*Persian J. Acarol., 2024, Vol. 13, No. 4, pp. 757–770.*
https://doi.org/10.22073/pja.v13i4.85721
Journal homepage: http://www.biotaxa.org/pja

http://zoobank.org/urn:lsid:zoobank.org:pub:DAC7B1F0-6ECF-4AC3-9ED6-B6ED3A9C6F4A

**Article**

# One new *Aceria* species (Acari: Eriophyoidea) from Dogijan village in Iran

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**ABSTRACT**
During a field survey of eriophyoid mites in Dogijan village (Marand county, East Azerbaijan province, Iran) in late spring 2023, one new eriophyid species (Acari: Eriophyoidea: Eriophyidae) on *Chardinia orientalis* (L.) Kuntze (Asteraceae) was discovered, illustrated, described, and named as *Aceria dogijaniensis* **sp. nov.** The mites cause tight leaf edge rolls of different length with pale blotches on their type host plant. In addition, a population of similar mites was collected on *Centaurea* sp. (Asteraceae) with leaf galls made by *Subanguina* sp. (Nematoda: Secernentea: Tylenchida: Anguinidae) at the same locality on the same date. Few quantitative and qualitative differences were found between the two populations collected on the two host plants. In this study, we provided a list of *Aceria* spp. associated with Asteraceae in Iran.

**KEYWORDS:** Asteraceae, *Centaurea*, *Chardinia*, East Azerbaijan, Gall, Marand.

**PAPER INFO.:** Received: 4 June 2024, Accepted by: *A. Saboori*, 20 August 2024, Published: 15 October 2024

## INTRODUCTION

Asteraceae Giseke is one of the largest flowering plant families containing about 110 genera worldwide (The World Flora Online 2024). It is an economically important family that supplies products such as vegetables, cooking oils, sunflower seeds, lettuce, artichokes, sweeteners, coffee alternatives, herbal teas and herbal medicine (Singh *et al.* 2015). To date, 29 *Aceria* species were recorded on Asteraceaeous plants in Iran and their list and type host plant genera and species are provided in Table 1.

The genus *Chardinia* Desf. includes *Chardinia orientalis* (L.) Kuntze that has not been recorded as host plant of eriophyoid mites until now. The native range of this species is Asia-Temperate (Caucasus Transcaucasus, Middle Asia: Kazakhstan, Kirgizistan, Tajikistan, Turkmenistan, Uzbekistan, Western Asia: Afghanistan, Iran, Iraq, Lebanon, Syria, Palestine, Türkiye) and Asia-Tropical (Indian Subcontinent Pakistan) (The World Flora Online 2024). *Centaurea* L. is a large genus within Asteraceae genera including about 793 species (The World Flora Online 2024). Up to now five eriophyoid species have been found on plants of this genus in Iran and two of them belong to the genus *Aceria* (Table 1). The aim of this study was to investigate the eriophyoid mite fauna living on asteraceous host plants of genera *Chardinia* and *Centaurea* in Dogijan village of Marand county, Iran.

**How to cite:** Jahandideh-Dogijan, J. & Lotfollahi, P. (2024) One new *Aceria* species (Acari: Eriophyoidea) from Dogijan village in Iran. *Persian Journal of Acarology*, 13(4): 757–770.

