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## RESEARCH ARTICLE

## Saprophagous hoverflies species fauna of Tehsil Chakwal Punjab Pakistan

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### Abstract

Eristalinus and Microdon are two important scavenger genera of Syrphid flies. Unlike other countries in Pakistan no such type of work has been done to explore the fauna of saprophagous hoverflies. Study was conducted in Tehsil Chakwal Punjab Pakistan during April 2013 to December 2013. Collection of specimens was done from 10 localities. A total 120 specimens were collected from 10 localities belongs to 9 species, 2 genera. Genus Eristalinus species are Eristalinus aeneus, Eristalinus laetus, Eristalinus taeniops, Eristalinus sepulchralis, Eristalinus cerealis and Eristalinus flaveolus. Genus Microdon species are Microdon miki, Microdon fulvopubescence and Microdon mutabilis. Present study indicated that the Eristalinus aeneus is the most common specie of saprophagous hoverflies it was present during March to July.

## INTRODUCTION

Family *Syrphidae* is one of the largest families of the order Diptera and consist of flies commonly known as hoverflies, flower flies or Sun flies. The members of family *Syrphidae* have a characteristics feature having Vena spuria, It is a vein like thickening in membranous wing.

The subfamilies *Eristalinae* and *Microdonatinae* 1stly have been studies by Brunetti<sup>[2]</sup>,<sup>[5]</sup>,<sup>[3]</sup> and<sup>[4]</sup>. All these researchers described many saprophagous hoverflies of Indo-Pak sub-continent. Unfortunately in Pakistan no work has been done on these important species of hoverflies. Both sub families *Eristalinae* and *Microdonatinae* have great importance due to their environment friendly behaviour and important role in pollution.<sup>[1]</sup> described both sub families from Baluchistan, Pakistan. Present study was conducted to check the saprophagous hoverflies fauna of Tehsil Chakwal, Pakistan.

## MATERIALS AND METHODS

Collection of specimens was done from different locations of tehsil Chakwal. The study was conducted from April 2013 to December 2013. The hoverflies were collected during day time with the help of Arial nets. The collected specimens were killed with the help of Cyanide bottle. After Killing specimens were properly set and identified with the help of specific literature<sup>[8]</sup> and<sup>[2]</sup>.

## RESULTS

This was the first study about the fauna of saprophagous hoverflies species of this area. In present survey a total number of 120 specimens were collected belongs to 9 species, 2 genera and 2 subfamilies. Sub family *Eristalinae*

comprises the largest numbers of specimens i.e 85(71%) followed by 35 (29%) specimens of sub family *Microdonatinae*. Systematic classification of saprophagous hoverflies species provided below

### Systematic Classification

**Phylum:** Arthropoda

**Class:** Insecta

**Order:** Diptera

**Family:** Syrphidae

#### Subfamily: *Eristalinae*

Specie 1: *Eristalinus aeneus* (Scopoli, 1763)

Specie 2: *Eristalinus laetus* (Wiedemann, 1830)

Specie 3: *Eristalinus taeniops* (Wiedemann, 1818)

Specie 4: *Eristalinus sepulchralis* (Linnaeus, 1758)

Specie 5: *Eristalinus cerealis* (Fabricius, 1805)

Specie 6: *Eristalinus flaveolus* (Bigot, 1880)

#### Subfamily: *Microdonatinae*

Specie 1: *Microdon miki* (Doczkal & Schmid 1999)

Specie 2: *Microdon fulvopubescence* (Brunetti, 1923)

Specie 3: *Microdon mutabilis* (Linnaeus 1758)

## DISCUSSION

Hoverflies fauna was studied by many entomologists from different parts of Pakistan but no such type of attempt was done previously. [1] described both sub families *Eristalinae* (*Eristalinus sepulchralis*, *Eristalinus aeneus*) and *Microdonatinae* (*Microdon fulvopubescence*) from Baluchistan, Pakistan. A study was conducted at an experiment was performed at the Vegetable Research Station in Multan to assess the pollinators community and the best native pollinators for the bitter melon. They reported *Eristalinus aeneus* (Scopoli, 1763) and *Eristalinus laetus* (Wiedemann, 1830) from Multan Punjab Pakistan [6]. Another survey was also conducted at Multan to check the Species composition and population dynamics of hoverflies (Diptera: Syrphidae) in relation to some abiotic and biotic factors. Four Saprophagous Syrphid fly species was reported i.e. *E. aeneus*, *E. laetus*, *E. taeniops* and *E. arvorum*. [7] conducted a study to check the floral host preference of 15 most abundant syrphid fly species they reported five *Eristalinus* species i.e. *E. aeneus*, *E. laetus*, *E. taeniops*, *E. arvorum* and *E. quadristriatus*. Present study was conducted at Chakwal Punjab Pakistan to check the saprophagous hoverflies fauna. Result showed that a total 120 specimens were collected from 10 localities belongs to 9 species, 2 genera. Genus *Eristalinus* species are *Eristalinus aeneus*, *Eristalinus laetus*, *Eristalinus taeniops*, *Eristalinus sepulchralis*, *Eristalinus cerealis* and *Eristalinus flaveolus*. Genus *Microdon* species are *Microdon miki*, *Microdon fulvopubescence* and *Microdon mutabilis*. Present study indicated that the *Eristalinus aeneus* is the most common specie of saprophagous hoverflies it was present during March to July. Study also alarmed that some saprophagous hoverflies population decreases due to decrease in vegetation. Just like the *Eristalinus taeniops* during whole study period only 4 specimens were collected and it appears only in June. All *Microdon* species are rear, they appear March to October but in very small numbers.

**Table 1:** Hoverfly Species Occurrence, Status and Biotope

Sr.no.	Scientific Name	Occurrence	Biotope	Status
1	<i>Eristalinus aeneus</i>	March to July	Plantation, nursery and grasses around stagnant water	Very common
2	<i>Eristalinus laetus</i>	March to May	Around stagnant water	Very common
3	<i>Eristalinus taeniops</i>	June	Plantation, nursery and grasses around stagnant water	Very common

4	<i>Eristalinus sepulchralis</i>	June to September	Around flowering plants	Rear
5	<i>Eristalinus cerealis</i>	March	Grasses around standing water and flowering plants.	Common
6	<i>Eristalinus flaveolus</i>	March to September	Long grasses with flowering plants	Common
7	<i>Microdon miki</i>	May to October	Grasses around stagnant water	Rear
8	<i>Microdon fulvopubescence</i>	April and May	Nursery flowering plants	Rear
9	<i>Microdon mutabilis</i>	March	Gardens, nursery and around stagnant water	Rear

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