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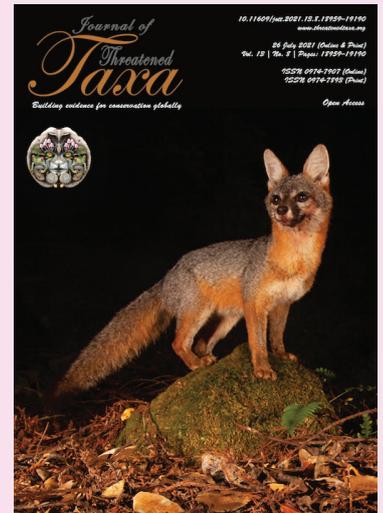
NOTE

FIRST RECORD OF THE HOVERFLY GENUS *SPILOMYIA* MEIGEN (DIPTERA: SYRPHIDAE) FOR PAKISTAN

Muhammad Asghar Hassan, Imran Bodlah, Riaz Hussain, Azan Karam, Fazlullah & Azaz Ahmad

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First record of the hoverfly genus *Spilomyia* Meigen (Diptera: Syrphidae) for Pakistan

Muhammad Asghar Hassan¹ , Imran Bodlah² , Riaz Hussain³ , Azan Karam⁴ , Fazlullah⁵
& Azaz Ahmad⁶

¹Department of Entomology, China Agricultural University, Beijing 100193, China.

^{2,3}Department of Entomology, Pir Mehr Ali Shah Arid Agricultural University, Rawalpindi, Pakistan.

⁴Department of Zoology, Government Post Graduate Jahanzeb College Swat, Khyber Pakhtunkhwa, Pakistan.

⁵Centre for Agriculture and Bioscience International (CABI), Rawalpindi, Pakistan.

⁶Department of Entomology, University of Agriculture, Peshawar, Khyber Pakhtunkhwa, Pakistan.

¹kakojan112@gmail.com (correspondent author), ²imranbodlah@gmail.com, ³riazsodaywa@gmail.com, ⁴iazankhan4@gmail.com, ⁵insectfauna@gmail.com, ⁶azazahmad@aup.edu.pk

The genus *Spilomyia* Meigen, 1803 is a Holarctic genus, which currently includes 38 described species with a few representatives from the Neotropics and the Oriental regions (Wachkoo et al. 2019; Van Steenis 2000). The adults prefer to live in open areas having flowers with nectar (Thompson & Rotheray 1998) and their larvae are associated with damp, rotten timber in hollow trees and the decaying heartwood of deciduous trees (Maier 1982; Copeland 1989).

The species of the genus *Spilomyia* bear morphological and behavioral resemblance to social wasps in the field and can easily be differentiated from the other members of family Syrphidae by the presence of the following combination of characters: brown color pattern on eyes, apicoventral spur on hind femur and wing with cell R1 open (Van Steenis 2000).

Despite their widespread distribution, only three species of this genus, viz., *Spilomyia manicata* (Rondani, 1865), *S. saltuum* (Fabricius, 1794), and *S. sulphurea* Sack, 1910 are from Afghanistan and one species, *S. manicata* (Rondani) have been reported from India (Bańkowska 1968; Ghorpadé 2014; Wachkoo et al. 2019). The aim

of the present study is to provide the distribution map of *Spilomyia manicata* (Rondani) from Pakistan and neighboring countries.

Material and Methods: The observation of this species took place on agricultural land having mixed grasses and wild flowers in Khyber Pakhtunkhwa province of Pakistan at an elevation of 760 m. The specimen was identified using Van Steenis (2000) and Watchkoo et al. (2019). The distribution map was updated after Watchkoo et al. (2019) and current data. The specimen was photographed using an Olympus SZX7 stereomicroscope with a Sony CCD digital camera attached. The identified specimen is deposited at the National Insect Museum, Islamabad, Pakistan (reg. no: 105).

Results: The first record of *Spilomyia manicata* (Rondani, 1865) from Pakistan is reported herein along with its distribution map, diagnostic characters, and images provided for quick identification.