**Table 1.** List of *Aceria* spp. associated with Asteraceae in Iran.

| Type host plant | Mite species |
|---|---|
| *Achillea millefolium* L. | *A. kiefferi* (Nalepa, 1891) |
| *Anthemis arvensis* L. | *A. anthemis* Lotfollahi & Hemmatzadeh, 2024 |
| *Artemisia vulgaris* L. | *A. artemisiae* (Canestrini, 1891) |
| *Artemisia sieberi* Besser. | *A. gallartae* Honarmand, Sadeghi & de Lillo, 2020 |
| *Artemisia fragrans* Willd. | *A. jolfae* Lotfollahi, 2024 |
| *Artemisia tournefortiana* Rchb. | *A. khaniensis* Honarmand, Sadeghi & de Lillo, 2020 |
| *Artemisia scoparia* Waldst. & Kitam. | *A. alghoorii* Honarmand, Sadeghi & de Lillo, 2020 |
| | *A. artemiparia* Honarmand, Lotfollahi, Hashemi-Khabir, Hanifeh & Xue, 2024 |
| *Arctium lappa* L. | *A. inturbida* Boczek, 1961 |
| *Carduus acanthoides* L. | *A. balasi* Farkas, 1960 |
| *Carthamus lanatus* L. | *A. carthami* Lotfollahi & Hemmatzadeh, 2024 |
| *Centaurea jacea* L. | *A. centaureae* (Nalepa, 1891) |
| *Centaurea virgata* Lam. | *A. plectrumscuti* Lotfollahi, Haddad, Khanjani, Moghadam & de Lillo, 2013 |
| *Chondrilla juncea* L. | *A. chondrillae* (Canestrini, 1890) |
| *Cichorium intybus* L. | *A. cichorii* Petanovic, Boczek & Shi, 2002 |
| *Cirsium arvense* (L.) Scop. | *A. anthocoptes* (Nalepa, 1892) |
| *Cousinia eryngioides* Boiss. | *A. cousiniae* Kamali &Amrine, 2005 |
| *Heteropappus altaicus* (Willd.) | *A. heteropappi* Xue, Sadeghi, Hong & Sinaie, 2013 |
| *Lactuca orientalis* Boiss. | *A. scariolae* Kamali & Amrine, 2005 |
| *Lactuca saligna* L. | *A. lactucae* (Canestrini, 1893) |
| *Launaea acanthodes* (Boiss.) Kuntze | *A. launaeae* Honarmand, Sadeghi-Namaghi & de Lillo, 2019 |
| *Onopordum acanthium* L. | *A. onopordi* Lotfollahi & Hemmatzadeh, 2023 |
| *Pulicaria gnaphalodes* (Vent.) Boiss. | *A. pulicaris* Xue, Sadeghi, Hong & Sinaie, 2011 |
| *Rhaponticum repens* (L.) Hidalgo | *A. ayvatliorum* Lotfollahi & Hemmatzadeh, 2022 |
| | *A. acroptiloni* Shevtchenko & Kovalev, 1974 |
| | *A. sobhiani* Sukhareva, 2001 |
| *Tanacetum vulgare* L. | *A. tuberculata* (Nalepa, 1891) |
| *Tragopogon coelesyriacus* Boiss. | *A. tragopogonis* Xue, Sadeghi & Hong, 2012 |
| *Xeranthemum squarrosum* Boiss. | *A. xeranthemis* Lotfollahi, Haddad, Khanjani, Moghadam & de Lillo, 2013 |

## MATERIAL AND METHODS

During late spring 2023, plants of the family Asteraceae were sampled in Dogijan village, Marand county, East Azerbaijan province, Iran. Eriophyoid mites were recovered from the plant material by means of a modified washing method (Lotfollahi and Masoudi-Rad, 2024) and preserved in vials of Oudemans' fluid (Walter and Krantz 2009). Collected specimens were slide mounted according to Lotfollahi and Masoudi-Rad (2024). The terminology and the setal notation in the morphological description of the mites follow mainly Lindquist (1996).

All morphological measurements were taken using an Olympus BX53 microscope, through a phase contrast 100× oil immersion objective lens at 1,000 magnification, according to Amrine and Manson (1996) as modified by de Lillo *et al*. (2010). Counting of dorsal, ventral and coxigenital annuli follows Lotfollahi and Masoudi-Rad (2024). Measurements and means are rounded off to the nearest integer when required, except for characters with very short length. Measurements are of the lengths of the morphological trait unless otherwise specified and are in micrometers (µm). In the female description, the holotype measurements are followed by range values of the holotype and paratype specimens set between parentheses; only the range values are given for males and immature

stages. The mean values of the paratypes are reported in a few cases and when measurements of the holotype could not be taken, due to the slide mounting position of the specimens, these are marked by an asterisk (*).

Line drawings were hand-drawn through a *camera lucida* according to de Lillo *et al*. (2010). Abbreviations in figures follow mainly Amrine *et al*. (2003). Plates were edited with Adobe Photoshop® CC 2017. Generic classification follows Amrine *et al.* (2003) and comparisons were also made with new genera described since that publication. Host plants names and their synonymies are in accordance with "*The World Flora Online*" (2024). Type materials are deposited at the Acarology Laboratory, Department of Plant Protection, Faculty of Agriculture, Azarbaijan Shahid Madani University, Tabriz (Iran) except one paratype which is deposited in the Acarological Collection, Jalal Afshar Zoological Museum (JAZM), Faculty of Agriculture, University of Tehran, Karaj, Iran.

## RESULTS

### Family Eriophyidae Nalepa
### Subfamily Eriophyinae Nalepa
### Tribe Aceriini Amrine & Stasny
### Genus *Aceria* Keifer

