

Short Communication

NEW RECORDS OF GENUS *PTECTICUS* LOEW, 1855 (DIPTERA: STRATIOMYIDAE) FROM PAKISTAN

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ABSTRACT

The species of genus *Ptecticus* Loew, 1855 are studied from Pakistan. Two species, *Ptecticus kerteszi* De Meijere, 1924 and *Ptecticus vulpianus* (Enderlein, 1914) are recorded for the first time from Pakistan. The previously known *Ptecticus melanurus* (Walker, 1848) is reported for the first time from Poonch district, Azad Kashmir, Pakistan. The identification key to the known species along with their geographical distributions, photographs and habitats are provided.

Key words: *Ptecticus*, Stratiomyidae, New Records, Azad Kashmir, Pakistan.

INTRODUCTION

The soldier flies belong to family Stratiomyidae of suborder Brachycera, infraorder Stratiomyomorpha and are the sister group of the Xylomyidae (Woodley *et al.*, 2009). The Stratiomyidae (Diptera) are commonly known as soldier flies with worldwide distribution and comprise nearly 2,800 described species in 377 genera (Woodley, 2001, 2011; Fachin and Assis-Pujol, 2016). The larvae are scavengers, many found in decaying organic matter or in soil, and are found in a variety of ecological situations. Subfamily Pachygastrinae, are found under bark of fallen or dying trees, and Stratiomyinae and Nematelinae, are aquatic in situations ranging from lakes and rivers to more transient water sources such as tree holes and mossy seeps. Adults are generally found near larval habitats while, Stratiomyinae, frequent visit flowers (Woodley, 2009).

Ptecticus Loew, 1855, a genus in subfamily Sarginae, currently includes 52 species from the Oriental region (Rozkošný and Hauser, 2009). The important taxonomic works on the genus had been done by Rozkošný and Jong (2001), Rozkošný and Kovac (2003), Rozkošný and Courtney (2005) and Hauser and Rozkošný (2007), however Rozkošný and Hauser (2009) is the noteworthy revisionary work providing a key to the known species of *Ptecticus* from Oriental region with identification of eight species groups. In India, *Ptecticus* is a diverse genus with 13 species whilst a single species *Ptecticus melanurus* (Walker, 1848) has been reported from Pakistan (Wachkoo *et al.*, 2017). The present study

reports two species as new country records, *Ptecticus kerteszi* and *Ptecticus vulpianus* from Pakistan. *Ptecticus* in Pakistan is thus represented by three species, an identification key to species is provided here.

MATERIALS AND METHODS

The adult soldier flies were collected by using aerial net from Poonch district Azad Kashmir and Murree (Punjab), Pakistan during 2016-17. The adult soldier flies were killed by using potassium cyanide and pinned for detail examination to species level under Olympus SZX7, Model SZ2-ILST stereo-microscope. Photographs were prepared under a Nikon SMZ 1500 binocular microscope attached to a Nikon Digital Sight DS-Fi1 camera and identified by using the available literature (Rozkošný and Jong, 2001; Rozkošný and Kovac, 2003; Hauser and Rozkošný, 2007; Rozkošný and Hauser, 2009). The photographs were cleaned by using Adobe Photoshop CS6 software. The examined specimens are deposited at Biosystematics Laboratory, Department of Entomology, Pir Mehr Ali Shah Arid Agriculture University Rawalpindi, Pakistan. In total, 13 adult soldier flies were collected from the study areas along with two species as new country records, *Ptecticus kerteszi* and *Ptecticus vulpianus* from Pakistan.

The detail latitude, longitude and elevation along with the localities of the known species are given in Table 1.

Table 1. Distributional records of known species under the genus *Ptecticus* Loew, 1855 from Pakistan along with their latitude, longitude and elevation.