Family Syrphidae

Genus *Spilomyia* Meigen, 1803

Diagnosis: Head, face without keel, brown color

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pattern on eyes; wings, radio-medial cross-vein on top half, often 1/3 of discal cell, vein R4+5 without distinct sinuate; legs, conical tooth at apicoventral anterolateral on hind femora; abdomen, with yellow and black bands (Van Veen 2010).

***Spilomyia manicata* (Rondani, 1865)**

Milesia manicata Rondani, 1865: 132.

Spilomyia integra Kuntze, 1913: 549.

Spilomyia boschmai Lucas, 1964: 206.

Material examined: Registration no: (105), 11.ix.2019, 1 male, Pakistan: Khyber Pakhtunkhwa Province, Swat District, 35.054092° N, 72.564847° E, 760 m, leg. A. Karam.

Diagnosis: Face yellow with black median strip (Image 1C), frons yellow with broad black triangular spot above antennae, ocellar triangle black, the triangle between anterior ocellus and the eyes yellow (Image 1C). Legs brownish except for all coxae which are yellow-brown to

black, with basal yellowish hairs and distinct apico-ventral black setae; trochanter brownish-black; ventral with short black hairs; front tibia black on apical 1/4–2/3; protarsus black except yellowish-brown 5th tarsomeres; legs with short yellowish setae except ventral sides of femora with distinct black bristly hairs; spur on hind femora narrowly concave (Images 1A–C). Thorax; color black except posterior half of humerus, posterior anepisternum, proepimeron, posterodorsal 1/5th of katepisternum, basal half of katepimeron, nearly all katatergite and macula (in front of scutellum semicircular) yellow; scutellum yellow on posterior 1/4–1/3; proepisternum, anterior anepisternum, anterior anepimeron, meron and metasternum black; the yellow spots having yellowish hairs; meron bare, katepisternum having distinct patch of hairs on apicodorsal and ventral (Images 1A–B). Wings, weakly brownish along anterior margins to hyalinous, r-m cross-vein strongly oblique, vein R4+5 narrowly bend into r4+5 cell, halteres yellow; calypters whitish (Image 1E).