**_Aceria dogijaniensis_ sp. nov.**

http://zoobank.org/urn:lsid:zoobank.org:act:7C3951C2-DC09-41F8-AD7F-81D663E217DF

*Description*

**Female (Fig. 1; measured specimens = 7) – Body** vermiform, 303 (256–349, excluding gnathosoma), 75* (74–76) thick, 74 (72–80) wide. **Gnathosoma** projecting obliquely downwards, cheliceral stylets 23 (23–27), palp 25 (25–30), palp coxal setae *ep* 3 (2–3), dorsal palp genual setae *d* 9 (9–11), unbranched; subapical pedipalp tarsal setae *v* 2 (no variation). Suboral plate rounded anteriorly, with few faint dashes. **Prodorsal shield** 45 (40–48) including frontal lobe, 46 (46–55) wide, sub-semicircular; with a short apically pointed frontal lobe, 8 (7–9), over gnathosomal base. Shield pattern distinct, consisting of complete median line, faint on anterior third, complete admedian lines, incomplete inner and outer submedian lines, some dashes between median and admedian lines at shield posterior half, many dashes posterior to submedian lines and shield lateral sides; all lines made by continuous dashes that are more distinct at their base. Tubercles of scapular setae *sc* on rear shield margin, 26 (24–29) apart, setae *sc* 68 (57–68), directed posterior. **Legs** with all usual segments and setae. Leg I 42 (41–44), trochanter 8 (7–8), femur 12 (12–13), genu 7 (7–8), tibia 10 (9–10), tarsus 12 (10–12), tarsal solenidion *ω* 11 (10–12), curved down, distally tapered, empodium simple, 8 (8–9), 6-rayed; basiventral femoral setae *bv* 15 (15–18), antaxial genual setae *l″* 40 (35–41), paraxial tibial setae *l′* 14 (12–16), located at basal ¼ of tibia, paraxial fastigial tarsal setae *ft*' 24 (23–28), antaxial fastigial tarsal setae *ft″* 37 (35–38), paraxial unguinal tarsal setae *u′* 7 (6–8). Leg II 37 (35–38), trochanter 7 (6–7), femur 13 (11–13), genu 6 (6–7), tibia 8 (7–8), tarsus 10 (10–11), tarsal solenidion *ω* 13 (12–13), curved down, distally tapered, empodium simple, 8 (8–9), 6-rayed; femoral setae *bv* 18 (15–20), genual setae *l″* 20 (20–24), paraxial fastigial tarsal setae *ft′* 9 (8–10), antaxial fastigial tarsal setae *ft*" 35 (32–37), paraxial unguinal tarsal setae *u′* 6 (6–9). **Coxisternal region –** Prosternal apodeme 8 (7–10), bifurcate at posterior third, anterior setae on coxisternum I *1b* 14 (14–16), 15 (15–18) apart; proximal setae on coxisternum I *1a* 27 (27–31), 10 (10–13) apart; proximal setae on coxisternum II *2a* 60 (58–65), 28 (27–30) apart; 8 (8–11) microtuberculate semiannuli between coxae and genital coverflap plus 4 (3–4) transversal rows of lined granules at the base of the coverflap. Coxae with distinct dense lines and dashes. **External genitalia** 20 (16–20), 29 (28–30) wide, coverflap with one rank of 16 (16–20) longitudinal striae; setae *3a* 25 (23–26), 23 (20–23) apart. **Internal genitalia –** spermathecae ovoid, oriented posterolaterad; spermathecal tubes relatively short; transverse genital apodeme trapezoidal, distally folded. **Opisthosoma** dorsally evenly

rounded, with 90 (82–99) dorsal semiannuli, 95 (87–105) ventral semiannuli. **Microtubercles:** elliptical, on posterior margin of dorsal semiannuli, circular, on posterior margin of ventral semiannuli; spiny on the rear margin of the last 5 (5–6) dorsal semiannuli and elongated and linear on last 6 (5–6) ventral semiannuli. Setae *c2* 41 (38–41) on ventral semiannulus 12 (12–13), setae *d* 83 (79–90) on ventral semiannulus 34 (34–36); setae *e* 25 (23–31) on ventral semiannulus 57 (56–60); setae *f* 28 (25–32) on ventral semiannulus 87 (86–97); 8 (7–8) annuli posterior to setae *f*. Setae *h1* 7 (6–8), *h2* 110 (108–125) apically very fine.

**Male (Fig. 1 GM; measured specimens = 2) –** Similar in shape and prodorsal shield arrangement to female. Body smaller than female, 198–214, 63 wide, 62 thick; palp genual setae *d* 8–9; prodorsal shield 40–41, 40 wide; setae *sc* 52–54, 24 apart. Opisthosoma with 70–72 dorsal semiannuli and 77–78 ventral semiannuli; 7–8 semiannuli between coxae and genitalia, with microtubercles similar to that of female. Setae: *1b* 13–15, 13 apart; *1a* 20–24, 8–9 apart; *2a* 50–52, 23 apart; *c2* 37–40, on ventral semiannulus 12–13; *d* 65–67, on ventral semiannulus 27–28; *e* 20–22, on ventral semiannulus 44–46; *f* 22–25, on ventral semiannulus 70–72; *h1* 6, *h2* 80–87. Male genitalia 22–24 wide, setae *3a* 18–22, 17 apart. Legs I and II empodia 6-rayed.

**Larva (measured specimens = 1) –** Body vermiform, 66 (excluding gnathosoma), 48 thick; palp genual setae *d* 5. Prodorsal shield 32, without frontal lobe, 4, over gnathosomal base. Tubercles of *sc* setae 3 ahead of rear shield margin, setae *sc* 40, directed anteror. Opisthosoma with 50 dorsal semiannuli with elliptical microtubercles set on rear margin of semiannuli, 42 ventral semiannuli with oval microtubercles, elongated on the posterior semiannuli. Setae: *c2* 14, on ventral semiannulus 9; *d* 25, on ventral semiannulus 18; *e* 8, on ventral semiannulus 26; *f* 10, on ventral semiannulus 39; *h1* 6, *h2* 40. Setae *3a* 6 on semiannulus 11 after coxae. Legs I and II empodia 4-rayed.

