Redescription of *Aegyptobia pavlovskii* (Reck, 1951) (Acari: Trombidiformes: Tenuipalpidae) with new host records from Iran

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**Abstract**

*Aegyptobia pavlovskii* is redescribed from new materials collected in Iran. This species is a new record for the false spider mite fauna of Iran. Additionally two new host records from the family Rosaceae are reported for this species.

**Key words:** *Aegyptobia*, redescription, new record, host record, Kerman

**Introduction**

*Aegyptobia* Sayed is the third largest genus of the Tenuipalpidae. Mesa *et al.* (2003) reported 93 species, which became 94 after Seeman & Beard (2011). Recently, Khanjani *et al.* (2012) described two new species and synonymized three others, bringing the total back to 93. They synonymized: *A. daneshvari* Parsi & Khosrowshahi with *Phytoptilpus salicicola* (Al-Gboory, 1987); *A. kharazii* Mesa & Moraes, 2009 (which was originally *A. meyeri* Khosrowshahi & Arbabi, 1997) with *A. beglarovi* Livschitz & Mitrofanov, 1967; and *A. uckermanni* Khosrowshahi & Arbabi, 1997 with *A. tragardhi* Sayed, 1950. In addition to these four species of Iranian *Aegyptobia*, the species *A. glyptus* Pritchard & Baker, 1958, *A. iranensis* Khanjani, Gotoh & Barimani-Varandi, 2008 and *A. persicae* Khosrowshahi & Arbabi, 1997 had been reported (Khanjani *et al*., 2008; Kamali *et al*., 2001). We add *Aegyptobia pavlovskii* as a new record to the Iranian mite fauna and therefore increase the number of Iranian species of this genus to seven.

*Aegyptobia pavlovskii* was originally described from *Ephedra procera* (Ephedraceae) as *Brevipalpoides pavlovskii* from Georgia by Reck, 1951. Six years later, Pritchard & Baker (1958) transferred this species to the genus *Aegyptobia*. Bagdasarian (1962) mentined this species as *Pentamerismus pavlovskii* in his publication. Meyer (1979), Mitrofanov & Strankova (1979), Pritchard & Baker (1985) just included *A. pavlovskii* in their keys to the species of *Aegyptobia* without any descriptions. However, Livschitz & Mitrofanov (1967) provided a brief
description. Here, we redescribe this species because their original descriptions lack many details. All of the known type samples collected from the family Ephedraceae. We redescribe this species and report new host records for it from new materials collected in Iran.

**Material and Methods**

Leaves were collected from host plants, taken to the laboratory, and false spider mites removed from the leaves under a stereomicroscope and preserved in 70% ethanol. They were cleared in lactic acid, mounted in Hoyer’s medium and dried at 45°C in an oven.

Notations of the dorsal setae and the determination of the genera follow Mesa *et al.* (2009) and all measurements are given in micrometers (μm). The range of measurements of specimens is given in the text. Two female specimens are deposited in the Collection of the Acarology Laboratory, Shahid Bahonar University of Kerman, Kerman, Iran. One more sample is deposited in the Arachnida Collection of ARC-Plant Protection Research Institute, Pretoria, South Africa. Measurements were done by means of a DINO-EYE® soft imaging system and drawings with a drawing tube attached to an Olympus® Research Microscope. Microsoft office PowerPoint 2003 was used for figure cleaning.

**Genus Aegyptobia Sayed, 1950**

*Diagnosis of all stages*

Palps five segmented; rostral shield absent; hysterosoma with 12–13 pairs of dorsal setae; *c*₂, *d*₂, and *f*₂ present; setae *h*₂ similar to other dorsal setae in size and form; ventral plate weakly developed or absent; three pairs of anal setae on well-developed anal plates.

*Adult female:* Anterior margin of propodosoma smooth or with medial lobe (this lobe can be incised); genital plate weakly developed.

*Aegyptobia pavlovskii* (Reck, 1951)


*Diagnosis*

Opisthosoma with 13 pairs of dorsal setae (*f*₂ present). Dorsal shields completely covered with simple longitudinal striations medially on propodosoma and hysterosoma, but diagonal posterior to *s*c₂ and laterally on hysterosoma. Propodosoma with a small indentation medially. Dorsal setae setiform and serrate; tarsal claw uncinuate. Palp from tarsus to trochanter: 3(1s+2e)-2-0-1-0. Three pairs of pores present between *d*₂ and *d*₃ (mediolateral to *d*₃) and posterior to *c*₃ and anterior to *e*₃. Metapodal plates absent.
Female (n = 3; Figs. 1–7)

Length of body (v₂-h₁) 195–201 μm, width (sc₂-sc₂) 98–100.

