

Short Paper

## Two new records of the family Syrphidae (Insecta: Diptera) from Iran

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**Abstract:** During 2010–2011, a faunistic study of the family Syrphidae was carried out in Torbat Heydarie, Roshtkhar and Khaf (Razavi Khorasan province), northeastern Iran. Among the collected specimens, we found two species, *Paragus gussakovskii* Bańkowska and *Platycheirus immarginatus* Zetterstedt which are new records for the fauna of Iran.

**Keywords:** Hoverflies, new record, Razavi Khorasan province

### Introduction

The family Syrphidae with about 6,000 described species worldwide-is one of the largest families of Diptera (Sommaggio, 1999). They are commonly called flower flies or hoverflies. Many species are important pollinators of flowering plants (Kevan and Baker, 1983). Syrphid larvae show a great variation in their feeding habits and include phytophagous, mycophagous, saprophagous and zoophagous species (Sommaggio, 1999). The larvae of many species of Syrphidae are predators of aphids and play an important role in biological control of agricultural pests (Gilbert, 1981).

Syrphidae have been divided into three subfamilies, fourteen tribes and 200 genera (Thompson and Rotheray, 1998).

The genus *Paragus* belongs to tribe Paragini, Subfamily Syrphinae. It has two subgenera including *Paragus* Latreille and *Pandasyopthalmus* Stuckenberg (Speight, 2011). More than 50 species have been recorded from the Palearctic region. Sorokina

(2009) provided a key to the species of Russia and adjacent countries. Fifteen *Paragus* species are known in Iran.

The main studies on the Iranian *Paragus* species include the following items:

Ashrafi and Pashaei Rad (2010), Ehteshamnia *et al.* (2010), Gilasian and Sorokina (2011), Ahmadian and Pashaei Rad (2012), Naderloo *et al.* (2013), Jalilian *et al.* (2014), Khaghaninia and Kazerani (2014), Khosravian *et al.* (2015).

The genus *Platycheirus* Le Peletier et Serville is one of the largest genera in the family Syrphidae in the Palearctic Region (Barkalov, 2013) and belongs to tribe Bacchini, Subfamily Syrphinae. It has six subgenera including *Carposcalis* Enderlein, *Eocheilosia* Hull, *Pachysphyria* Enderlein, *Platycheirus* Lepeletier and Serville, *Pseudoplatycheirus* Doesburg, *Pyrophaena* Schiner (Thompson and Skevington, 2014).

Seven species of this genus are known from the Iran.

The main studies on the Iranian *Platycheirus* species include the following items:

Ehteshamnia *et al.* (2010), Ashrafi and Pashaei Rad (2010), Jalilian *et al.* (2010), Ahmadian and Pashaei Rad (2012), Vosughian *et al.* (2013), Khaghaninia and Kazerani (2014), Khaghaninia (2014), Shakeryari *et al.* (2014).

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## Materials and Methods

The study was conducted in the agricultural areas of Torbat Heydarie, Roshtkhar and Khaf (Razavi Khorasan province) in northeastern Iran (Fig 1). The syrphid species were captured by a sweeping entomological net. The collected specimens were transferred to cyanide bottle for few minutes. They were brought to the laboratory and after pinning them identified by available keys: Vockeroth and Thompson (1987), Bei-Bienko (1989), Stubbs and Falk (2002), Sorokina (2009), Speight (2011). The photo of species was taken with a Handheld Digital Microscope (Dino- Lite). Identifications were confirmed by Dr. Barkalov from Institute of Animal Systematics and Ecology (Siberia).

## Results

### *Paragus (Paragus) gussakovskii* (Bańkowska, 2000) (Fig. 2)

**Material examined:** IRAN: Razavi Khorasan province (Fig.1), Torbat Heydarie, Hesar (35°26' N, 58°50' E), 1,765m, (2 ♀), 5–16 May 2011; leg. E. Shojaei.

**Short description:** Female: Body length 6mm. Face white-yellowish, with slender, longitudinal

brown stripe and brownish oral margin; frons shiny black except of white pollinose patches along eye margins; hairs of eyes forming 2 paler vertical stripes; antenna long brown, third segment less 4 times as long as wide and paler in basal part; arista brown, shorter than third antennal segment; thorax black; mesonotum shiny with greyish stripes in the central part and covered with erect white and yellow hairs; pleura shiny black with long silvery piles; scutellum yellow, its basis on 1/4 black; squama and halteres white; wing hyaline, stigma yellowish; legs entirely yellow with white pale abdomen oval and mostly yellow to red, except first segment black; tergites 3-5 with blackish marking, tergites 2-5 with narrow and white pruinose bands.

