

Short communication

**First record of three species of gall midges (Dip.: Cecidomyiidae) from Iran**

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چکیده

سه گونه از پشه‌های گال‌زای خانواده‌ی Cecidomyiidae برای اولین‌بار از ایران گزارش می‌شوند. پشه‌های *Contarinia desertorum* Marikovskij (Vallot), *Dasineura rosarum* (Hardy) و *Cystiphora sonchi* (Vallot) از روی گیاهان *Rosa canina* L. و *Sonchus arvensis* L. (Asteraceae) *Alhagi camelorum* Fisch. (Fabaceae) جمع‌آوری و شناسایی شدند. اطلاعاتی از زیست‌شناسی و انتشار جغرافیایی گونه‌های فوق به همراه عکس‌هایی از گال‌های ایجاد شده به‌وسیله‌ی این پشه‌ها در روی گیاهان میزبان ارائه شده است.

The family Cecidomyiidae is one of the most diverse families of Diptera. There are as many as 5451 species and 598 genera of living and fossil gall midges worldwide (Gagné, 2004). Cecidomyiids are usually very small, only 0.5-3 mm long, rarely up to 8 mm, and very delicate. They have long antennae, relatively large wings with reduced venation and long legs. Their larvae are phytophagous, mycophagous or saprophagous and some larvae are zoophagous (Skuhravá, 1997).

The gall midge fauna of Iran is poorly studied. During the study on gall midge fauna in Azarbaijan-e Gharbi province, three species of the family Cecidomyiidae were collected. The associated host plants and midge-induced galls of these species were grown in the laboratory, and kept in glass boxes until the emergence of adult midges. The adults were identified and preserved in 75% alcohol. These three species are newly recorded from Iran.

***Contarinia desertorum* Marikovskij, 1961**

**Material examined** – 12 ♀♀, 8 ♂♂, Azarbaijan-e Gharbi, 13 km SW Urmia, vicinity of Tāzehkand-e Qāterchī village, 1335 m, N 37° 39', E 44° 58', 2-12.vii.2009, ex: *Alhagi camelorum* Fisch. (Fabaceae).

This species induces galls on *Alhagi pseudalhagi* (M. Bieb.) in Kazakhstan (Marikovskij, 1961). The larvae were spotted on *A. camelorum* whose leaflets were folded and swollen along the midvein due to larval infestation. The galls were greenish when they are young, turning dark purple later (fig. 1A, 1B). At least two generations of midges develop

in a year. After leaving the galls, fully grown larvae fell in to the soil for their pupation and hibernation.

**Distribution** – Kazakhstan, Armenia (Marikovskij, 1961) and Iran.

The genus *Contarinia* Rondani is one of the largest genera of Cecidomyiidae that is represented in all zoogeographical regions (Skuhrová, 2006). The larvae of *Contarinia* spp. are phytophagous, largely live gregariously in malformed flowers, buds, fruits, leaves and stems. Almost all known species are host-specific, sometimes living with different species on the same plant (Kolesik, 1995).

### *Cystiphora sonchi* (Vallot, 1827)

**Material examined** – 16 ♀♀, 9 ♂♂, Azarbaijan-e Gharbi, 27 km NW Khoy, vicinity of Pirkandī village, 1055 m, N 38° 61', E 45° 08', 6-15.ix.2009, ex: *Sonchus arvensis* L. (Asteraceae).

Its yellow-whitish larvae create pustule galls on the leaves of *Sonchus oleraceus* L. and *S. arvensis* L. (fig. 1C). At least two generations develop in a year. The summer generation pupate in cocoons inside the galls on the leaves. The last generation leaves the galls in autumn to hibernate in the soil and next spring, they will pupate and complete their development within several days (Bayram *et al.*, 2005; Skuhrová *et al.*, 2008).

**Distribution** – Widely distributed in the Euro-Siberian subregion of the Palaearctic region (Skuhrová *et al.*, 2008). This species was imported from Europe to North America for biological control of *S. arvensis* (Peschken *et al.*, 1989).

*Cystiphora* Kieffer is a small genus that contains only six species in the Palaearctic region (Skuhrová, 1986) and a species in the Nearctic region (Gagné, 2004). All the seven species are phytophagous and cause galls on their host plants of the family Asteraceae.

### *Dasineura rosarum* (Hardy, 1850)

Syn.: *Cecidomyia rosarum* Hardy, 1850

**Material examined** – 6 ♀♀, 4 ♂♂, Azarbaijan-e Gharbi, 29 km SE Urmia, vicinity of Shirü Kandī (Qasemlü valley) village, 1420 m, N 37° 18', E 45° 07', 5-12.vi.2009, ex: *Rosa canina* L. (Rosaceae).

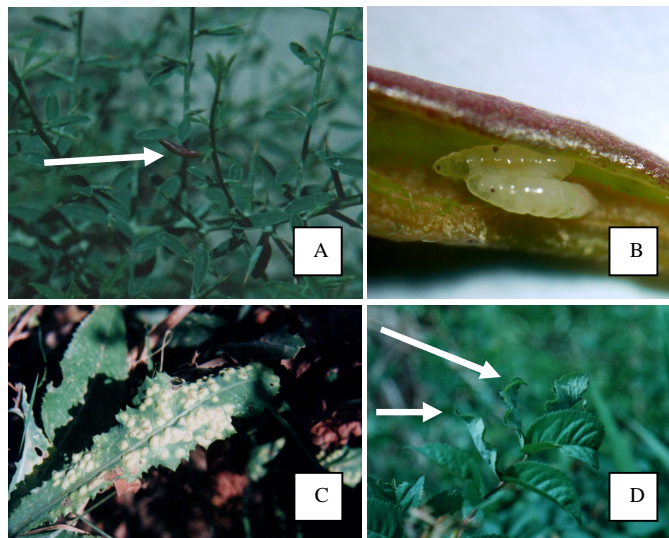
Its orange larvae cause galls on the leaflets of *R. canina* and other species of the genus *Rosa*. The infested leaflet is folded along the midvein and swollen forming a chamber where

the larvae develop (fig. 1D). Fully-grown larvae leave galls to fall into the soil for their pupation stage (Skuhrová *et al.*, 2008).

**Distribution** – Euro-Siberian up to Kazakhstan (Skuhrová *et al.*, 2008) and Iran.

*Dasineura* Rondani is the largest genus of Cecidomyiidae, comprising 448 species, that occurs in all zoogeographical regions (Gagné, 2004, Skuhrová, 2006).

The specimens are partly deposited in the collection of Natural History Museum of Urmia University and in the collection of M. Skuhrová in Praha, Czech Republic.



**Figure 1.** (A) The gall of *C. desertorum* on the leaf of *A. camelorum*, (B) the larvae of *C. desertorum* on the leaves of *A. camelorum*, (C) the galls of *C. sonchi* on the leaves of *S. arvensis*, (D) The galls of *D. rosarum* on the leaves of *R. canina*.

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