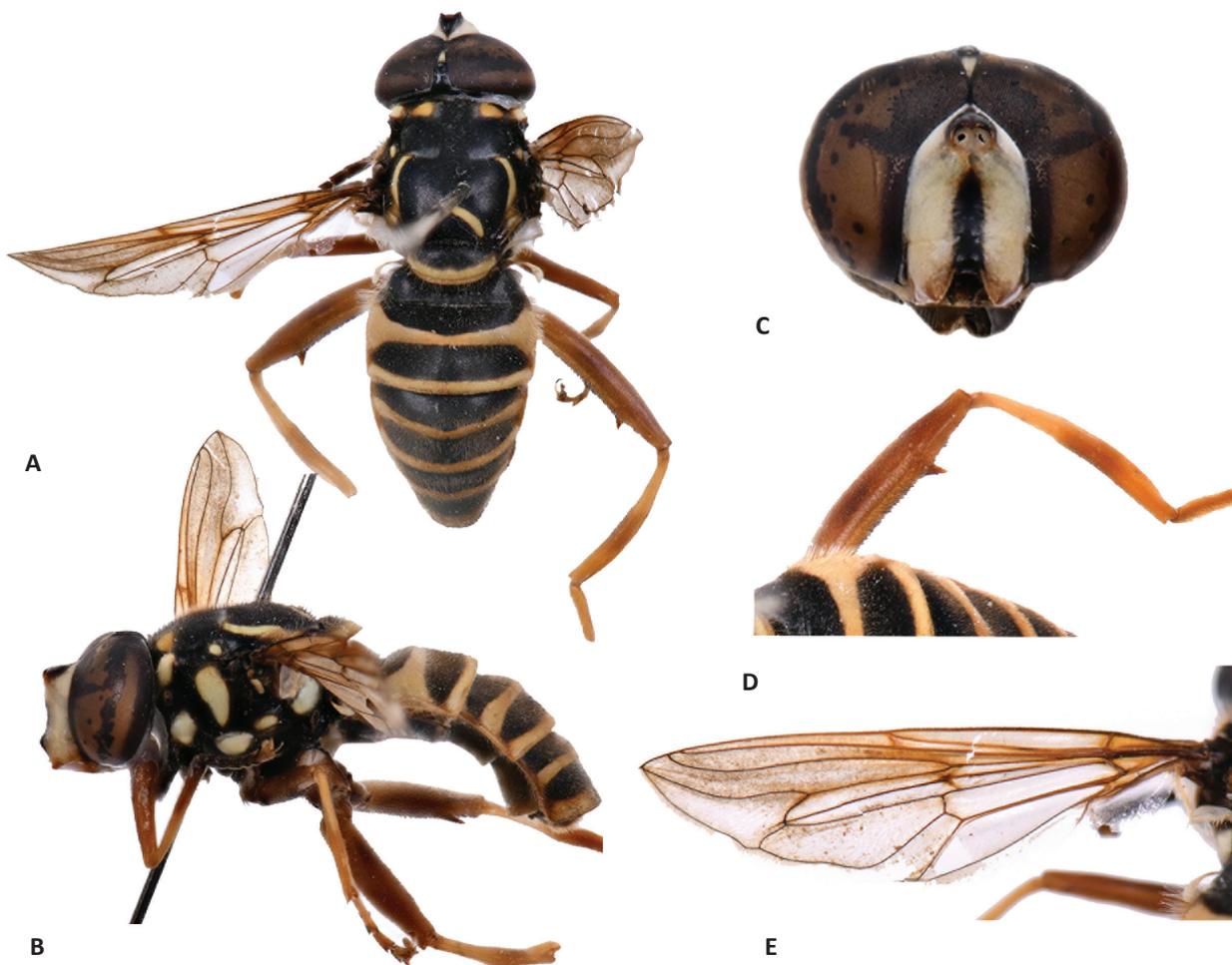


Image 1. *Spilomyia manicata* (Rondani, 1865), habitus of male: A—dorsal habitus | B—lateral habitus | C—frontal view | D— hind femora | E—left-wing © M.A. Hassan

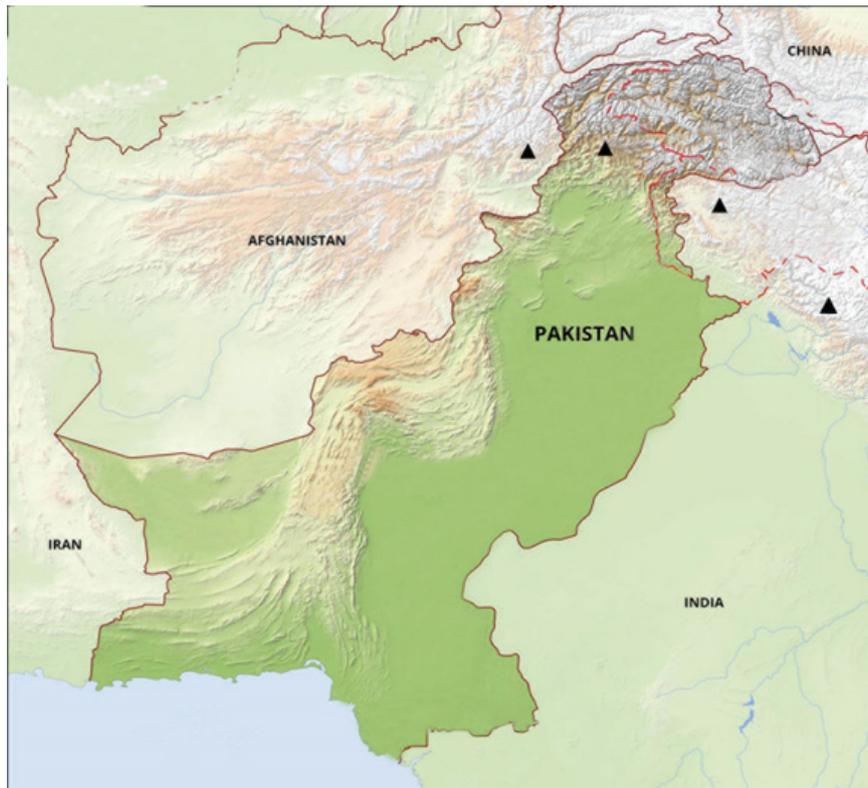


Image 2. Distribution of *Spilomyia manicata* in India, Pakistan, and Afghanistan.

