

Taxonomic Studies of Saprophagous Syrphids from Pakistan

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ABSTRACT

Syrphid flies belong to the genera *Eristalinus* and *Microdon* and act as scavengers. Unfortunately, in Pakistan no work has been done on this important insect fauna. This paper presents three saprophagous syrphid species: *Microdon fulvopubescence* Brunetti, *Eristalinus sepulchralis* Linnaeus and *Eristalinus aeneus* Scopoli under two subfamilies Microdontinae and Eristalinae. These species have been recorded for the first time in Baluchistan (Pakistan).

Key Words: Saprophagous; Fly; Taxonomy; Pakistan

INTRODUCTION

Syrphid flies belong to the family Syrphidae, which is one of the largest families of the order Diptera and comprises the popularly called hover flies or flower flies or sun flies. The members of this family have a characteristic feature of having the vena spuria, which is a vein like thickening in the wing membrane.

They have great economic importance due to their friendly behaviour to mankind and play an important role in pollination. Some genera, such as *Eristalinus* and *Microdon* act as scavengers and their maggots, feed and breed in the cow-dung, and dead and rotting wood.

The subfamilies Microdontinae and Eristalinae have been studied by Brunetti (1923), Keiser (1958), Patel (1969), Vockeroth (1969), Lambeck and Brink (1973), Ghorpad (1979, 1981), Datta and Chakarborti (1983, 1985, 1986a, b), and Pauri and Datta (1987). These workers have described many saprophagous species from the Indo-Pak subcontinent. No attempt has been made to identify this insect fauna from Pakistan. The present work includes taxonomic observations on saprophagous species, *Microdon fulvopubescence* Brunetti in the subfamily Microdontinae and *Eristalinus sepulchralis* Linnaeus and *Eristalinus aeneus* Scopoli in the subfamily Eristalinae collected from Baluchistan province of Pakistan.

The collected specimens were properly set, identified upto specific level and described in detail. Deviating character of these species, if any, from the published description by Brunetti (1923), and Vockeroth (1969) measurement (Max. Length 'L' and width 'W') and their collection data are given in this paper.

***Microdon fulvopubescence* Brunetti**
1923. Fauna of Br. India, Dipt., 3: 313.

Head. Eyes reddish-brown; vertex black, slightly raised, with black hairs posteriorly; ocelli oblong, yellowish-brown; frons and face almost parallel-sided, with black pubescence above antennae and yellowish-grey pubescence below antennae. Antennae black, third joint longer than second, arista yellowish-brown; occiput black, with pale yellowish

pubescence on lower half.

Thorax. Black, with dense yellowish-brown pubescence; scutellum with hind corners produced into a blunt tooth.

Legs. Coxae and femora black, the former with yellowish-grey hairs, the latter with black and long hairs; tibiae and tarsi blackish-brown, the former with short, black pubescence, the latter with blackish-brown pubescence.

Wings. Pale grey; squamae golden yellowish, with yellow hairs; halteres orange brown.

Abdomen. Black, much broader than thorax, with yellowish orange pubescence.

Male. Unknown.

Measurements (mm): 1 ♀

B.L.	9.71
H.W.	3.47
F.L.	1.41
F.W.	0.23
T.L.	3.23
T.W.	2.88
S.L.	0.64
S.W.	1.76
W.L.	7.57
W.W.	2.70
A.L.	4.64
A.W.	4.05
H.L.	5.35
Pro Leg	3.64

Material examined

1 ♀, 18-ix-98, Ziarat.

Habitat. A single female of this species was collected from an ornamental plant.

Repository. The female has been deposited in the Insect Museum, Department of Agricultural Entomology, University of Agriculture, Faisalabad, Pakistan.

***Eristalinus sepulchralis* Linnaeus**

1758. *Eristalinus sepulchralis* L., Syst. Nat. Ed., 10:596.

Head. Eyes yellowish-brown, spotted, entire surface covered with pale pubescence, contiguous in male, wide apart in female; vertex black, triangular, prominently raised;

ocelli orange; face yellow, pubescent, with distinct black knob, which is moderately produced on the upper mouth edge; mouth black, with short proboscis; antennae normal, outer side of first segment black, inner side brown, with arista dorsal and bare.

Thorax. Quadrate, pubescent, entirely black, with gray stripes on dorsum; scutellum shiny black, with pubescence.

Legs. Pubescent, black, joint yellow

Wings. Transparent, with costal margin slightly pale; venation dark brown; halteres brown; squamae oval, with pale yellow pubescence at margins.

Abdomen. Oval, black and pubescent

Measurements (mm). 5 ♂

	Range	Mean	S.D.
H.L.	2.94-2.98	2.96	0.03
T.L.	2.94-2.98	2.96	0.03
A.L.	4.53-4.59	4.56	0.04
Ant. L.	1.30-1.31	1.30	0.01
Ar. L.	0.92-0.95	0.93	0.02
C.W.	2.06-2.09	2.07	0.02
C.L.	1.70-1.76	1.73	0.04
S.L.	1.12-1.18	1.15	0.04
S.W.	2.35-2.39	2.37	0.03
W.L.	6.43-6.47	6.45	0.02
W.W.	2.86-2.90	2.88	0.03

Material examined

Quetta 3♂, 8 - III - 98; Panjgur 2♂, 19 - III - 98

Habitat. Only male specimens of this species have been collected from wheat (*Triticum aestivum*) crop.

Eristalinus aeneus Scopoli

1763. *Eristalinus aeneus* Scopoli, Ent. Carniolica : 356.

Head. Eyes smoky brown, spotted, slightly pubescent on upper surface, contiguous in male, wide apart in female; vertex black, triangular, slightly raised; ocelli shiny yellowish; face yellow, pubescent, with distinct central shiny black knob, which is slightly produced on the upper mouth edge; mouth black, with long proboscis; antennae normal, smoky brown, with bare arista.

Thorax. Quadrate, pubescent, entirely black, slightly yellowish at lateral margins; scutellum black, with yellow pubescence, having some long hairs intermixed on hinder part.

Legs. Normal, black, joint yellow

Wings. Transparent, with venation dark brown, halteres pale yellow; squamae oval, with long yellow pubescence at margins.

Abdomen. Oval, black, pubescent

Measurements (mm). 7 ♂ 5 ♀

	MALE			FEMALE		
	Range	Mean	S.D.	Range	Mean	S.D.
H.L.	2.62-2.65	2.64	0.02	2.63-2.64	2.635	0.007
T.L.	2.94-2.98	2.96	0.30	2.93-2.94	2.935	0.007
A.L.	4.70-4.76	4.72	0.03	4.70-4.75	4.730	0.040
Ant.L.	1.05-1.07	1.06	0.01	1.05-1.06	1.055	0.007
Ar.L.	0.69-0.71	0.70	0.01	0.59-0.70	0.069	0.007
C.W.	1.70-1.76	1.73	0.04	1.79-1.80	1.795	0.007
C.L.	1.24-1.29	1.27	0.03	1.24-1.28	1.260	0.030
S.L.	0.94-0.10	0.97	0.03	0.93-0.94	0.935	0.007
S.W.	2.06-2.35	2.04	0.03	2.06-2.32	2.190	0.180
W.L.	7.14-7.28	7.23	0.08	6.40-7.21	6.800	0.570
W.W.	2.00-2.14	2.09	0.08	2.00-2.83	2.400	0.590

Material examined

Ziarat 7♂ 3♀, 11 - III - 98; Panjgur 2♀, 19 - IX - 98

Habitat. The specimens were collected from grass under the forest plantation.

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