new record to the fauna of East Azerbaijan province.

### Family Diptilomioptidae Keifer

### Subfamily Rhyncaphytoptinae Roivainen

### Genus *Rhinophytoptus* Liro

### *Rhinophytoptus nemalobos* Lotfollahi & de Lillo, 2014b

**Locality and host plant –** Collected by N. Yousefnezhad during summer 2023; on plants and localities listed in Table 15.

**Previous provincial records for Iran –** East Azerbaijan, Hamedan, Lorestan, Mazandaran, West Azerbaijan (Lotfollahi *et al.* 2014b; Mehri-Heyran *et al.* 2020; Jafari and Khanjani 2021; Shalchi-Zonouz *et al.* 2022; Ranjbar-Varandi *et al.* 2023).

**Remarks –** It should be supposed that this mite species can be subjected to wind dispersal and can be landed on non-elective host plant species, considering the collection of solely few females and males. No apparent symptom was observed on the elective and non-elective host plants. This is a new record to the fauna of Maragheh County.

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