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Extension of the known range of the genus *Spazigaster* (Diptera: Syrphidae) to Iran

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Abstract. The genus *Spazigaster* Rondani, 1843 is recorded for the first time from Iran based on three specimens collected in northern Iran. Specimens were identified as *S. ambulans* (Fabricius, 1798). Diagnostic features of the genus, its classification and distribution are discussed briefly.

Key words: *Spazigaster ambulans*, key, flower flies, new record, Iran.

The genus *Spazigaster* Rondani, 1843, with two described species, *Spazigaster ambulans* (Fabricius, 1798) and *S. nostra* Zimina, 1963, is a small genus of flower flies in the Old World (Peck 1988). The first species has a wider distribution and occurs from Europe to Transcaucasia and Turkey (Peck 1988, Speight & Lucas 1992, Hurkmans et al. 1997), whereas the other has a local distribution restricted to Middle Asia (Zimina 1963, Peck 1988) (Fig.1). Sack (1932), in his review of Palaearctic Syrphidae, placed this genus, along with *Baccha* Fabricius, 1805, *Pseudodorus* Becker, 1903 and *Doros* Meigen, 1803, in the subfamily Bacchinae. He described *Spathiogaster ambulans* and illustrated its head and hind leg. Dušek & Láska (1967) described the genitalia of the male in detail, illustrated different genitalic parts, and considered it as a member of the tribe Melanostomini. Shatalkin (1975), in his phylogenetic study, discussed the importance of some morphological characters, including those of the male genitalia, for classification of hoverflies, divided the tribe Melanostomini into two subtribes, and included *Spazigaster* with four other genera (*Platycheirus* Le Peletier & Serville, 1828, *Pseudoplatycheirus* Doesburg, 1955, *Pyrophaena* Schiner, 1860, *Rohdendorfia* Smirnov, 1924) in the subtribe *Platycheirina*. He stressed the importance of the characters of the male genitalia (shape of superior lobe, hypandrium and aedeagus) for his division, but illustrated only the superior lobe of *S. ambulans*. Bradescu (1991) followed this definition and added an illustration of the female abdomen. Speight & Lucas (1992) published a habitus drawing of a male *S. ambulans*. The generic position of *Spazigaster* was not justified by some authors such as Thompson & Rotheray (1998), who considered it as a subgenus of *Platycheirus*. Recently, Mengual et al. (2008) studied the phylogeny of the subfamily Syrphinae using two genes, mitochondrial COI and nuclear 28S rRNA. Their results supported Shatalkin's idea about *Spazigaster* and his subtribal division of Melanostomini, but suggested that this genus and other genera be considered as members of the tribe Bacchini. Their cladogram indicates that *Spazigaster* constitutes a monophyletic group together with *Rohdendorfia* Smirnov, 1924 and *Syrphocheilosia* Stackelberg, 1964. Interestingly, all studies include only *S. ambulans* and there is no information about *S. nostra* except for its original description (Zimina 1963).

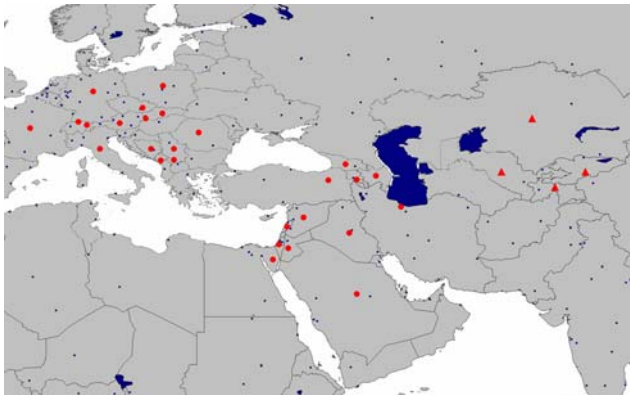

Figure 1. Distribution map of the genus *Spazigaster* in Palaearctic region (●–*S. ambulans*, ▲- *S. nostra*)