Species	Localities	Provinces	Latitude	Longitude	Elevation
<i>P. vulpianus</i> (Enderlein)	Rawalakot	Azad Kashmir	33°51'32.18" N	73°45'34.93" E	5374 ft
<i>P. kerteszi</i> De Meijere	Murree	Punjab	33°55.315 N	73°24.212 E	6324 ft
<i>P. melanurus</i> (Walker)	Rawalakot	Azad Kashmir	33°51'32.18" N	73°45'34.93" E	5374 ft

RESULTS AND DISCUSSION

Key to the *Ptecticus* species of Pakistan

1. Median occipital (postvertical) sclerite black, (rest of the occiput black); male terminalia as fig. 2.....*P. vulpianus*
2. Median occipital (postvertical) sclerite yellow, rest of the occiput black.....2
2. Wing bicoloured, orange at the base and blackish at the tip; darkening of the wing apex reaching discal cell or nearly so; male terminalia as fig. 4.....*P. melanurus*
3. Wing with orange and black colorations, darkening of wing with apical third black; male terminalia as fig. 3.....*P. kerteszi*

Genus *Ptecticus* Loew, 1855

The members of the genus *Ptecticus* are distinguished from the other genera of subfamily Sarginae by the second antennal segment usually overlapping 3rd on inner side by a thumb-like extension (Brunetti, 1920). The known species from Pakistan belong to below mentioned groups (Rozkošný and Hauser, 2009):

***Ptecticus australis* group:** Upper frons, median occipital sclerites and vertex black; wings hyaline with darkened apex; scutum uniformly yellow, sometimes with a metallic shine, rarely black and metallic blue; vein R₂₊₃ nearly twice as long as Rs, parallel to R₁ and radial triangle (r₂₊₃) thus virtually replaced by long and narrow, distally opened cell, cross vein M-Cu usually indistinct; M₃ straight, parallel to M₂ and postcubitus (CuP) unpigmented, hyaline, often indistinct. The species under this group includes; *P. annulipes*, *P. artocarpophilus*, *P. australis*, *P. fukiensis*, *P. kubani*, *P. srilankai*, *P. semimetallicus*, *P. subaustralis* and *P. vulpianus*.

1. *Ptecticus vulpianus* (Enderlein, 1914) Fig. 1-A

Material Examined: Azad Kashmir: Rawalakot, 5374 ft., 33°51'32.18"N, 73°45'34.93" E, 2♂, 2♀, 14.iv.2016, 2♂, 2♀, 26.vi.2016, leg. M.A. Hassan.

Distribution: India, Indonesia, Japan, Malaysia, Taiwan (Rozkošný and Hauser, 2009).

Diagnosis: Median occipital sclerites black; hind legs at least partly yellow, hind tibia and base of hind basitarsus black; CuP (postcubitus) developed at most as hyaline,

M₃ straight as parallel to M₂; R₂₊₃ arising close to anterior cross-vein, not confluent with R₁; scutum uniformly yellow to yellowish brown; wings not infumated; lower half of frontal callus pale. See also notes by (Rozkošný and Kovac, 2003).

Habitat: This species was collected from dense vegetation under the forest area near water channel.

***Ptecticus aurifer* group:** Upper frons, median occipital sclerites and vertex yellow; wings bicolored or more or less darkened; scutum uniformly yellow to brown; M₃ slightly sinuated, CuP (postcubitus) well developed, pigmented; vein R₂₊₃ slightly sinuate, shorter than Rs, radial triangle (r₂₊₃) higher than crossvein R-M, crossvein M-Cu well developed. The species under this group includes; *P. aurifer*, *P. aurobrunneus*, *P. kerteszi*, *P. melanurus*, *P. sarawakensis* and *P. subaurifer*.

2. *Ptecticus kerteszi* De Meijere, 1924 Fig. 1-B

Material Examined: Pakistan: Murree, 6324 ft., 33°55.315 N, 73°24.212 E, 1♂, 24.ix.2017, leg. M.A. Hassan.