**Nymph (Fig. 2; measured specimens = 3) –** Body vermiform, 184–200 (excluding gnathosoma), 56–57 wide, 55 thick; palp genual setae *d* 5–6. Prodorsal shield 34–38 including frontal lobe, 35–39 wide, sub-semicircular; with a short apically rounded frontal lobe, 3–4, over gnathosomal base. Shield pattern distinct, consisting of incomplete median line extended on posterior ¾ of shield, complete admedian lines, incomplete inner submedian lines, some dases between median and admedian lines at shield base, some dashes posterior to submedian lines and many dashes at shield lateral sides; all lines made by continuous dashes that are more distinct at their base. Tubercles of *sc* setae on rear shield margin, 19–22 apart, setae *sc* 50–52, directed posterior. Opisthosoma with 75–77 dorsal semiannuli with elliptical microtubercles set on rear margin of semiannuli, 65–67 ventral semiannuli with oval microtubercles, elongated on the posterior semiannuli. Setae: *1b* 9–10, 12–13 apart; *1a* 18, 6–7 apart; *2a* 30–35, 21–22 apart; *c2* 25–27, on ventral semiannulus 10–11; *d* 45–56, on ventral semiannulus 25–27; *e* 14–16, on ventral semiannulus 38–41; *f* 18–20, on ventral semiannulus 60–62; *h1* 5, *h2* 65–68. Setae *3a* 11–14, 9–10 apart on semiannulus 16–18 after coxae. Legs I and II empodia 5-rayed.

*Type host plant*

*Chardinia orientalis* (L.) Kuntze (Asteraceae), Oriental Chardinia.

*Relation to the host plant*

The mites cause tight leaf edge rolls of different length with pale blotches (Fig. 3).

*Type locality*

Dogijan village, Marand county, East Azerbaijan province, Iran (38°31'10.9"N, 46°03'14.23"E), 2,112 m above sea level, coll. J. Jahandideh-Dogijan, late spring 2023.

*Type material*

Holotype – single female on a microscope slide (CO-IEA-MD-DN-23-JJ-1). Paratypes: 6 females, 2 males, 5 nymphs and 1 larva mounted singly on separate microscope slides (CO-IEA-MD-

DN-23-JJ-1–15).

