



New Distributional Record of *Spilomutilla eltola* (Cameron, 1898) (Hymenoptera: Mutillidae) From India

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Abstract

The Sri Lankan mutillid species, *Spilomutilla eltola* (Cameron, 1898) (Hymenoptera: Mutillidae) is newly reported from India. Differential characters, figures, distribution map and comparisons of the newly recorded species with description of materials from Sri Lanka is provided.

Keywords: Velvet ant, Sri Lanka, India, Tamil Nadu.

Introduction

The genus Genus *Spilomutilla* Ashmead, 1903 (Hymenoptera: Mutillidae) is widely spread in the Oriental Region (9 species) and one species penetrates to the palearctic (1 species from Iran). All known Oriental species are distributed in India, Sri Lanka and Pakistan (Pagliano *et al.* 2020, Lelej, 2005). According to the current classification (Brothers & Lelej 2017), the genus *Spilomutilla* belongs to the subfamily Myrmillinae Bischoff, 1920. In this paper *S. eltola* is newly reported from India.

Materials and methods

This study is based on a single specimen collected during the extensive survey conducted by the Agasthyamalai Biosphere reserve project. Attempts to collect more specimens were unsuccessful.

The specimen was studied using a Labomed CZM6 microscope. Photographs were taken with a Leica DFC 450 camera and images were stacked using Leica V3.80. The images were post-processed to improve contrast and brightness using Adobe® Photoshop® CS6 software. Distribution map of *S. eltola* was constructed using GIS

(version 3. 14) software. The specimen is deposited in the 'National Zoological Collections' at the Western Ghat Regional Centre, Zoological Survey of India, Kozhikode (ZSIK).

The terminology mostly follows the Hymenoptera Anatomy Ontology (2013). We had used the abbreviations T1, T2, T3, etc. to denote the first, second, third, etc., Metasomal terga, S1, S2, S3 etc., to denote the first, second, third, etc., Metasomal sterna, and F1, F2, F3, etc., to denote the first, second, third, etc., flagellomeres. New distribution record is asterisked (*).

Results

Subfamily MYRMILLINAE Bischoff, 1920

Genus *Spilomutilla* Ashmead, 1903

Type species: *Mutilla perfecta* Sichel & Radoszkowski, 1869; *Cameronilla* Lelej in Lelej & Krombein, 2001; syn. Brothers *et al.*, 2019.

Spilomutilla eltola (Cameron, 1898)

Syntypes: *Spilomutilla eltola* female, Sri Lanka: Eastern Province, Trincomalee District, Trincomalee (OUMNH) in

Cameron, 1898: 3–5; André E. female, male, 1907: 3: 251–258.

Diagnosis. Head black, vertex ferruginous and with pale spot. Towards the rim of head and lower side of eyes with pale setae. T4 and T5 with medial pale yellowish round spot.

Description. MALE. Body length 11.06 mm. *Coloration and setation.* Head, metasoma, legs and antennae black. Mesosoma dorsally ferruginous, laterally darker. Head with black setae, towards the rim of head and lower side of eyes with pale setae. Mesosoma and metasoma with sparse pale setae. Head black, vertex ferruginous and with pale spot. Mandible black with sparse pale setae at lower rim. Antennae black, scape with pale setae and shorter ones of same colorant on flagellomeres. T1 with apical medial pale round spot. T2 with one apical pale spot and two similar spots at lateral apical ends. T4 and T5 with medial pale yellowish round spot. S1–S7 black and apical pale setal fringe. Legs with pale setae.

