

A new species, and a new record of a subspecies belonging to the genus *Dysaphis* (Homoptera: Aphididae) from Iran

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Abstract

Apterous viviparous female of *Dysaphis inulae* sp. n. living on *Inula britannica* and *D. lappae cynarae* (Theobald) living on *Silybum marianum* is described and newly recorded from Iran, respectively. The latter aphid species is redescribed and an identification key for the species of *Dysaphis* Boerner on Asteraceae is also presented.

Key words: *Dysaphis inulae*, Aphididae, Iran

چکیده

افراد بی‌بال زنده‌زای شته‌ی *Dysaphis inulae* sp. n. جمع‌آوری شده از روی *Inula britannica* توصیف می‌شود و زیرگونه‌ی *D. lappae cynarae* (Theobald) جمع‌آوری شده از روی *Silybum marianum* مجدداً توصیف شده و به عنوان رکورد جدید از ایران گزارش می‌گردد. کلید شناسائی گونه‌های جنس *Dysaphis* Boerner که روی گیاهان خانواده‌ی Asteraceae زندگی می‌کنند نیز ارائه شده است. واژگان کلیدی: *Dysaphis inulae*, Aphididae, ایران

Introduction

A total of 19 species of *Dysaphis* Boerner have been reported from Iran, of which two species and one subspecies live on Asteraceae, and one species has been collected on *Arctia lappa* (Rezwani, 1987, 1990, 2001). Two species and one subspecies have been described by Stroyan (1970) and Remaudiere (1989).

Dysaphis lappae cynarae (Theobald), which is newly recorded from Iran, has been reported as *Dysaphis cynarae* (Theobald) by Millar (1990) from South Africa.

Dysaphis inulae sp. n.

(Fig. 1, A-F; table 1)

Apterous viviparous females (n = 12): colour in life greyish brown with waxy powder; tibiae pale, cauda and siphunculi dark. In cleared specimens front smoky; apical segment of rostrum, cauda, siphunculi, tarsus, distal part of tibiae and anal plate brown to dark brown. Coxae and femura smoky. Distal part of 3rd and the whole length of 4th-6th antennal segments brown to dark brown.

Meso- and metathorax with some small sclerite plates distributed mostly in spinal region, each plate with one hair. Pronotum without pleural hairs close to the posterior border. Dorsal part of abdominal segments I-III with some muscle plates and many small sclerite plates, each

plate with one hair. The abdominal segment IV with some small sclerites in marginal, and mostly two large plates in spinal part, bearing 2-3 hairs. Abdominal segments V-VIII with a cross band; dorsal hairs on segments I-VI short and blunt, half as long as the frontal ones; those on tergites VII and VIII acute at apex and longer than the others; tergite VIII with 4-6 hairs. Marginal tubercles present on abdominal segments I-IV or I-V. Spinal tubercles present only on tergite VIII. Basitarsus with 3 setae. The longest hair on antennal segment III, 1.0-1.2 times as long as the basal diameter of the same segment. Body length 1.81-2.31 mm; antennae 0.79-1.14 mm, 0.44-0.54 times as long as the body length. The 3rd antennal segment longer than processus terminalis and equal or a little longer than the total length of the 4th and 5th antennal segments. Processus terminalis 2.35-3.28 times as long as the basal part of the same segment. Distal part of rostrum reaching beyond the hind coxae. Apical segment of rostrum 1.25-1.5 times longer than the 2nd segment of hind tarsus, shorter to longer than siphunculi, bearing 4-5 additional hairs. Cauda helmet-shaped, as long as or a little shorter than its basal diameter; in some specimens with constriction in medial part, bearing 6-8 hairs. Siphunculi distal warts narrow, about two times as long as its basal width.

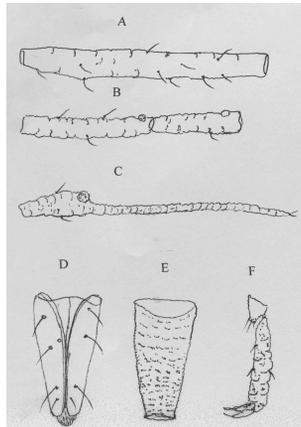


Figure 1. *Dysaphis inulae* sp. n.: A = antennal segment III, B = antennal segments IV & V, C = antennal segment VI, D = apical segment of rostrum, E = siphunculi, F = hind tarsus, second segment.

Material examined: holotype, Iran, Khoy area, West Azarbaydjan province, 27 June 1987, ex: *Inula britannica*; 11 paratypes, same data as holotype.

Type materials were deposited in Hayk Mirzayans Insect Museum, Iranian Research Institute of Plant Protection, Tehran.

