



### First report of lance lacewing, *Spilosmylus tuberculatus* from the Western Ghats

In India, 16 species of lance lacewings (Order Neuroptera: Family Osmylidae) belonging to 8 genera and 3 subfamilies have been reported, but there has not been a single species reported from the Western Ghats region (Winterton *et al.* 2019, Singh *et al.* 2020). *Spilosmylus* Kolbe 1897 is the dominant genus of the Subfamily Spilosmylinae and only four species: *S. darjeelingensis* Ghosh, 2000, *S. lineatocollis* (McLachlan, 1870), *S. pretiosus* (Banks, 1931), and *S. tuberculatus* (Walker, 1853) have been reported from India. *Spilosmylus tuberculatus* is a widespread species in eastern and southern Asia, but the species has not been reported so far from the Western Ghats region of India. *Spilosmylus tuberculatus* has been formerly reported from Balaghat (Madhya Pradesh), Assam, Andaman Islands and Maharashtra (Ghosh 1980, Ghosh 1983, Ghosh 2000, Chandra & Sharma 2009, Chandra *et al.* 2011). Here we report it as the first record of the family Osmylidae from the Western Ghats.

The adult specimens of *S. tuberculatus* were collected using a sweep net from semi-closed forest (Fig. 1). The specimens were killed with 2 to 3 drops of ethyl acetate using a killing jar. After this, specimens were dried and held on entomological pins with proper labelling. The specimens were examined under the Labomed Luxeo 6Z Stereomicroscope. The terminology of wing venation and identification followed Breitkreuz *et al.* (2017) and Winterton *et al.* (2019) respectively. Digital photos of the specimens were taken with a Canon 7D Mark II digital camera with a 100 mm F/2.8L macro lens. The specimens were deposited (SERLNR168, SERLNR169) in the insect collections of Shadpada Entomology Research Lab (SERL), Kerala, India. The diagnostic characters of the genus *Spilosmylus* are forewing hyaline with less extensive markings and CuA (Cubitus Anterior) region in hind margin of

forewing with embossed bulla (sometimes absent) (Winterton *et al.* 2019).



**Figure 1.** The habitat of *Spilosmylus tuberculatus* in Janakikadu, Kerala, India

***Spilosmylus tuberculatus* (Walker, 1853).** A male and female specimen were collected from Janakikadu (11°37'36.94"N, 75°47'27.83"E, alt. 29 m a.s.l.) of Kozhikode District, Kerala state, India on 14 August 2021. Head and two basal segments of antennae dark-brown and rest of antennal segments light yellow (Fig. 2). They measured 10 mm in length from head to abdomen and were 2 mm wide. Pronotum, mesonotum and metanotum dark-brown with black and white hairs. Hyaline broad wings with brown veins. Forewing with single m-cu (medio-cubital) crossvein before MA-MP (Median Anterior- Median Posterior) fork. Forewing 20 mm long and 8 mm wide. A dark-brown embossed bulla with yellow stripes on hind margin towards CuA region of the forewing. Pterostigma yellowish. Hindwing narrower than forewing (18 mm long and 6 mm wide) without bulla. Abdomen dark-brown with small white hairs. Females are easily distinguished from males by their enlarged gonocoxite 9, which is closely associated

anteriorly with gonopophysis 9 with two separate sclerites clearly visible. The specimen characters look similar to the type specimen (Martins & Price 2020) in the Natural History Museum, London, UK.

The taxonomy of the Osmylidae is poorly studied in India due to lack of experts in this field. The climatic zones of the Western Ghats are conducive to the survival of lance lacewings. A detailed study of this group in the region would be likely to reveal new species and new distributional records. Hence, we recommend a detailed taxonomic exploration of the Osmylidae from the Western Ghats.

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## Plate 10

A



B



**Figure 2.** The habitus of *Spilosmylus tuberculatus*: (A) a female and (B) a male, collected from Janakikadu, Kerala, India