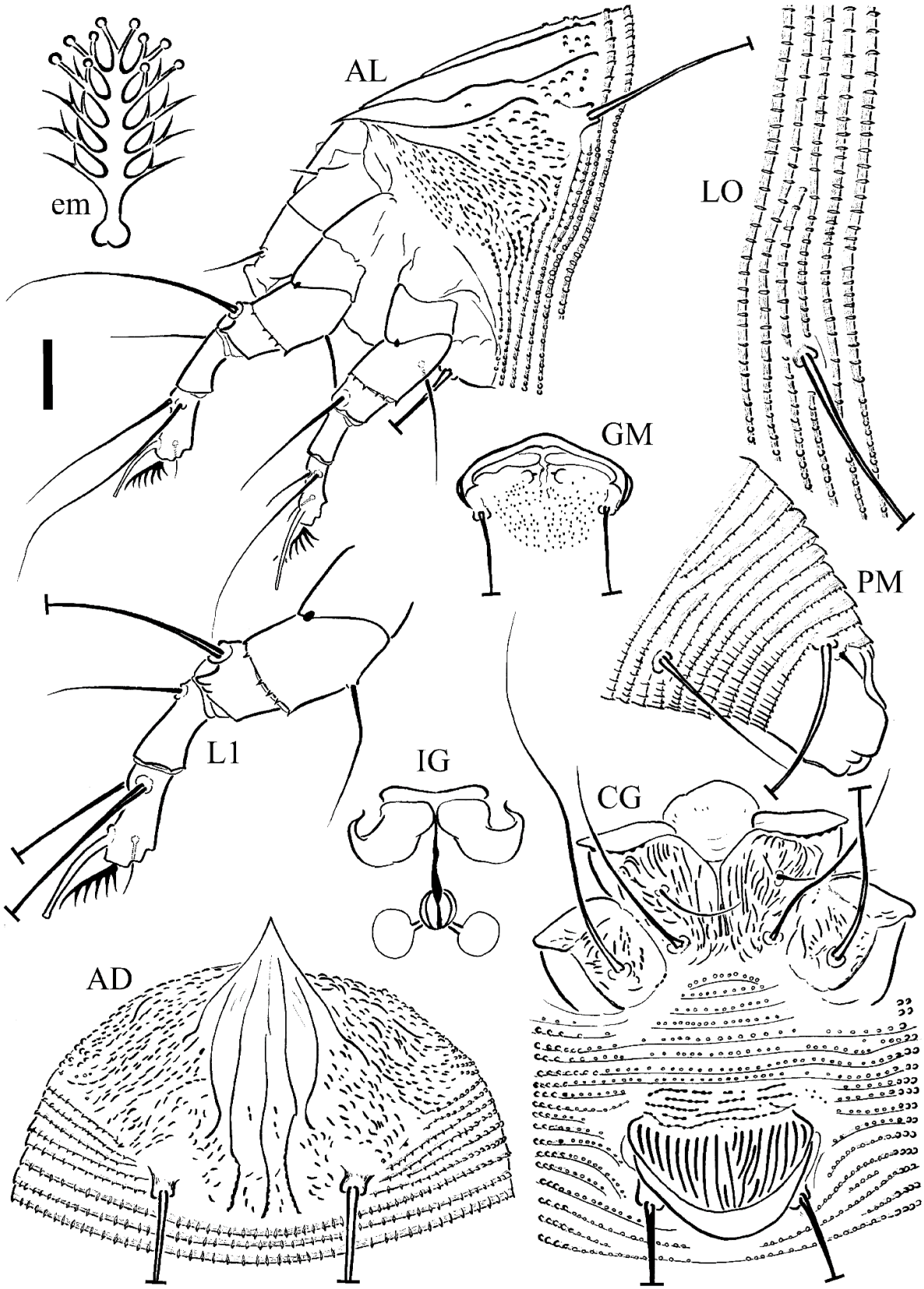


**Figure 1.** Schematic drawings of *Aceria dogijaniensis* **sp. nov.**: **AD.** Prodorsal shield; **AL**. Lateral view of anterior body region; **CG.** Female coxigenital region; **em.** Empodium; **GM.** Male genital region; **IG.** Internal female genitalia; **LO**. Lateral view of annuli; **L1**. Leg I; **PM.** Lateral view of posterior opisthosoma. **Scale bar:** 10 µm for AD, AL, CG, GM, IG, PM; 7 µm for LO, L1; 2.5 µm for em.

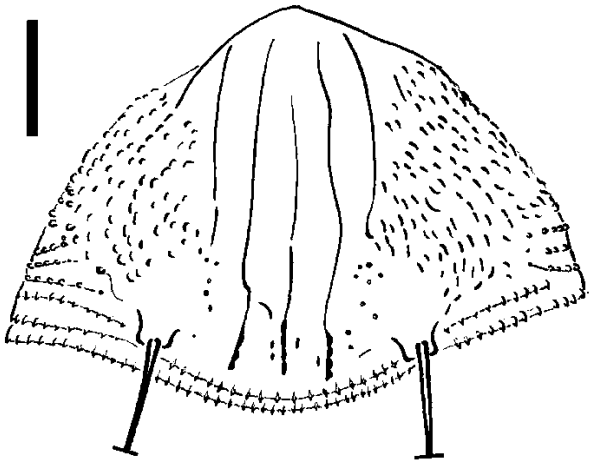

**Figure 2.** Schematic drawing of *Aceria dogijaniensis* **sp. nov.** nymph's prodorsal shield. **Scale bar:** 10 µm.

*Etymology*

The specific epithet, *dogijaniensis* is derived from the type locality village name, Dogijan.


**Figure 3.** Symptoms caused by *Aceria dogijaniensis* **sp. nov.** on *Chardinia orientalis* (L.) Kuntze (Asteraceae) – **A.** Host plants inhabited by mites; **B.** Leaf edge rolls .

*Other host plant*

Ten females and 8 males mounted singly on separate microscope slides (Csp-IEA-MD-DN-23-JJ-1–18), collected on *Centaurea* sp. (Asteraceae) with leaf galls made by *Subanguina* sp. (Nematoda:

Secernentea: Tylenchida: Anguinidae) (Fig. 4) in the same locality of the type specimens on the same sampling time of the type specimens, coll. J. Jahandideh-Dogijan.

**Figure 4.** Leaf galls of *Centaurea* sp. made by *Subanguina* sp. (Nematoda: Anguinidae).

*Other material*

Mites preserved in two vials (CO-IEA-MD-DN-23-JJ and Csp-IEA-MD-DN-23-JJ) of Oudemans' fluid as extracted from type host and other host plant.

*Distribution*

*Aceria dogijaniensis* **sp. nov.** is at present recorded only from Dogijan village. However, its host plants are widely distributed in mountainous localities of northwest of Iran, so future surveys could reveal a wider distribution for this new mite species.

*Differential diagnosis*

The new species was compared with *Aceria* mites associated to Asteraceae plants especially the *Aceria* species fauna of Iran and Türkiye, the country neighboring the locality where the new species was found. It was found similar to five species:

***Aceria centaureae* (Nalepa, 1891) –** According to the redescription of this species done by Castagnoli and Sobhian (1991), *A. centaureae* has a smaller number of semiannuli between coxae and genital coverflap, less number of empodial rays, shorter setae *c2*, *d* and *3a*, and longer setae *e* respective to the new species (Table 2). The direction of inner submedian line is different in two species. Other morphometric characters are similar in both species (Table 2). *Aceria centaureae* makes blister galls on leaves and young stems of *Centaurea jacea* L., while the new species makes leaf edge rolling on different host plant.