Distribution: India, Indonesia, Laos, Nepal and Thailand (Rozkošný and Kovac, 2003; Wachkoo *et al.*, 2017).

Diagnosis: Median occipital sclerites yellow; scutum uniformly yellow to yellowish brown; upper frons yellow to brown; hind femora uniformly yellow; wings at least partly infusate. See also: Rozkošný and Kovac (2003).

Habitat: This species was collected from dense vegetation under the Pine trees.

3. *Ptecticus melanurus* (Walker, 1848) Fig. 1-C

Material Examined: Azad Kashmir: Rawalakot, 5374 ft., 33°51'32.18" N, 73°45'34.93" E, 2♂, 20.vi.2016, 1♂, 7.viii.2016, leg. M.A. Hassan.

Distribution: China, India, Indonesia, Thailand, Singapore, Nepal, West Pakistan, West and East Malaysia (Rozkošný and Kovac, 2003).

Diagnosis: Median occipital sclerites yellow; scutum uniformly yellow to yellowish brown; upper frons yellow to brown; hind femora uniformly yellow; wings bicoloured orange at base and blackish at tip, darkening of wing apex reaching discal cell or nearly so; basal 3-4

abdominal segments usually ochre-yellow. See also: Rozkošný and Kovac (2003).

Habitat: This species was collected from dense vegetation under the forest area near water channel.