Dorsum (Fig. 1)

Body oval and striated, with simple longitudinal striations medially on propodosoma and hysterosoma; anterior margin of prodorsum with a small notch. Hysterosoma striated, with three pairs of pores as follows: one posterior to c₃, one between d₂ and d₃ (mediolateral to d₃) and the last one is anterior to e₃ which is less obvious to see; 13 pairs of hysterosomal setae as follows: three pairs of dorsocentral, four pairs of dorsosublateral and six pairs of dorsolateral. All dorsal setae setiform and serrate and their lengths are as follows: v₂ 16 (13–21), sc₁ 17 (14–22), sc₂ 17 (15–21), c₁ 18 (17–19), c₂ 16 (14–18), c₃ 16 (15–18), d₁ 10 (9–12), d₂ 12 (9–14), d₃ 16 (14–18), e₁ 10 (8–12), e₂ 13 (10–15), e₃ 18 (17–20), f₂ 13 (10–15), f₃ 17 (15–20), h₁ 16 (13–17), h₂ 17 (15–18).

Distances between dorsal setae: v₂-v₂ 37 (35–40), sc₁-sc₁ 83 (79–87), sc₂-sc₂ 101 (98–105), c₁-c₁ 43 (42–44), c₂-c₂ 88 (86–91), c₃-c₃ 113 (110–119), d₁-d₁ 29 (24–30), d₂-d₂ 80 (79–82), d₃-d₃ 111 (110–112), e₁-e₁ 22 (21–24), e₂-e₂ 73 (69–76), e₃-e₃ 107 (106–109), f₂-f₂ 65 (63–67), f₃-f₃ 95 (93–98), h₁-h₁ 29 (28–31), h₂-h₂ 68 (62–74).

Figure 1. Aegyptobia pavlovskii (female). Adult female dorsum.

Venter (Fig. 2)
Cuticle with broad band of transverse striae between setae 1a to 3a and also behind 4a; intercoxal area between coxae III-IV irregularly striate; pregenital area with smooth ventral plate; longitudinal striae lateral to pregenital and genital areas; no oval scalloped area lateral to pregenital area; genital setae inserted in more or less transverse row along posterior margin of a smooth and oval genital plate; anal setae (ps1-3) smooth, inserted longitudinally along medial margin of well defined anal plates. Setae ag and g1-2 subequal in length and ps1-3 are shorter than ag and ps1-3. Ventral setae (1a-4a) very long and smooth.

Length of ventral setae: 1a 56 (51–63), 1b 12 (11–14), 1c 20 (19–22), 2b 18 (17–21), 2c 13 (10–17), 3a 56 (53–58), 3b 12 (8–15), 4a 58 (57–59), 4b 13 (9–16), ag 12 (8–15), g1 13 (10–15), g2 18 (16–20), ps1 11 (9–14), ps2 10 (8–11), ps3 7 (7–8).

Gnathosoma (Fig. 2)
Rostrum extending to the anterior margin of genu I to the middle of tibia I, palp 5-segmented (Fig. 3), chaetotaxy from tarsus to trochanter: 3 (1s+2c)-2-0-1-0.

Legs (Figs. 4‒7)
Claws uncinuate; setal formula as follows (solenidia included in count): coxae 2-2-1-1; trochanters 1-1-2-1; femora 4-4-2-1; genua 2-2-1-0; tibiae 4-4-3-3; tarsi 9(o)-9(o)-5-5. Leg chaetotaxy as follows: trochanters I, II, IV v′; tr III l′, v′; femora I-II d, v′, v″, l′; fe III d, v′; fe IV v′; genua I-II l′, d, s, ge III d; ge IV nude; tibiae I-II d, l′, v′-v″; ti III-IV d, v′-v″; ta I-II u′-u″, p′-p″, te′-te″, fi′-fi″, ω"; ta III-IV u′-u″, te′-te″, fl′. Coxal setae smooth and relatively long.

Remarks
This species is related to A. aplopappi Baker & Tuttle, 1964 in having similar length of rostrum, slightly notched anterior margin of propodosoma, body covered with longitudinal striae, and fine serrate setae. However, A. aplopappi has a small reticulated area just behind the first pair of propodosomal setae, no hysterosomal pores, stronger serrated dorsal setae and the presence of two scalloped area lateral to the anogenital area. There are also some similarities between A. pavlovskii (Reck, 1951) and A. lacida Baker & Tuttle, 1972 in having longitudinal striations mediodorsally and slightly notched anterior margin of propodosoma, but the nude dorsal setae and the lack of hysterosomal pores in A. lacida separate these two species (Baker & Tuttle 1972).

Material examined
Two females, Khabr (28°48’N 56°20’E) (Baft- Kerman province), 13.08.2010, S. Farzan, ex leaves Ephedra procera (Ephedraceae). New host records collected from: Khabr (28°48’N 56°20’E) (Baft- Kerman province), 22.07.2010, S. Farzan, ex leaves Crataegus azarolus (Rosaceae); Roodfargh (28°32’N 58°11’E) (Jiroft- Kerman province), 27.03.2011, S. Farzan, ex leaves Prunus amygdali (Rosaceae).

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References
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چکیده
گونه از نمونه‌های جمع‌آوری شده از ایران بازتوصیف می‌شود. این گونه Aegyptobia pavlovskii برای فون کنه‌های ایران جدید است. آفرزون بر این، دو میزبان جدید از خانواده Rosaceae برای این گونه گزارش می‌شود.