***Aceria solcentaureae* de Lillo, Cristofaro & Kashefi, 2003 –** This species has fewer dorsal and ventral semiannuli, a smaller number of semiannuli between coxae and genital coverflap and number

of empodial rays, and shorter setae *sc*, *c2* and *d* respective to the new species (Table 2). The prodorsal shield pattern and ornamentation of coxae of the two species are similar; the only difference is the shape of the frontal lobe. Other morphometric characters are similar in both species (Table 2). *Aceria solcentaureae* makes stunting of *Centaurea solstitialis* L. with heavy broom-like appearance. The infested plants are bushy, with the apical part of the stems and flower heads green, less spiny, and producing smaller seed heads. While the new species makes leaf edge rolling on different host plant.

***Aceria cousiniae* Kamali & Amrine, 2005 –** This species has shorter setae *sc*, *c2* and *d*, longer setae *e*, and a smaller number of longitudinal striae on female genitalia coverflap respective to the new species (Table 2). The inner submedian line of is shorter and the outer submedians are not present in *A. cousiniae*. Other morphometric characters are similar in both species (Table 2). *A. cousiniae* makes erinea on undersurface of *Cousinia eryngioides* Boiss. leaves, while the new species makes leaf edge rolling on different host plant.

***Aceria xeranthemis* Lotfollahi, Haddad, Khanjani, Moghadam & de Lillo, 2013 –** This species has shorter setae *sc*, *c2*, *d*, *e* and *3a*, and a smaller number of longitudinal striae on female genitalia coverflap respective to the new species (Table 2). The direction of inner submedian line is different in two species. Other morphometric characters are similar in both species (Table 2). *Aceria xeranthemis* is vagrant on *Xeranthemum squarrosum* Boiss., while the new species causes leaf edge rolling on different host plant.

***Aceria ayvatliorum* Lotfollahi & Hemmatzadeh, 2022 –** This species has a smaller number of dorsal and ventral semiannuli and semiannuli between coxae and genital coverflap, shorter setae *sc*, *c2* and *d*, and longer setae *e* respective to the new species (Table 2). The shape of frontal lobes of two species are different and *A. ayvatliorum* has doesn't have dashes between median and admedian lines. Other morphometric characters are similar in both species (Table 2). *Aceria ayvatliorum* is vagrant on *Rhaponticum repens* (L.) Hidalgo, while the new species makes leaf edge rolling on different host plant.

**Table 2.** Gross comparison of some important characters between *Aceria dogijaniensis* **sp. nov.**, *A. centaureae* (Nalepa, 1891) according to Castagnoli and Sobhian (1991), *A. solcentaureae* de Lillo *et al.*, 2003, *A. cousiniae* Kamali & Amrine, 2005, *A. xeranthemis* Lotfollahi *et al.*, 2013 and *A. ayvatliorum* Lotfollahi & Hemmatzadeh, 2022.

| Characters | *Aceria dogijaniensis* sp. nov. | *Aceria centaureae* | *Aceria solcentaureae* | *Aceria cousiniae* | *Aceria xeranthemis* | *Aceria ayvatliorum* |
|---|---|---|---|---|---|---|
| **Dorsal semiannuli number** | 82–99 | 75–100 | 74–87 | 80–89 | 80–97 | 52–60 |
| **Ventral semiannuli number** | 87–105 | 75–100 | 74–87 | 88–93 | 80–98 | 61–65 |
| **Number of semiannuli between coxae and genital coverflap** | 8–11 | 6/7 | 7 | 4/5 | 9 | 6 |
| **Number of empodial rays** | 6 | 5 | 5 | 6 | 6 | 6 |
| **Setae *sc* length** | 57–68 | 41–65 | 45–55 | 41–43 | 31–37 | 29–34 |
| **Setae *c2* length** | 38–41 | 27 | 24–35 | 29–32 | 24–27 | 24–29 |
| **Setae *d* length** | 79–90 | 47–65 | 50–72 | 50–56 | 42–55 | 50–58 |
| **Setae *e* length** | 23–31 | 10–14 | 20–31 | 38–41 | 10–20 | 43–47 |
| **Setae *f* length** | 25–32 | 23–29 | 21–24 | 27–31 | 17–25 | 20–27 |
| **Setae *h1* length** | 6–8 | 7 | 4–6 | 5–6 | 7 | 4–6 |
| **Setae *3a* length** | 23–26 | 18 | 23–27 | 26–28.5 | 19–20 | 20–25 |
| **Number of longitudinal striae on coverflap** | 16–20 | 14–17 | 15–17 | 12 | 13–14 | 14–17 |

*Remarks*

Comparison was done among *A. dogijaniensis* **sp. nov.** female specimens collected on *C.*

