

## NEW RECORD OF *SPILOMYIA TRIANGULATA* VAN STEENIS, 2000 (DIPTERA: SYRPHIDAE) FROM IRAN

FARZANEH KAZERANI<sup>1</sup>, ALI ASGHAR TALEBI<sup>1\*</sup>, EBRAHIM GILASIAN<sup>2</sup> and JEROEN VAN STEENIS<sup>3</sup>

<sup>1</sup> Department of Entomology, Faculty of Agriculture, Tarbiat Modares University,  
P.O.Box: 14115-336, Tehran, Iran  
\* E-mail: talebia@modares.ac.ir

<sup>2</sup> Insect Taxonomy Research Department, Iranian Research Institute of Plant Protection,  
P.O.Box:1454-19395, Tehran, Iran

<sup>3</sup> Uppsala University, Department of systematic zoology, Norbyvagen 18D, 75236 Uppsala, Sweden

### Abstract

A survey was conducted to identify the hoverflies in Northern Iran during 2010-2011. As a part of this study, *Spilomyia triangulata* van Steenis, 2000 is recorded for the first time from Iran. Diagnostic characters and geographical distribution of the newly recorded species is briefly discussed. Supplementary photographs of the species are provided.

KEY WORDS: Northern Iran, hoverfly, first record, *Spilomyia*.

### Introduction

Family Syrphidae (Diptera: Cyclorhapha), commonly called syrphid flies, hoverflies or flower flies, is a species-rich family of Diptera. About 6000 species in 200 genera have been described (THOMPSON, 2006). They are distributed worldwide, with the greatest species diversity in the New World Tropics (MASETTI *et al.*, 2006).

The genus *Spilomyia* (Diptera: Syrphidae, Eristalinae, Milesiini) has about 17 species in the world (THOMPSON, 2006; PECK, 1988) of which 13 species are distributed in the north of Mexico (ARNETT, 1985; MCALPINE, 1987; THOMPSON, 1997). Larvae of European species live in water-filled holes in trees (ROTHERAY & GILBERT, 1999). Adults take pollen and nectar from various flowers (THOMPSON & ROTHERAY, 1998). This genus lives in open areas with flowers near forests (SHORTER & DREW, 1976). The species of the genus *Spilomyia* bear a strong superficial resemblance to vespid wasps found in the same region (VAN VEEN, 2004).

So, even experienced collectors are often deceived and pass them by as unwanted wasps (CURRAN, 1952; ARNETT, 1985). They are reported to wave their front legs to imitate antenna (STUBBS & FALK, 2002).

GARALI & VAN STEENIS (2008) reported one species of this genus *i.e.* *Spilomyia graciosa* Violovitsh, 1985 from Iran. As part of our ongoing research on syrphid fauna of Iran, the genus *Spilomyia* is studied in the northern region of Iran.

## Material and Methods

Materials for this study were collected from northern Iran (Ghazvin Province) (Fig. 1) using Malaise traps in 2010 - 2011. The specimens were extracted from the Malaise trap and then treated with 100% ethanol for five minutes followed by hexamethyldisilazane (HMDS) for 30 minutes and finally placed on the glass plate for drying. The dried specimens were then labeled. Terminology of the external morphology follows VAN STEENIS (2000). The collected specimens are deposited in the insect collection of the Department of Entomology, Tarbiat Modares University, Tehran.

## Results

As a result of this study one species, *Spilomyia triangulata* van Steenis, 2000, is recorded for the first time from Iran. According to the results of the current study, the number of species of the genus *Spilomyia* in Iran increased to two species.



Figure 1. Iran's provinces where the *Spilomyia* species have been collected.

*Spilomyia triangulata* van Steenis, 2000 (Fig. 2)

Material examined: IRAN: Ghazvin Province, Zereshk road, 36° 25' 39.36" N, 50° 06' 36.9" E, 1997m, (2♀), 17.VIII.2011; leg. A. Nadimi. (Figure 1)

Distribution: Italy (DACCORDI & SOMMAGIO, 2002), France (VAN STEENIS, 2000). New record from Iran.

Diagnosis: Head: frons yellow with yellow hairs; antennae short, orange, 1st and 2nd segments with black hairs (Fig. 2E); gena and mouth edge yellow (Fig. 2B). Thorax: postscutellum yellow, scutum shiny black with a yellow inverted V-shape band (Fig. 2A), pleuron with 4 yellow spots, notopleuron yellow (Fig. 2B), scutellum black, posterior margin yellow with black and yellow hairs (Fig. 2A); anterior third to half of the wing is yellowish brown (Fig. 2F); legs entirely yellow (Fig. 2B); Abdomen: oval, 1st tergite black, tergites 2-5 with interrupted yellow bands that reach to lateral margin and with a yellow posterior bands on tergites 3-5, 5th tergite predominantly yellow, abdomen margin black and yellow (Fig. 2C); sternits 1-5 with broad black bands (Fig. 2D).

