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New species records of the family Suctobelbidae (Acari: Oribatida) from Iran

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Abstract: Suctobelbid mite fauna of the Shendabad region (East Azerbaijan Province) was studied in 2008 to determine the species found in soil samples. There were 4 species identified that are new records for the mite fauna of Iran: *Suctobelbella* (*Flagrosuctobelba*) *elegantula* (Hammer), *Suctobelbella* (*Flagrosuctobelba*) *nana* Shtanchaeva and Subias, *Suctobelbella* (*Suctobelbella*) *acutidens* (Forsslund), and *Suctobelba* *trigona* (Michael). One species, *Suctobelba aliena* Moritz, is new to Asia. An identification key is given for the species.

Key words: Oribatida, Suctobelbidae, new record, Shendabad, Iran

Oribatid mites of the family Suctobelbidae Jacot, 1938 have 22 genera and 323 species and belong to the superfamily Trizetoidea (Subias, 2011). The habitat range of suctobelbid mites is soil and litter, and they feed on fungi (Smith et al., 1998). According to Balogh and Balogh (1992), this family is characterized by the absence of prodorsal lamellae; absence or presence of tectopedial fields; absence of notogastral pteromorphae, areae porosae, and sacculi; absence of apodemata III such that epimeres III and IV are fused into a single plate; long and peloptoid chelicerae; and a more or less pointed rostrum. Oribatid mites of the family Suctobelbidae of Iran are poorly known. In a few studies, the subgenera have been identified: *Suctobelbella* (*Suctobelbella*) Jacot, 1937; *Suctobelbella* (*Flagrosuctobelba*) Hammer, 1979;

Rhynchobelba Willmann, 1953; and *Suctobelba* Paoli, 1908 (Akrami, 2008; Mirzaie, 2010; Mortazavi Lahijani et al., 2010).

Suctobelbid mite fauna was studied in the Shendabad region by taking soil samples during different months in 2008 (July–September). The area is located in Shabestar township (38°08'N, 45°37'E; 1400 m above sea level), East Azerbaijan Province, in northwestern Iran. To collect suctobelbid mites, soil samples were taken from the ground at a soil depth of 20 cm in orchards, agricultural fields, and pastures. The mites were extracted using a Berlese funnel and stored in 75% ethanol, cleared using Nesbitt's fluid, and mounted in Hoyer's medium. The specimens were sorted into possible identification levels based on the descriptions of Balogh and Balogh (1992) and then sent to Professor Subias for confirmation. All

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specimens were deposited in the Shiraz University Department of Plant Protection, Shiraz, Iran. All material was collected by M. Mirzaie.

In the present paper, 5 species belonging to 2 genera were identified as new records for the mite fauna of Iran.

The genus *Suctobelbella*, with 180 described species and 3 subgenera (*Suctobelbella*, *Flagrosuctobelba*, and *Ussuribata*) (Subias, 2011), is a large genus. In the current research, we recorded 3 species belonging to subgenera *S.* (*Flagrosuctobelba*) and *S.* (*Suctobelbella*). The subgenus *S.* (*Flagrosuctobelba*) includes more than 47 species; they are characterized as having anterior margin of notogaster with 2 pairs of teeth, rostral setae geniculate, tectopedial fields, and sensillus flagellate. The subgenus *S.* (*Suctobelbella*) includes more than 108 species. It differs from *S.* (*Flagrosuctobelba*) in its setiform sensillus with lanceolate head.

The second genus is *Suctobelba* Paoli, 1908 with 20 species, which is characterized by a lack of teeth on anterior border of notogaster. We identified 2 species of this genus. The distribution is given according to Subias (2011). A key to the species known from Iran is given.

***Suctobelbella* (*Flagrosuctobelba*) *elegantula* (Hammer, 1958)**

Material examined: 2 ♀♀, soil from alfalfa (*Medicago sativa* L.) fields, 15.viii.2008.

Distribution: Neotropical, northeastern and southern Holarctic (southern Palearctic and USA: Louisiana) (Subias, 2011), and Iran (this study).

***Suctobelbella* (*Flagrosuctobelba*) *nana* Shtanchaeva and Subias, 2009**

Material examined: 2 ♀♀, soil from alfalfa fields, 15.viii.2008.

Distribution: Caucasus (Subias, 2011) and Iran (this study).

***Suctobelbella* (*Suctobelbella*) *acutidens* (Forsslund, 1941)**

Material examined: 2 ♀♀, soil from alfalfa fields, 15.vii.2008, and peach [*Prunus persica* (L.)] orchard, 15.viii.2008.

Distribution: Holarctic, Argentina (Subias, 2011), and Iran (this study).

***Suctobelba aliena* Moritz, 1970**

Material examined: 1 ♀, soil from peach orchard, 13.ix.2008.

Distribution: Europe (Subias, 2011) and Iran (this study).

***Suctobelba trigona* (Michael, 1888)**

Material examined: 1 ♀, soil from alfalfa fields, 15.vii.2008.

Distribution: Palearctic (western Palearctic, Siberia, and central Asia) (Subias, 2011) and Iran (this study).

A key to suctobelbid mites of Iran

- 1- Anterior margin of notogaster with 2 pairs of teeth [*Suctobelbella*] 2
- Anterior margin of notogaster without teeth [*Suctobelba*] 4
- 2- Sensilli always distinctly thickened, club-shaped or spindle-shaped, but without spear-shaped pointed apex, club usually shorter than stalk [*S. Suctobelba*].....*S. (S.) acutidens*
- Sensilli usually narrowly spindle-shaped, with spear-shaped pointed apex; club and stalk of the same length or club is longer [*S. (Flagrosuctobelba)*] 3
- 3- Rostrum with 3 lateral teeth at each side *S. (F.) elegantula*
- Rostrum with 5 lateral teeth at each side *S. (F.) nana*
- 4- Notogastral setae of median row S-shaped *S. trigona*
- Notogastral setae of median row and other setae not S-shaped *S. aliena*

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