*orientalis* and *Centaurea* sp. Females found on *C. orientalis* have longer cheliceral stylets, longer palpal seta *d*, wider prodorsal shield, longer setae *sc*, *2a*, *3a*, *c2*, *d* and *h2*, more annuli anterior to the anal lobe, longer leg I with longer genu, tibia and tarsus and longer setae *bv*, *l''*, *l'*, *ft'* and *ft''*, and longer leg II with longer genu and tarsus, longer setae *bv*, *l''*, *ft'*, *ft''* and *u'* (Table 3). Furthermore, males found on *C. orientalis* have longer prodorsal shield and longer setae *sc*, *c2* and *d*, but shorter body and shorter seta *h1* (Table 4). Due to finding the immature stages of the mite on *C. orientalis*, this plant species was chosen as the type host plant. It should be commented that adults of this mite species can be subjected to wind dispersal and can land on non-elective host plant. In order to give more punctual and effective information, a biomolecular and a population dynamic study should be done.

**Table 3.** Comparison among *Aceria dogijaniensis* **sp. nov.** female specimens collected on *Chardinia orientalis* (L.) Kuntze and *Centaurea* sp. (Asteraceae).

| Character | Host plant | |
|---|---|---|
| | ***Chardinia orientalis*** | ***Centaurea* sp.** |
| **Body** | | |
| Length | 256–349 | 270–308 |
| Thick | 74–76 | 72–81 |
| Width | 72–80 | 64–74 |
| **Gnathosoma** | | |
| Cheliceral stylets length | 23–27 | 20–24 |
| Palp length | 25–30 | 24–27 |
| Palpal setae *ep* lenght | 2–3 | 2–3 |
| Palpal seta *d* length | 9–11 | 6–8 |
| **Prodorsal shield** | | |
| Length | 40–45 | 36–41 |
| Width | 46–50 | 38–40 |
| Frontal lobe length | 7–9 | 7 |
| Tubercles of *sc* setae distance | 24–29 | 24–27 |
| Setae *sc* length | 57–68 | 42–53 |
| **Leg I** | | |
| length | 41–44 | 33–41 |
| Trochanter length | 7–8 | 5–8 |
| Femur length | 12–13 | 10–12 |
| Genu length | 7–8 | 5–6 |
| Tibia length | 9–10 | 7–9 |
| Tarsus length | 10–12 | 9–10 |
| Solenidion $\omega$ length | 10–12 | 9–11 |
| Empodium length | 8–9 | 7–9 |
| Empodial rays (number) | 6 | 6 |
| Seta *bv* length | 15–18 | 10–12 |
| Seta *l''* length | 35–41 | 24–31 |
| Seta *l'* length | 12–16 | 8–10 |
| Seta *ft'* length | 23–28 | 12–15 |
| Seta *ft''* length | 35–38 | 25–30 |
| Seta *u'* length | 6–8 | 5–6 |
| **Leg II** | | |
| Length | 35–38 | 31–34 |

**Table 3.** Continued.

| Character | Host plant | |
|---|---|---|
| | ***Chardinia orientalis*** | ***Centaurea* sp.** |
| Trochanter length | 6–7 | 5–7 |
| Femur length | 11–13 | 10–12 |
| Genu length | 6–7 | 5 |
| Tibia length | 7–8 | 6–7 |
| Tarsus length | 10–11 | 8–9 |
| Solenidion *ω* length | 12–13 | 11–12 |
| Empodium length | 8–9 | 8–10 |
| Empodial rays (number) | 6 | 6 |
| Seta *bv* length | 15–20 | 11–12 |
| Seta *l″* length | 20–24 | 15–18 |
| Seta *ft′* length | 8–10 | 7–8 |
| Seta *ft″* length | 32–37 | 26–30 |
| Seta *u′* length | 6–9 | 4–5 |
| **Coxisternal region** | | |
| Prosternal apodeme length | 7–10 | 7–8 |
| Setae *1b* length | 14–16 | 12–15 |
| Tubercles of seta *1b* distance | 15–18 | 12–13 |
| Setae *1a* length | 27–31 | 25–35 |
| Tubercles of seta *1a* distance | 10–11 | 9–12 |
| Setae *2a* length | 58–65 | 49–58 |
| Tubercles of seta *2a* distance | 27–30 | 26–28 |
| Number of semiannuli between coxae and genitalia | 8–11 | 7–8 |
| Lines of dots number at the base of coverflap | 3–4 | 3–4 |
| **External genitalia** | | |
| Length | 18–20 | 19–22 |
| Width | 28–30 | 27–30 |
| Number of striae on the coverflap | 16–20 | 15–17 |
| Setae *3a* length | 23–26 | 17–22 |
| Setae *3a* distance | 20–23 | 22–23 |
| **Opisthosoma** | | |
| Dorsal semiannuli number | 82–99 | 74–86 |
| Ventral semiannuli number | 87–105 | 80–93 |
| Number of rear dorsal semiannuli with spines | 5–6 | 6–7 |
| Number of rear ventral semiannuli with elongated tubercles | 4 | 4–5 |
| Setae *c2* length | 38–41 | 26–34 |
| Setae *c2* on semiannulus | 12–13 | 11–15 |
| Setae *d* length | 79–90 | 70–75 |
| Setae *d* on semiannulus | 34–36 | 30–34 |
| Setae *e* length | 23–31 | 18–36 |
| Setae *e* on semiannulus | 56–60 | 48–54 |
| Setae *f* length | 25–32 | 26–30 |
| Setae *f* on semiannulus | 86–97 | 75–87 |
| annuli before the anal lobe | 7–8 | 5–6 |
| Setae *h1* length | 6–8 | 8–10 |
| Setae *h2* length | 108–125 | 85–102 |