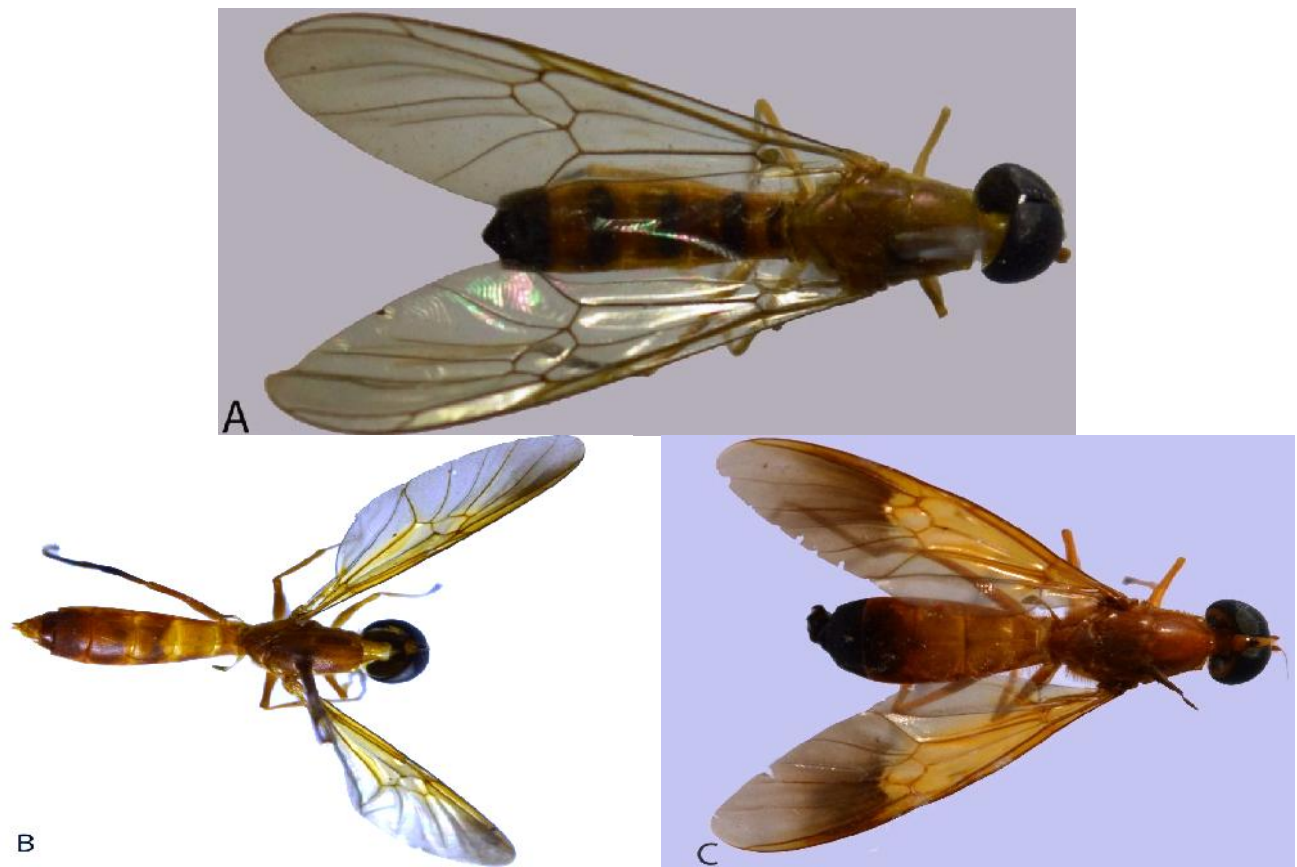


Figure 1. Habitus, dorsal view: A-*Ptecticus vulpianus* (Enderlein, 1914), B-*Ptecticus kerteszi* De Meijere, 1924, C-*Ptecticus melanurus* (Walker, 1848).

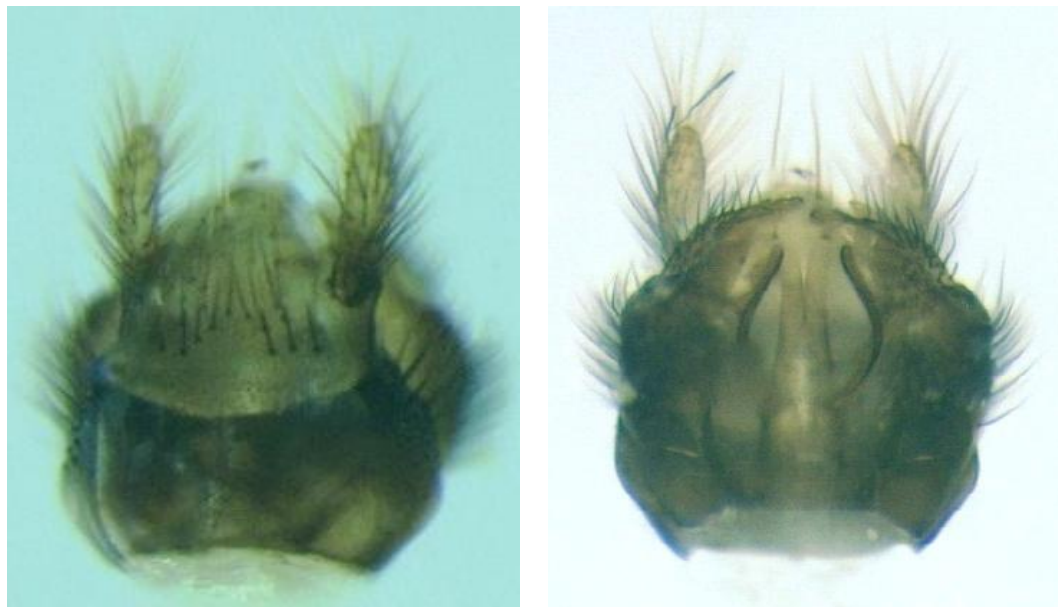


Figure 2. *Ptecticus vulpianus* (Enderlein, 1914). Habitus, dorsal and ventral view of male terminalia.