Taxonomic notes

Two species and one subspecies of the genus *Dysaphis* Boerner, namely *D. lappae* (on *Arctia lappa*), *D. lappae cynarae* (on *Silybum marianum*) and *D. inulae* sp. n. (on *Inula britannica*), belonging to the subgenus *Dysaphis*, were collected on Asteraceae from Iran. The new species differs from the others by having two large sclerite plates on spinal part of tergites IV and V and absence of marginal tubercles on tergites VI and VII. Also, the 3rd antennal segment is longer than the whole length of the 4th and 5th antennal segments.

Table 1. Main characteristics of *Dysaphis inulae* sp. n. collected in Iran. Pt. = processus terminalis, b. = basal part of antennal segment VI, Urs. = ultimate rostral segment, Ht.II = second segment of hind tarsus.

No.	Body length (mm)	Antennae (mm)	Siphunculi (mm)	Cauda (mm)	Urs. (mm)	Ht.II (mm)
1	1.98	1.8	0.154	0.110	0.154	0.110
2	1.94	0.99	0.143	0.080	0.154	0.120
3	1.98	0.97	0.165	0.110	0.143	0.105
4	2.17	1.12	0.160	0.120	0.165	0.130
5	2.22	1.01	0.154	0.090	0.158	0.120
6	2.07	1.09	0.154	0.090	0.165	0.130
7	2.00	0.99	0.143	0.100	0.160	0.130
8	2.00	0.94	0.130	0.090	0.158	0.110
9	1.81	0.79	0.140	0.088	0.147	0.110
10	2.14	0.96	0.165	0.110	0.143	0.108
11	1.95	1.01	0.154	0.105	0.165	0.130
12	2.31	1.14	0.165	0.110	0.165	0.130

Ratios: Pt./b.= 2.34-3.0; Urs./HtII= 1.25-1.5

Dysaphis lappae cynarae (Theobald)

Apterous viviparous females (n = 6): colour in life greenish to greyish brown with waxy powder. In cleared specimens front, 5th and 6th antennal segments, ultimate rostral segment, siphunculi, cauda, tarsus and distal part of tibiae brown to dark brown. Hind thorax and dorsal of abdominal segments I-IV with some small sclerites distributed on marginal and spinal parts; segment V with two large plates bearing 1-2 hairs. Tergites VI-VIII with a cross band. Marginal tubercles present on tergites I-VI or I-VII. The 3rd antennal segment equal or a little shorter than the total length of the 4th and 5th antennal segments. Cauda with 4 hairs. The

longest hair on antennal segment III at most as equal as the basal diameter of the same segment. Body length 1.83-2.12 mm; antennae 0.38-0.49 times as long as the body length. Processus terminalis 2.04-3.14 times as long as the basal part of the segment.

Material examined: Iran, Yasouj, ex: *Silybum marianum*.

Distribution: there is only one report from South Africa (Millar, 1990).

Key to *Dysaphis* species living on Asteraceae in Iran

1. The 3rd antennal segment longer than the total length of the 4th and 5th antennal segments; marginal tubercles present on abdominal tergites I-IV or I-V; on *Inula britannica*.....
.....*D. inulae* sp. n.
- The 3rd antennal segment equal or shorter than the total length of the 4th and 5th antennal segments; marginal tubercles present on tergites I-VI or I-VII; on other plants..... **2**
2. The longest hair on 3rd antennal segment shorter than the basal diameter of the same segment; on *Arctia lappa**D. lappae*
- The longest hair on 3rd antennal segment as long as the basal diameter of the same segment; on *Silybum marianum**D. lappae cynarae*

References

- Millar, I. M.** (1990) The aphids (Homoptera: Aphidoidea) of South Africa. *Entomology Memoir* 78, 1-105.
- Remaudiere, G.** (1989) Quatre Aphidinae nouveaux de l, Iran (Homoptera, Aphididae). *Revue Francaise d'Entomologie (Nouvelle Serie)* 11(4), 175-187.
- Rezwani, A.** (1987) The Aphidoidea of Tehran Province. *Applied Entomology and Phytopathology* 54(1 & 2), 73-86.
- Rezwani, A.** (1990) Key to apterae viviparae females on the known *Dysaphis* species of Iran. *Applied Entomology and Phytopathology* 57(1 & 2), 13-18.
- Rezwani, A.** (2001) *Key to aphids (Homoptera: Aphidinea) in Iran*. 305 pp. Agricultural Research, Education and Extension Organization. [In Persian].
- Stroyan, H. L. G.** (1970) A new species of *Dysaphis* Boerner from Iran and Italy, and a new subspecies from Iran. *Bolletino di Zoologia Agraria e di Bachicoltura, Serie II*, 1-10.

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