**Table 4.** Comparison among *Aceria dogijaniensis* **sp. nov.** male specimens collected on *Chardinia orientalis* (L.) Kuntze and *Centaurea* sp. (Asteraceae).

| Character | Host plant | |
|---|---|---|
| | ***Chardinia orientalis*** | ***Centaurea* sp.** |
| **Body length** | 198–214 | 225–254 |
| **Body width** | 63 | 60–62 |
| **Body thick** | 62 | 67 |
| **Palpal seta *d* length** | 8–9 | 7–8 |
| **Prodorsal shield length** | 40–41 | 35–38 |
| **Prodorsal shield width** | 40 | 37–40 |
| **Frontal lobe length** | 7 | 6–7 |
| **Tubercles of *sc* setae distance** | 24 | 22–24 |
| **Setae *sc* length** | 52–54 | 42–44 |
| **Dorsal semiannuli number** | 70–72 | 69–75 |
| **Ventral semiannuli number** | 77–78 | 74–77 |
| **Number of semiannuli between coxae and setae *3a*** | 7–8 | 7 |
| **Number of annuli before the anal lobe** | 6–7 | 6 |
| **Empodial rays (number)** | 6 | 6 |
| **Setae *1b* length** | 13–15 | 12–13 |
| **Tubercles of seta *1b* distance** | 13 | 11–12 |
| **Setae *1a* length** | 20–24 | 25–27 |
| **Tubercles of seta *1a* distance** | 8–9 | 8 |
| **Setae *2a* length** | 50–52 | 42–51 |
| **Tubercles of seta *2a* distance** | 23 | 23–24 |
| **Setae *c2* length** | 37–40 | 30–31 |
| **Setae *c2* on semiannulus** | 12–13 | 12–13 |
| **Setae *d* length** | 65–67 | 52–58 |
| **Setae *d* on semiannulus** | 27–28 | 27 |
| **Setae *e* length** | 20–22 | 20–23 |
| **Setae *e* on semiannulus** | 44–46 | 43–44 |
| **Setae *f* length** | 22–25 | 22–25 |
| **Setae *f* on semiannulus** | 70–72 | 68–71 |
| **Setae *h2* length** | 80–87 | 75–87 |
| **Setae *h1* length** | 6 | 8–9 |
| **Genitalia width** | 22–24 | 22–24 |
| **Setae *3a* length** | 18–22 | 16–20 |
| **Tubercles of seta *3a* distance** | 17 | 16–18 |

## ACKNOWLEDGEMENTS

This research was funded by Iran National Science Foundation (4001458) which is greatly appreciated.

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# گونهٔ جدید *Aceria* (Acari: Eriophyoidea) از روستای دوگیجان در ایران

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**چکیده**

طی بررسی کنه‌های اریوفیوئید روستای دوگیجان (شهرستان مرند، استان آذربایجان شرقی، ایران) در اواخر بهار ۱۴۰۲، یک گونهٔ جدید اریوفید (Acari: Eriophyoidea: Eriophyidae) روی *Chardinia orientalis* (L.) Kuntze (Asteraceae) کشف، ترسیم، توصیف و به عنوان *Aceria dogijaniensis* **sp. nov.** نام‌گذاری شد. این کنه‌ها باعث پیچیدگی تنگ حاشیه برگ با طول مختلف و با لکه‌های رنگ پریده در گیاه میزبان اصلی‌شان شدند. افزون بر این، جمعیت مشابهی نیز روی *Centaurea* sp. (Asteraceae) با گال‌های برگی ناشی از *Subanguina* sp. (Nematoda: Secernentea: Tylenchida: Anguinidae) در همان محل و همان تاریخ جمع‌آوری شد. تفاوت‌های کمی و کیفی خیلی کمی بین دو جمعیت جمع‌آوری شده از دو گیاه میزبان یافت شد. در این بررسی، فهرستی از گونه‌های *Aceria* مرتبط با Asteraceae در ایران ارایه شد.

**واژگان کلیدی:** Asteraceae، *Centaurea*، *Chardinia*، آذربایجان شرقی، گال، مرند.

**اطلاعات مقاله:** تاریخ دریافت: ۱۴۰۳/۳/۱۵، پذیرش توسط ع. صبوری: ۱۴۰۳/۵/۳۰، تاریخ چاپ: ۱۴۰۳/۷/۲۴