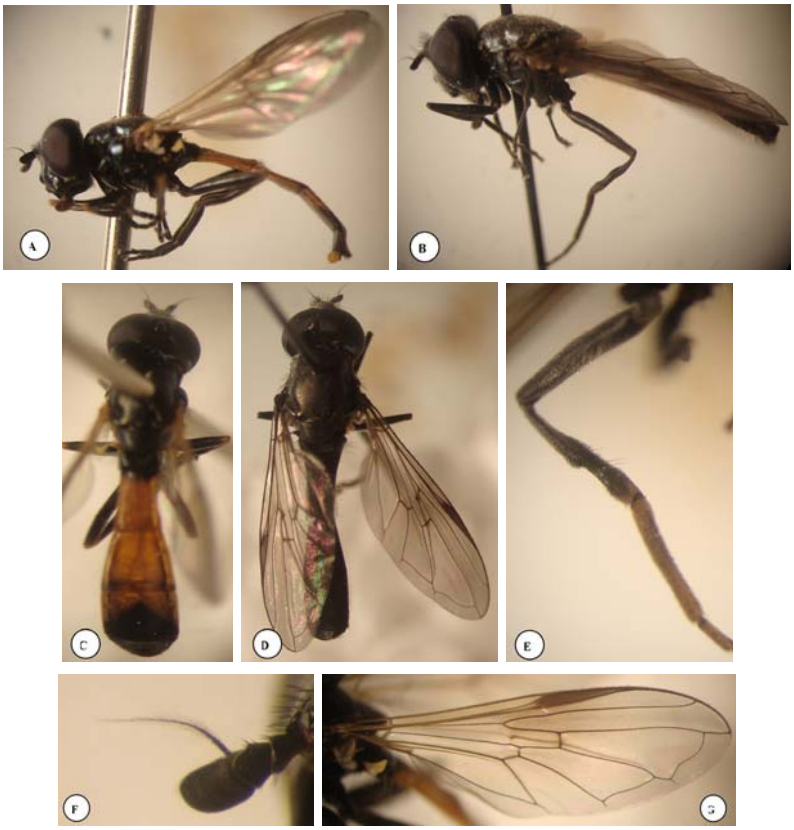

Figure 2. *Spazigaster ambulans*: a- female (lateral view), b- male same, c- female (dorsal view), d- male same, e- hind leg (male), f- Antennae (female), and g- wing (female).

The genus *Spazigaster* is separated from other genera in the subfamily Syrphidae by the combination of the following characters:

Black face and scutellum; antenna shorter than head; arista plumose (hairs more than twice as long as aristal width); calypter bare; anepisternum bare; sternopleuron with hair patches widely separated; metasternum entire (not reduced); male hind tibia with concave depression; abdomen elongate and petiolate (obvious in female, less obvious in male) with tergite 2 narrower than tergite 3; tergites without marginal groove (Fig. 2).

Three specimens of *S. ambulans* were swept in a grassland in northern Iran on the plant, *Mentha longifolia* (L.) Hudson, 1762 (Lamiaceae [=Labiatae]), near a narrow local river. These are the first specimens documented from Iran. The distribution of *S. ambulans* (Speight 2004) includes Iran and some other Asian countries, but was not confirmed in the current catalogue of Iranian hoverflies (Dousti & Hayat 2006). Interestingly, the distribution map shows a gap between southern European countries (e.g. Greece and Bulgaria) and Asia. Extensive collection in the future may prove this species occurs in similar habitats in the region (Fig. 1).

The following key separates the two species of *Spazigaster* known from the Palaearctic region.

Hairs on face, mesonotum and scutellum completely pale; hind leg in male with deep emargination (about as deep as width of tibia at level of emargination)……...…..***S. ambulans***

Hairs on dorsal part of face black; hairs on mesonotum mainly black with some pale hairs; long bristles on hind margin of scutellum black; hind leg of male with shallow emargination (clearly less deep than width of tibia at level of emargination)…..……..…. ***S. nostra***

Material Examined: 2 males, Pich Bon village, Alamot region, Ghazvin province, 36˚24' N 50˚ 47' E 2825 m asl., 20 July 2009, 1 female ibid except 5 August 2009, Leg. Babak Gharali. Voucher specimens were deposited in the collection of Plant Protection Department, Ghazvin Research Center (Iran).

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