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A NEW SPECIES OF THE GENUS *Molothrognathus* Summers and Schlinger (Acari: Trombidiformes: Caligonellidae) FROM IRAN

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**ABSTRACT** — A new species of *Molothrognathus* Summers and Schlinger (Acari: Caligonellidae), *Molothrognathus mikaeeli* n. sp. is described and illustrated from Northwestern Iran. A key of the four species of *Molothrognathus* known from Iran is provided.

**KEYWORDS** — Taxonomy; Raphignathoidea; soil; Caligonellidae; Iran

**INTRODUCTION**

Mites of the family Caligonellidae (Acari: Trombidiformes) are relatively small, free-living predatory mites that feed on small arthropods. They often live on tree bark and in litter, soil, moss, storehouses and bird nests (Summers and Schlinger 1955; Meyer and Ueckermann 1989; Fan 2000; Doğan 2003). The genus *Molothrognathus* is the best known genus in this family and has three known species namely: *M. mehrnejadi* Liang and Zhang, 1997; *M. azizi* Ueckermann and Khanjani, 2002 and *M. bahariensis* Ueckermann and Khanjani, 2002 in Iran.

In this paper, we describe and illustrate *Molothrognathus mikaeeli* n. sp. from Iran. The terminology and abbreviations adopted are from Kethley (1990). All measurements are given in micrometers (µm). Measurements of holotype are given first followed in parentheses by those of three paratypes.

**Genus Molothrognathus**

*Summers and Schlinger, 1955*

Type species — *Molothrognathus leptostylus* Summers and Schlinger

Diagnosis — *Molothrognathus* can be recognized by the following character: Stylophore conical; peritremes originating dorsally on the median portion of the stylophore, immediately behind the stylet condyle and descending on the laterobasal margins of the stylophore; Palptarsi bearing on solenidion and four distal eupathidial setae

**Molothrognathus mikaeeli** n. sp.

*Bagheri and Ahaniazad*

Holotype — Female (Figures 1-8). Length of body (including gnathosoma) 385 (370 – 395); length of gnathosoma 110 (105 – 115); width 170 (160 – 172);
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Figure 1: Molothrognathus mikaeeli n. sp. (female): a – Dorsal view; b – Ventral view; c – Palp; d – Stylophore.
Dorsum (Figure 1a) — Striated and with all setae slender and smooth; setae sce longer than other dorsal setae; two pairs of eyes present; seta measurements as follows: vi 21 (18 – 21); ve 20 (18 – 20); sci 21 (19 – 20); sce 50 (48 – 50); c1 15 (15 – 16); c2 20 (19 – 23); d1 16 (17); e1 17 (16 – 17); f1 21 (20 – 22); h1 32 (31 – 33); h2 30 (30 – 31); distances between setae: vi-vi 28 (27 – 32), ve-ve 45 (35 – 47), vi-ve 36 (30 – 40), sci-sci 106 (90 – 110), sce-sce 167 (145 – 170), sci-sce 45 (37 – 47), c1-c1 41 (37 – 45), c2-c2 112 (87 – 110), d1-d1 40 (30 – 40), e1-e1 62 (58 – 62), f1-f1 38 (35 – 40), c1-d1 52 (40), d1-e1 35 (32 – 37), e1-f1 40 (35 – 40), f1-h1 26 (25 – 27), h1-h1 27 (26 – 30), h2-h2 47 (42 – 47), h1-h2 20 (17 – 21); dorsum also with three pairs of visible cupules on the integument, ia behind eyes, im lateral to setae d1 and ip lateral to setae f1; anal covers
dorsally with two pairs of setae $p_5$: 9 (9 – 10) and $p_5$: 10 (10 – 11).

Venter (Figure 1b) — Ventral surface striate; endopodal shields between coxae absent; setae $1a$ on coxae I but $3a$ and $4a$ on integument; two pairs of aggenital setae ($a_{g1,2}$) present; genital flaps bearing one pair of simple setae ($g_1$), one pair of cupules lateral to genital shields present.

Gnathosoma (Figure 1c-1d) — Subcapitulum smooth, with two pairs of adoral setae ($a_{r1,2}$) and also one pair of subcapitular setae ($m$); stylophore (Figure 3) conical; palpus (Figure 4) with the following complement of setal formulae (femur to tarsus): 1, 1, 3+1 well-developed claw, 3+1$\omega$+4 acicular eupathidia; tibial claw of palpus as long as palp tarsus.

Legs (Figure 2) — Length of legs: leg I 274 (240 – 270); leg II 212 (194 – 210); leg III 239 (212 – 234); leg IV 264 (255 – 270). Setae on leg segments as follows: tarsi 16(+1$\omega$)-11(+1$\omega$)-9-9, tibiae 5(+2$\omega$)-5-4-4, genua 5(+1$\omega$)-5-2-2, femora 2-2-2-2, trochanters 1-1-1-1, coxae 3-1-1-1.

Male and Immature stages — Unknown

Type materials — Holotype female and three female paratypes were collected from soil from black cherry and pear orchards, 28 April 2011, Danalo village, Ajabshir, East Azerbaijan province, Iran, by Mansoureh Ahaniazad. The holotype will be deposited in the Arachnida Collection of Plant Protection Department, Faculty of Agriculture, University of Maragheh, Iran.

Etymology — This species is named in honor of Mr Mikael Ahaniazad, father of the senior author.

Remarks — Molothrognathus mikaeeli resembles M. fulgidus Summers and Schlinger, M. crucis Summers and Schlinger and M. phytocolus Meyer and Ueckermann in general appearance. However it differs from M. fulgidus in that tarsus II bears 11 instead of 10 simple setae, setae $c_1$ as long as $c_2$ but $c_2$ two times longer than $c_1$ in M. fulgidus. It differs from M. crucis in that tarsus I bears 16 instead of 15 setae and tarsus II bears 11 instead of 10 simple setae in M. crucis, and $sce$/sci 2.4 opposed 3.8 in M. crucis. The new species differs from M. phytocolus in that tarsus I bears 16 instead of 15 setae and tarsus II bears 11 instead of 10 simple setae in M. phytocolus, setae $c_1$ as long as $c_2$ but $c_2$ two times longer than $c_1$ in M. phytocolus.

Key to the Molothrognathus species of Iran

1. Prodorsum with finely striated spindle shaped shield - like area .......................... M. mehrnejadi — Prodorsum without finely striated spindle shaped shield - like area............................ 2

2. Tarsus II bears 11 setae; $c_2$ about 1.5 times longer than $c_1$ .......................... M. mikaeeli n. sp. — Tarsus II bears 10 setae; $c_2$ at least 5 times longer than $c_1$ ............................ 3

3. Tarsus I bears 16 simple setae; setae $f$ 91 – 123 long. ........................................ M. bahariensis — Tarsus I bears 15 simple setae; setae $f$ 34 – 44 long. ........................................ M. azizi

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