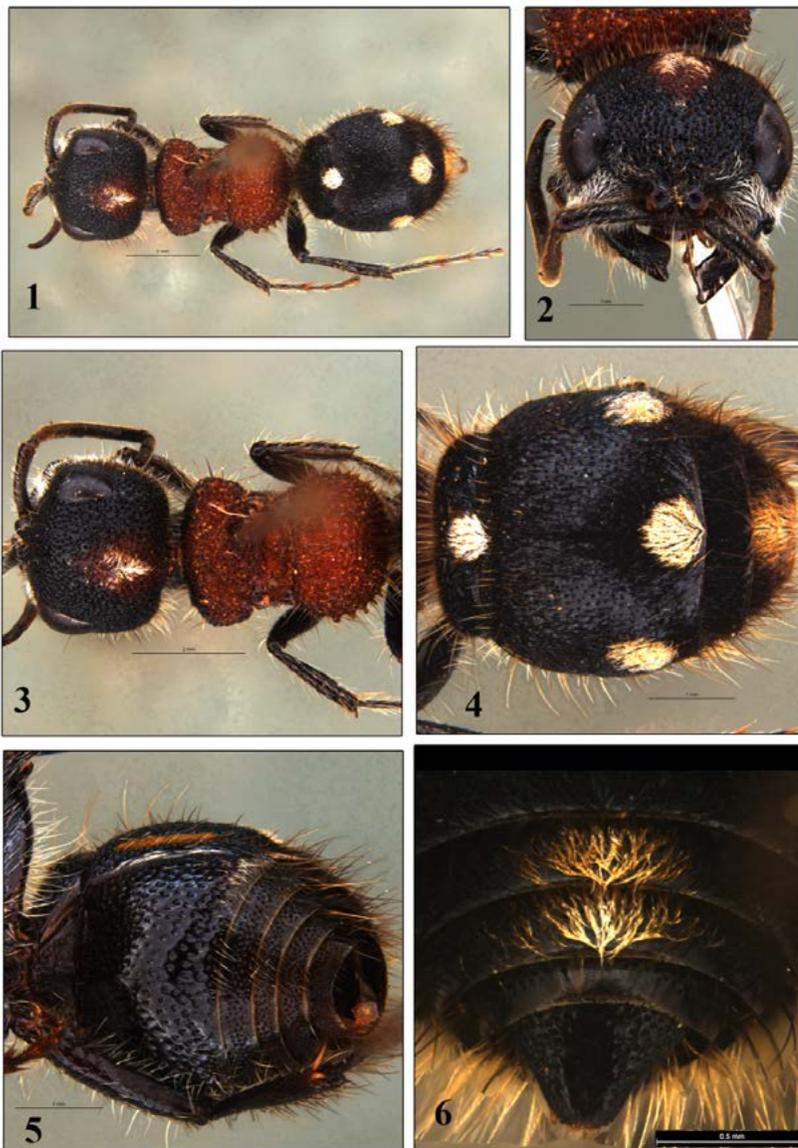
Structure and sculpture. **Head.** Head punctate, slightly flattened in dorsal view, elongated behind eyes, slightly wider than mesosoma. longitudinal eye diameter 0.59 × minimal distance between eyes, eyes not emarginated. Mandible punctate-alveolate, widened apically. Clypeus medially deeply emarginated. Ratios of pedicel length and F1–3 0.182: 0.431: 0.348: 0.324.

Mesosoma. Maximal mesosoma width 0.9 × head width behind eye. Mesosoma dorsally reticulate, with distinct suture traces, laterally deeply indented at the region of meso–metanotal suture. No traces of scutellar scale. Mesopleuron and metapleuron micro punctate.

Legs. Mid tibia and hind tibia with one row of spines.

Metasoma. T1 cylindrical, punctate. T2 maximal width 1.44 × T1 maximal width. T2 with pale yellowish lateral felt line. T7 laterally punctate-alveolate, medially smooth. S1–7 punctate.

Material examined. 1 male, INDIA, Tamil Nadu, Thenkashi district, Ukkonam, 8.9515°N, 77.337°E, 165m, 27.VII.2019,



FIGURES 1–6. *Spilomutilla eltola* (Cameron, 1898), male. 1. Habitus, dorsal view; 2. Head, frontal view; 3. Head and mesosoma, dorsal view; 4, 6. Metasoma, dorsal view; 5. Metasoma, ventral view.

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Distribution. India (Tamil Nadu)*, Sri Lanka.

Remarks. The specimen from India varies from that of Sri Lanka in following attributes: 11 mm body length in Indian specimen (9 mm body length in Sri Lankan specimen). Legs black in Indian specimen (Legs brownish in Sri Lankan specimen).