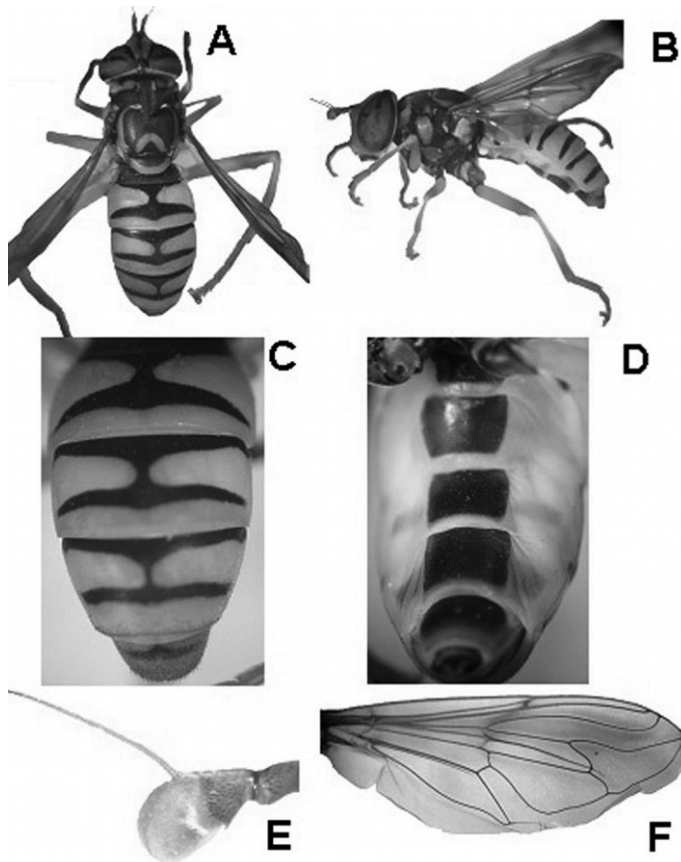


Figure 2. Morphological characters of *Spilomyia triangulata*, female: A) Dorsal view of *Spilomyia triangulata*; B) lateral view of *Spilomyia triangulata*; C) Dorsal view of abdomen; D) ventral view of abdomen; E) Antenna; F) Wing venation.

## Discussion

The species of the genus *Spilomyia* are large hoverflies and mimic social wasps in their color, form and behaviour. They tend to hide in the population of social wasps. This genus is distinguished from the species of the genus *Chrysotoxum* by short antennae. The strip eyes and the conical tooth on the hind femur and the thoracic dorsum which has a V-shaped marking in front of the scutellum are the most important characteristics in the identification of the species of this genus. WALDBAUER & GHENT (1984), WALDBAUER & LABERGE (1985) and WALDBAUER *et al.* (1977) provided data on biology, flower visiting, mate-seeking, and mimicry. THOMPSON (1997) redescribed the genus and discussed its phylogenetic relationships.

The genus *Spilomyia* is placed in the Milesiini tribe (HIPPA, 1978) due to the following features: concave face, wing with subapical cell acute, margin of scutellum strongly flattened, tergites slightly margined and the structure of the aedeagus. This genus has typical characteristics and is distinguished from other genera of Milesiini by the following combination of characters: an obvious brown color pattern on the eyes, aedeagus without massive ejaculatory process and hind femur with apicoventral anterolateral spur (VAN STEENIS, 2000).

*Spilomyia triangulata* described by VAN STEENIS in 2000 is similar to the species *S. digitata* (Rondani, 1865) but *S. triangulata* is easily distinguished by its entirely yellow legs, straight posterior bands on tergites 3-5, and bright yellow abdominal bands. Little data regarding this recently described species is available. In France it has been observed in flower-rich alpine meadows (VAN STEENIS, 2000), and in Italy it was found on the flower of *Ammi visnaga* (Apiaceae) (FERRETTI *et al.*, 2005). We collected the species in August from Ghazvin province (Fig. 1), on Zereskh Road that has good plant diversity.

## Acknowledgements

We would like to thank the Department of Entomology, Tarbiat Modares University for providing financial support for this research. Our cordial thanks are expressed to Mr. A. NADIMI and M. KHEYRANDISH for the collection of specimens which were studied in this research.

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## НОВИ НАЛАЗ ВРСТЕ *SPILOMYIA TRIANGULATA* VAN STEENIS, 2000 (DIPTERA: SYRPHIDAE) ИЗ ИРАНА

ФАРЗАНЕХ КАЗЕРАНИ, АЛИ АСГАР ТАЛЕБИ, ЕБРАХИМ ГИЛАСИАН и ЈЕРОЕН ВАН СТЕНИС

### Извод

У периоду 2010-2011. истраживане су осолике муве у провинцији Казвин у северном Ирану. Утврђена је нова врста за фауну Ирана - *Spilomyia triangulata* van Steenis. У раду су обрађене основне морфолошке карактеристике и распрострањење ове врсте.

Received May 31st, 2012  
Accepted December 13th, 2012