Male: Not collected. See Bańkowska (2000): 55-58.

**Distribution:** Tajikistan, Uzbekistan (Bańkowska, 2000), Iran (new records).

### *Platycheirus immarginatus* (Zetterstedt, 1849) (Fig. 3)

**Material examined:** IRAN: Razavi Khorasan province: Roshtkhar, Sangan (35°29' N, 59°42' E), 1141m, (1 ♀), 5–16 May 2011; leg. E. Shojaei.

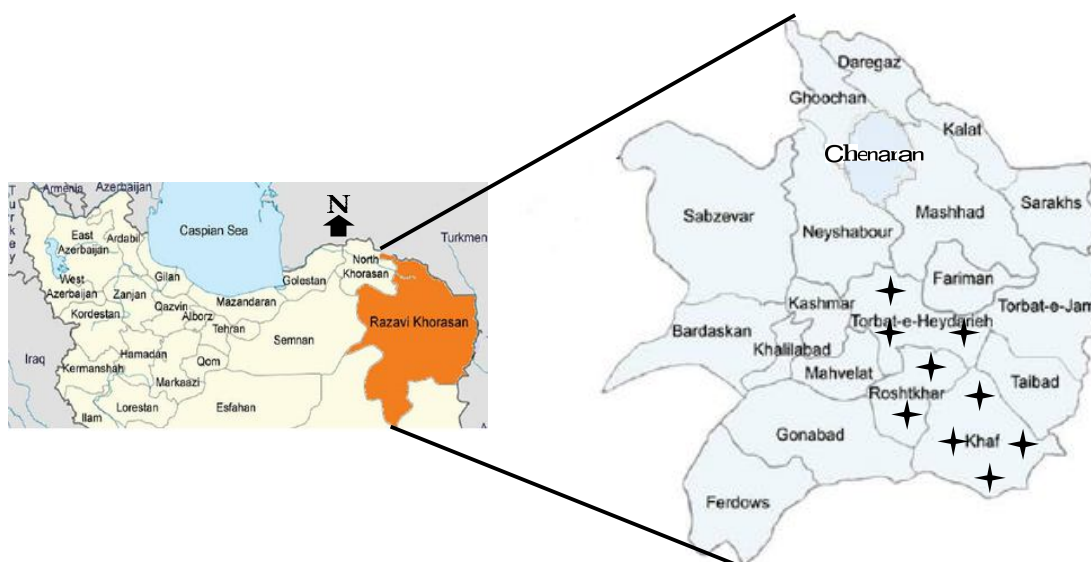
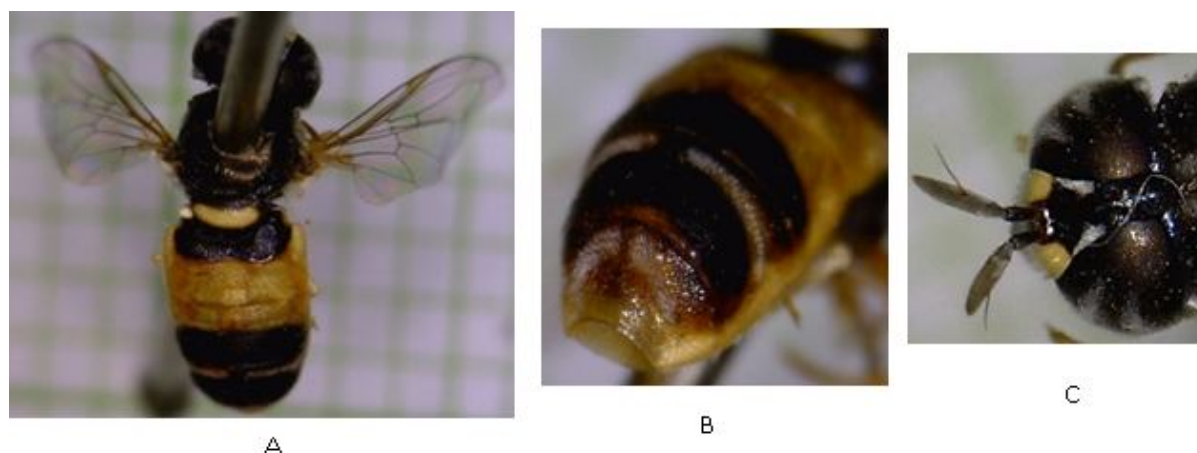
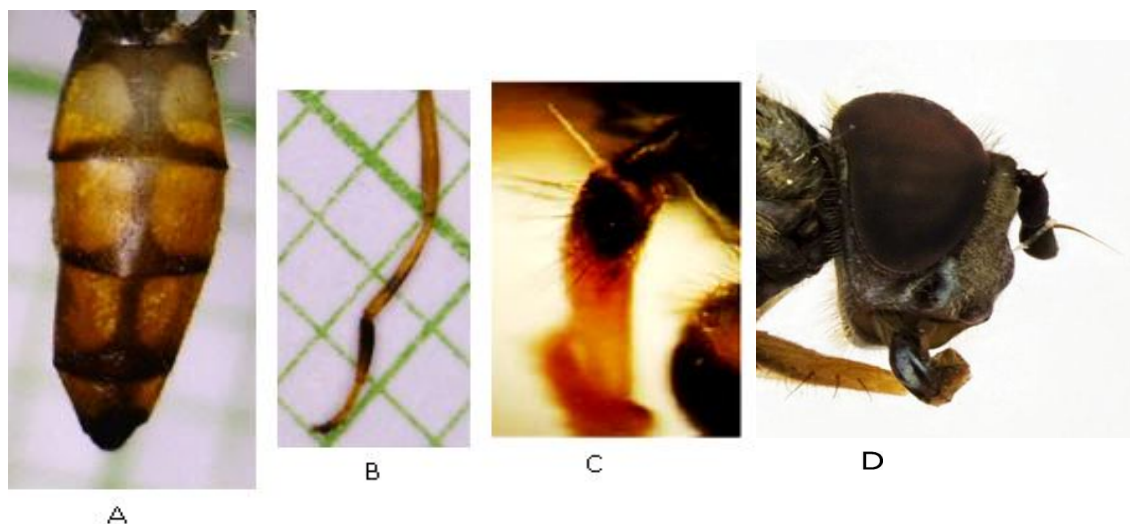


