

NEW RECORDS OF THE GENUS *CERIANA* RAFINESQUE, 1815 (DIPTERA: SYRPHIDAE) FROM PAKISTAN

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ABSTRACT: The saproxylic hoverfly genus *Ceriana* Rafinesque, 1815 comprises 5 species from the Indian sub-continent. Recently 3 species under this genus has been updated from Pakistan. During the current study we have provided the updated checklist of genus *Ceriana* with *Ceriana ornatifrons* (Brunetti, 1915) as new country records. The photographs and diagnostic characters of the new country records are also provided.

KEY WORDS: New country records, *Ceriana*, checklist, Syrphidae, Pakistan

Syrphidae (Diptera) is one of the most abundant and diverse group of true flies with more than 6,000 described species in the world (Thompson, 2013; Ghorpadé, 2014). Four subfamilies including Syrphinae, Eristalinae, Microdontinae and Pipizinae, and 14 tribes are currently recognized in this family (Thompson & Rotheray, 1998; Mengual et al., 2015). About 79 species under 42 genera are known from Pakistan (Shehzad et al., 2017; Hassan et al., 2018a,b).

The genus *Ceriana* Rafinesque, 1815 belongs to the subfamily Eristalinae, tribe Cerioidini (Ghorpadé, 2015). Adult Cerioidini comprises perfect mimics of potter wasps (Eumeninae), paper wasps (Polistinae), digger wasps (Sphecidae), sand wasps (Crabronidae), mud daubers (Crabronidae and Sphecidae), common sawflies (Tenthredinidae) and pergid sawflies (Pergidae) (Speiser, 1924; Nicholson, 1927; Shannon, 1927; Waldbauer & Sheldon, 1971; Waldbauer et al., 1977).

Cerioidines (Cerioidini) includes 200 described species in the world of which 5 species are known from the Indian sub-continent (Ghorpadé, 2015; Steenis et al., 2016) and 3 species in Pakistan (Shehzad et al., 2017).

The adult cerioidines are excellent mimics of wasp and characterized by a predominantly black and yellow patterning on their body with white pollinose markings on the scutum and abdomen. They have elongate antennae which are inserted on a frontal prominence of variable length; antennae with terminal stylus; wings which are often black infuscate along the anterior margin; legs simple, without conspicuous modifications; elongate abdomen which is sometimes constricted at the level of tergite II (van Veen, 2010; Steenis et al., 2016).

The aim of the present study was to present the updated check-list of genus *Ceriana* Rafinesque, 1815 based on the newly collected specimens and previous literature on this group from Pakistan.

MATERIALS AND METHODS

The major part of the data has been extracted from the literature which refers of the faunal study of family Syrphidae of Indian sub-continent and Pakistan.

Additionally the unpublished data of newly adult collected specimens during 2016-2018 from the various localities in Pothwar region of Punjab, Pakistan are also included. The specimens were identified based on the morphological characters of adults according to Brunetti (1923). The specimens were identified and photographs by using Olympus SZX7 stereomicroscope attached with a Sony CCD digital camera. The identified specimens are deposited in the insect collection at National Insect Museum, Islamabad, Pakistan.

RESULTS

As a result of the present study one species, *Ceriana ornatifrons* (Brunetti, 1915), is recorded for the first time from Pakistan. According to the current study, the number of species under the genus *Ceriana* Rafinesque, 1815 has been increased to four species.

Subfamily Eristalinae

Tribe Cerioidini

Genus *Ceriana* Rafinesque, 1815

Diagnostic Characters: Members of this genus can be diagnosis by the presence of long antennae, usually longer than head, with terminal style and spurious vein at after middle of discal cell, wasp mimic with yellow and black patterning on body.

Ceriana ornatifrons (Brunetti, 1915) (Figs. 1A-D)

Synonym: *Ceria compacta* Brunetti, 1907b.

Material Examined: Punjab: Trail 5 (Islamabad), 1♂, 14.x.2017, leg. M.A. Hassan.

Distribution: This species was previously known from India, Nepal and Sri Lanka (Brunetti, 1923; Ghorpadé, 2014). New record for Pakistan.

Diagnosis Characters: Head, antennae with long antennal petiole, with terminal style, frontal prominence slightly longer than scape (Fig. 1A); wings with third longitudinal vein looped, marginal cell open, R_{4+5} cell closed, anterior cross vein after middle of discal cell, anterior part of the wing yellowish brown, reaching to spurious vein with a distinct black apical band (Figs. 1B-C); abdomen usually cylindrical, first tergite small with distinct yellow spots at the sides, tergite 2 and 3 are subequal and black in coloration, tergite 4 with apical yellow band (Fig. 1D).

Remarks: This species was collected from the water standing areas in forest (Trail 5), Islamabad.

Ceriana brevis (Brunetti, 1923)

Synonym: *Ceria brevis* Brunetti, 1923.

Remarks: Aslamkhan et al. (1997) reported this species from Kashmir (the exact locality is not given could lie either in Pakistani or Indian Occupied Kashmir).

Distribution: Pakistan? and India (Brunetti, 1923; Ghorpadé & Shehzad, 2013; Ghorpadé, 2015).

Ceriana brunettii (Shannon, 1927)

Synonym: *Tenthredomyia brunettii* Shannon, 1927.

Remarks: The species was described by Shannon (1927, as *Tenthredomyia*) from Quetta Balochistan, a pair taken there by Col. C.G. Nurse in June and named for Mr. E. Brunetti, in recognition of his contributions.

Distribution: Quetta (Balochistan) (Shannon, 1927; Ghorpadé, 2015; Shehzad et al., 2017).

Ceriana dimidiatipennis (Brunetti, 1923)

Synonym: *Ceria dimidiatipennis* Brunetti, 1923.

Remarks: Alam et al. (1969) reared this from stems of *Morus* sp. infested with beetle grubs in "Kashmir." Aslamkhan et al. (1997: 23) lists this species from "Abbottabad, 1256m, vi.1916, coll. Fletcher," "Hangu, 10.v.1916, coll. Fletcher," and "Kashmir, 1524-1829m,

v.1901, coll. Nurse." Brunetti (1923: 330) also saw specimens "from Quetta, v & vi.1902, and Kashmir, 5000-6000 ft., v.1901 (both Nurse).

Distribution: Banjosa, Rawalakot (Azad Kashmir), Abbottabad, Hangu, Swat (Khyber Pakhtunkhwa), Quetta (Balochistan), Gorikot (Gilgit-Baltistan) (Brunetti, 1923; Alam et al., 1969; Knutson et al., 1975; Aslamkhan et al., 1997; Ghorpadé & Shehzad, 2013; Ghorpadé, 2015; Shehzad et al., 2017; Hassan et al., 2018a).

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Figure 1. A-D. *Ceriana ornatifrons* (Brunetti, 1915); A. Head, frontal view, B. Dorsal view, C. Lateral view, D. Abdominal view.