



Section D

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Distribution and habitats of the firefly, *Luciola cingulata* (Olivier) (Coleoptera; Lampyridae; Luciolinae) in Sri Lanka

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Luciola cingulata is originally described by Olivier in 1885 from Ceylon with a brief description of its taxonomic characters. The Geographical list of Luciolinae in South East Asia by Ballantyne, 2010 reported that, *L. cingulata* has been recorded from Burma, China, Cambodia, Ceylon, Indonesia and India. However, an ecological study of *L. cingulata* has never been conducted in Sri Lanka. Therefore, the present study was conducted to investigate the distribution and habitats of *L. cingulata* in Sri Lanka.

The survey was carried out from 2010 to 2012. All nine provinces of Sri Lanka, namely, Central, Eastern, Northern, North-Central, North-Western, Sabaragamuwa, Southern, Uva and Western were selected. Three habitat types, fresh water associated, terrestrial grassland and paddy cultivation of each Province were investigated for the presence of *L. cingulata*. Data were collected from 5.30 p.m. to 10.00 p.m. in a selected 100 m² area of each habitat type and adults were collected using a standard hand net. A total of eight sampling occasions were carried out in all provinces during the study. Regional and habitat abundance and distribution occurrence in time periods of year were calculated.

The results revealed that *L. cingulata* was recorded from 3 provinces; Uva, Sabaragamuwa and Southern. The highest abundance was recorded from Sabaragamuwa Province (52.71%) while the lowest abundance was from the Southern Province (17.25%). The percentage habitat abundance of *L. cingulata* was highest (56.23%) in habitats associated with fresh water and it indicated that the immature stages of the species might be aquatic or semi aquatic. The lowest percentage was recorded in paddy cultivated areas (15.65%). *L. cingulata* was recorded from every month of the year and in Uva Province, abundance was high from January to April in 2011. *L. cingulata* was highly abundant from April to October in the Sabaragamuwa Province while high abundance was recorded from January to April in the Southern Province.

The findings of the present study will provide information to fill the gaps of ecological and bio-geographical variations of Sri Lankan firefly fauna and for insect biodiversity to some extent.

Keywords: Distribution, habitats, *L. cingulata*, Sri Lanka