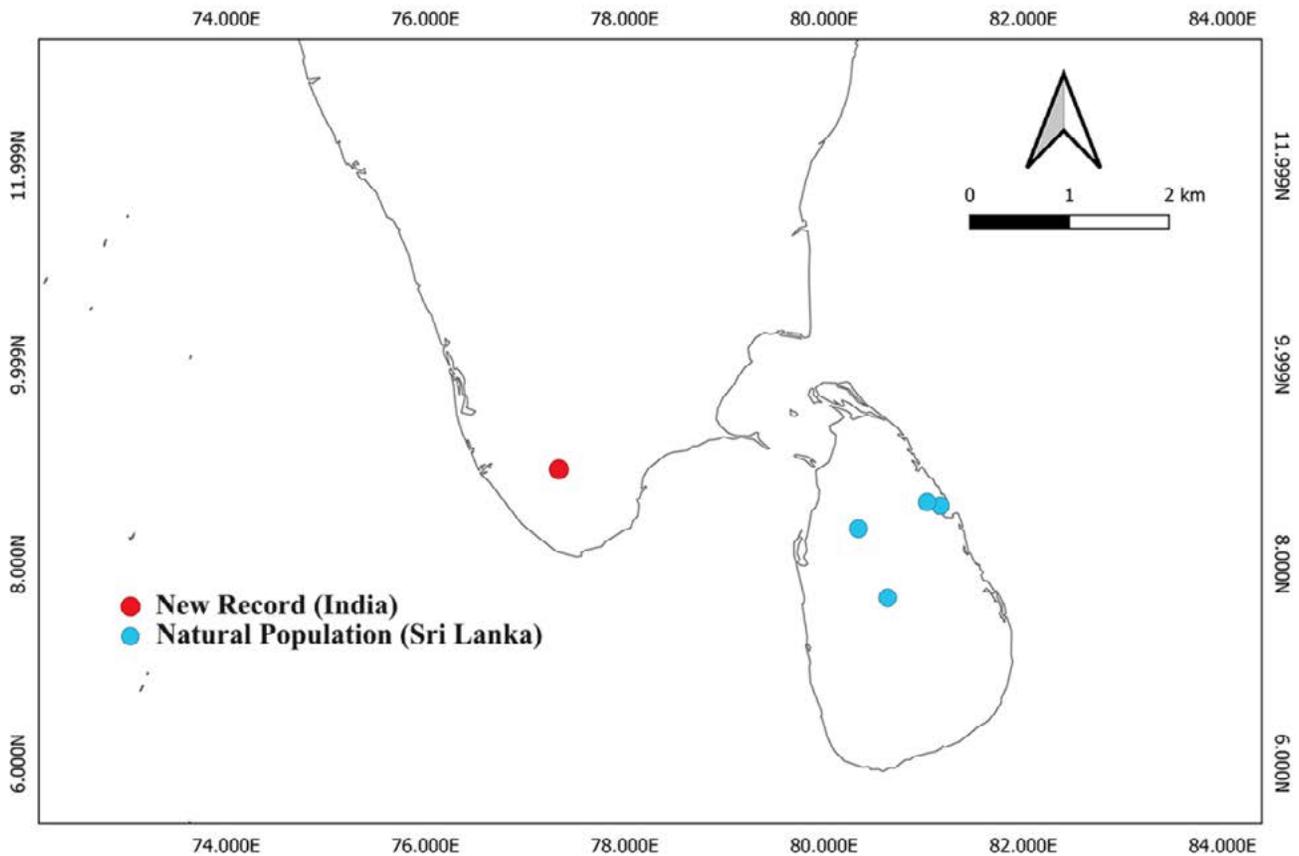


FIGURE 7. Distribution Map of *Spilomutilla eltola* (Cameron, 1898).

Discussion

During Mesozoic era Sri Lanka was geologically connected to Madagascar, Africa, Southern India and Antarctica (Dissanayake and Chandrajith, 1999), about 180 Mya Gondwana broke into numerous continents which includes India (including Sri Lanka), South America, Africa, Madagascar, Antarctica and Australia (Dittus, 2017). As a result of the glaciation in Antarctica lowered the sea level which opened the land bridge. The periodic low sea levels in the Pleistocene opened the land connection to India and it facilitated two-way dispersion across the Palk Strait (Cooray, 1984). So, there is high probability to find Sri Lankan species in India and vice-versa. Also, Western Ghats of India and Sri Lanka are included among the first 18 global biodiversity hotspots due to high levels of species endemism (Gunawardene *et al.* 2007). Further, elaborate studies are

needed that include extensive surveys for observation of the mutillid behaviour, collecting them for identification, prey-predator interaction, etc. This could favour the discovery of still unknown facts of mutillids both from India and Sri Lanka.

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