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## Evidences of two male morphs of *Abscondita promelaena* (Walker) (Lampyridae: Luciolinae) in Sri Lanka

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The pale-yellow firefly, *Abscondita promelaena* was originally described from Sri Lanka. Two male morphs (M1 & M2) of *Abs. promelaena* have been recorded from Uva Province, Sri Lanka in 2011. There were no previous records of morphs of *Abs. promelaena* in Southeast Asia. Present study aims to further investigate the taxonomic and ecological evidence of M1 and M2 of *Abs. promelaena* in four selected habitats in Uva Province. The selected habitats were grassland, freshwater associated land, paddy field and forest from Wellawaya, Welimada, Bandarawela and Ella locations respectively. Males of *Abs. promelaena* were collected from 50 m<sup>2</sup> sampling area selected in each habitat from 18.00 to 20.00 by four sampling visits (January, February, July and August) in 2020. Two morphs were counted in the field. Twenty specimens of each morph were preserved in 70% ethanol and brought to the laboratory to take measurements and to dissect the genitalia. Nine morphometric measurements were obtained using light microscope (Nikon-ECLIPSE-E100) from a total of 174 (M1) and 126 (M2) specimens, and a comparative character examination was carried out. Both morphs recorded a similar dorsal colour pattern, i.e., pale-yellow elytra and pronotum, and dark brown mesoscutellum. Measurements of total width, pronotum width, elytral width, light organ width and antenna length are in similar range for both morphs. There were no observed differences in aedeagus, aedeagal-sheath, and flashing patterns of both morphs. They showed dissimilar ventral morphology, i.e., sternites 4 and 5 are black in M1, while only sternite 5 is black in M2. Total length, pronotum length, elytral length and light organ length of M1 are longer than those of M2. M1 is morphologically similar with the type. M1 showed high relative abundance in grassland, paddy field and forest habitats (52%, 56% and 54%) than M2 ( $p>0.05$ ). M2 showed a significantly high relative abundance (73%) in freshwater associated habitat ( $p<0.05$ ). In addition to the recorded morphological and ecological evidence, a molecular approach is suggested to confirm whether M1 and M2 morphotypes belong to the same species or not.

**Keywords:** *Abscondita promelaena*, Male morphs, Taxonomic ambiguity, Ecological evidence, Uva Province

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