Abdomen, the anteromedial and posterior yellow fascia on abdominal tergites II–IV completely not separated in the middle. Sternites I–IV with black rectangular spots, sternum I wider than long, I–II with long white hairs and II–IV with short appressed black setae (Image 1A,B).

Distribution: Central and southern Europe (Van Veen 2010), Afghanistan, and India (Wachkoo et al. 2019).

Discussion: Species of the genus *Spilomyia* Meigen, 1803 are widely distributed around the world with a few representatives from the Neotropics and Oriental regions. Despite their worldwide distribution, there are only a few recent records from most parts of its range. It is probably a threatened species or may be facing a high risk of threat in the future (Vujić et al. 2001; Speight 2013). *Spilomyia manicata* (Rondani, 1865) is recently reported from the Himalayas (India), i.e.; Kashmir Valley in northwestern Himalaya and western Himalayan state of Himachal Pradesh to the southern slopes of the Hindu Kush Mountains in the northeastern parts of Afghanistan (Wachkoo et al. 2019). The importance is that the discovery of this very rare species from the eastern Hindu Kush Mountains in Swat Valley extends the range of this species from the Himalaya to Hindu Kush ranges from India, Pakistan to Afghanistan (Image 2).

References

- Bañkowska, R. (1968). Materialien zur Kenntnis der Syrphidae von Afghanistan. *Fragmenta Faunistica* 14: 195–207 (in German). [Materials for the knowledge of the Syrphidae (Diptera) of Afghanistan].
- Fabricius, J.C. (1794). *Entomologia Systematica emendata et aucta. Secundum classes, ordines, genera, species, adjectis synonymis, locis observationibus, descriptionibus*. Tome 4. C.G. Proft (in Latin), Copenhagen, Denmark, 670pp.
- Ghorpadé, K. (2014). An updated checklist of the hover-flies (Diptera—Syrphidae) recorded in the Indian subcontinent. *Colemania*. 44: 1–30.
- Kuntze, A. (1913). Dipterologische Sammelreise in Korsika des Herrn W. Schnuse in Dresden im Juni und Juli 1899. *Deutsche Entomol Zeitschr* 1913: 544–567 (in German).
- Lucas, J.A.W. (1964). A new species of *Spilomyia* from Sicily (Diptera, Syrphidae). *Zoologische Mededelingen*. 39: 206–208.
- Meigen, J.W. (1803). Versuch einer neuen Gattungs-Eintheilung der Europäischen zweiflügligen Insekten. *Mag Insektenk* 2: 259–281 (in German).
- Rondani, C. (1865). Diptera Italica non vel minus cognita descripta vel annotate observationibus nonnullis additis. Fasc. I. Oestridae-Syrphidae-Conopidae; Fasc. II. Muscidae. *Atti della Società Italiana di Scienze Naturali*, Milano 8: 127–146 (in Latin).
- Speight, M.C.D. (2013). *Species Accounts of European Syrphidae (Diptera)*, Vol. 72. Syrph the Net Publications, Dublin, Ireland, 317 pp.
- Steenis, J.V. (2000). The West-Palaearctic species of *Spilomyia* Meigen (Diptera: Syrphidae). *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*. 73: 143–168.
- Thompson, F.C. & G.E. Rotheray (1998). Family Syrphidae. In: Papp, L. & Darvas, B. (eds.). *Contributions to a Manual of Palaearctic Diptera* 3. Science Herald, Budapest, 81–139pp.
- Van Veen, M.P. (2010). *Hoverflies of Northwest Europe: Identification keys to the Syrphidae*. KNNV Publishing, Utrecht, 248pp.
- Vujić, A., S. Šimic & S. Radenković (2001). Endangered species of hoverflies (Diptera: Syrphidae) on the Balkan peninsula. *Acta Entomol Serb*. Expand 5: 93–105.
- Wachkoo, A.A., J. van Steenis, Z.A. Rather, J. Sengupta & D. Banerjee (2019). First record of the genus *Spilomyia* (Diptera, Syrphidae) from the Oriental region. *Turkish Journal of Zoology* 43(2): 239–242.



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