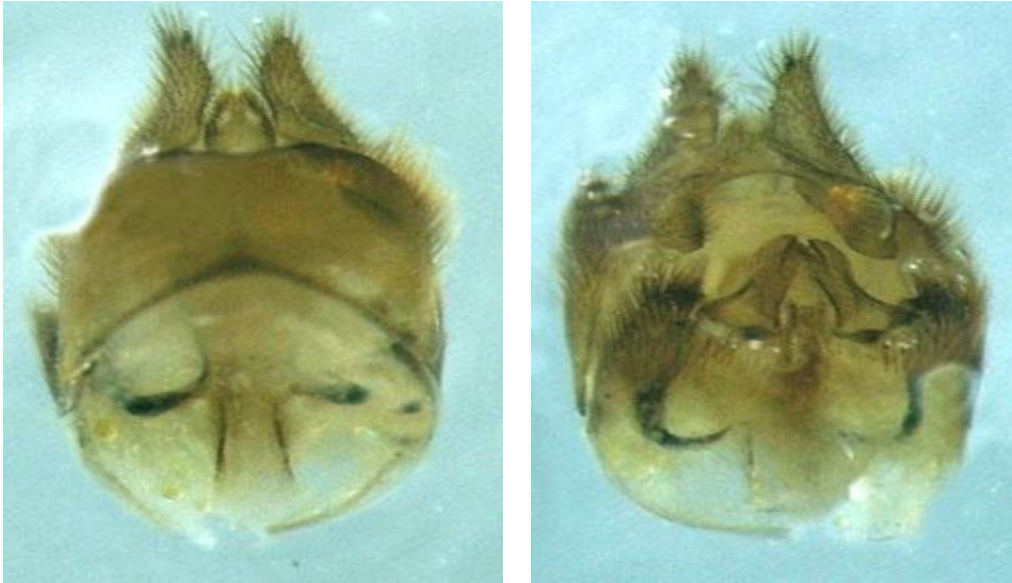


Figure 3. *Ptecticus kerteszi* De Meijere, 1924. Habitus, dorsal and ventral view of male terminalia.

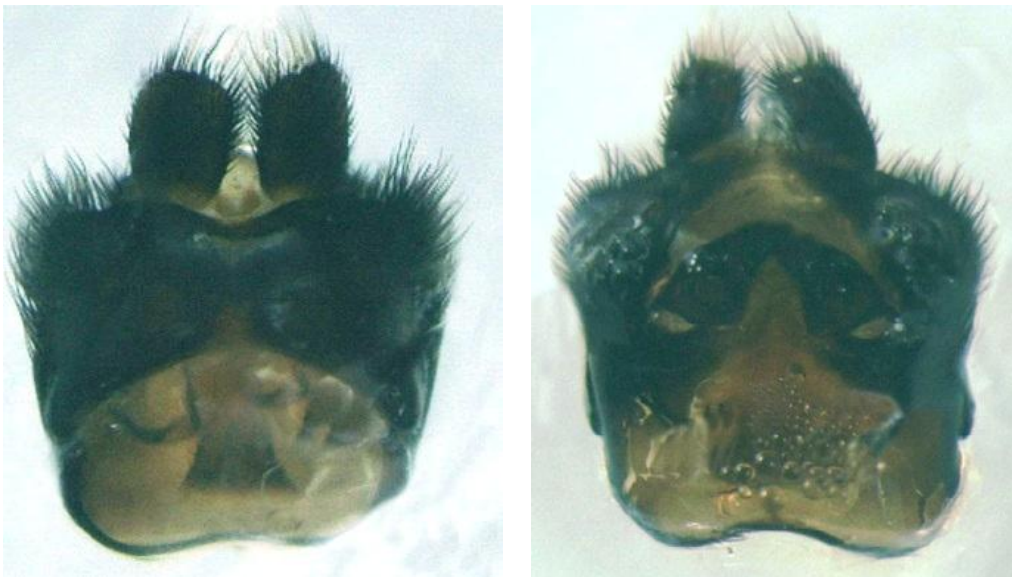


Fig. 4. *Ptecticus melanurus* (Walker, 1848). Habitus, dorsal and ventral view of male terminalia.

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