Figure 1. Sampling locations from Razavi Khorasan province, Iran.



**Figure 2.** *Paragus gussakovskii* (Bańkowska) ♀: **A.** Habitus, dorsal view; **B.** Abdomen, dorsal view; **C.** Head, dorsal view.



**Figure 3.** *Platycheirus immarginatus* (Zetterstedt) ♀: **A.** Abdomen, dorsal view; **B.** Front leg; **C.** The long white bristle in behind of front femur; **D.** Head, lateral view.

**Short description:** Female: Body length 8mm. Face entirely black; face vertical with moderately gray pollinose; eyes bare and dark brown; antenna black, with black pubescence and long hairs on margin of occiput; thoracic dorsum black with golden hairs; wing length 6 mm, wing membrane entirely microtrichose; legs mostly yellow with coxae and trochanters black, front tarsi flattened, front femur with basal hairs shorter than width of femora and at base with a long white bristle behind, hind femora and hind tibiae with brown ring at middle half; abdomen mostly yellow with black areas, tergite 2 with

narrow median vitta strongly broadened anteriorly and with narrow posterior margin, brownish black, tergites 3 and 4 similar to tergite 2 but with median dark vitta narrower and narrowed anteriorly, tergite 5 yellow with small posteromedian black triangle not reaching anterior margin.

Male: Not collected. See Vockeroth (1992).

**Distribution:** North America, from Alaska south to southern California. Sweden, Denmark, the Netherlands and Belgium (Speight, 2011). Transcaucasus, West and East Siberia (Peck, 1988), Norway (ArdÖ, 1957), Poland (Bańkowska, 1963), Iran (new record).

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## گزارش دو گونه جدید مگس گل از ایران

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**چکیده:** در طی سال‌های ۲۰۱۱-۲۰۱۰ فون خانواده سیرفیده در شهرستان‌های تربت حیدریه، رشتخوار و خواف (استان خراسان رضوی) واقع در شمال شرقی ایران مورد بررسی قرار گرفت. در بین نمونه‌های جمع‌آوری شده دو گونه *Paragus gussakovskii* Bańkowska و *Platycheirus immarginatus* Zetterstedt جدید بوده و برای نخستین بار از ایران گزارش می‌شوند.

**واژگان کلیدی:** سیرفیده، گزارش جدید، استان خراسان رضوی، ایران