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A taxonomic survey of fireflies (Coleoptera: Lampyridae) in selected sites of Rammale Forest Reserve, Southern, Sri Lanka

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Fireflies are a group of charismatic insects, and they are important for the sake of tourism and biodiversity. Information on fireflies associating with forest ecosystems in Sri Lanka is still scarce. Hence, the present study was aimed for investigating the firefly fauna in Rammale Forest Reserve (RFR), southern, intermediate zone, Sri Lanka. The study was conducted from December 2022 to May 2023. Six visual encounter surveys were conducted once per month using 10 randomly selected sampling points (radius = 3 m) in the RFR. Six sampling points in terrestrial areas and four points in freshwater-associated areas were selected. Fireflies at selected sampling points were observed from 17.30 to 22.00 in each survey. In the study, 13 species of fireflies among 10 genera, namely *Abscondita* (*Abs. perplexa* and *Abs. promelaena*), *Luciola* (*L. candezei* and *L. nicolleri*), *Diaphanes* (*D. lutescens*), *Pygoluciola* (sp1 and sp2), and one from the genus *Asymmetriacta* (*A. humeralis*), *Curtos* (*C. costipennis*), *Lamprigera* (*L. tenebrosus*), *Sclerotia* (*Scl. substriata*), *Harmatelia* (*H. bilinia*), and *Eugeusis* (*E. palpator*), were recorded. Among them, *H. bilinia*, and *E. palpator* are endemic to Sri Lanka. *Pygoluciola* sp1 (n = 78, 19.5%), *Abs. perplexa* (n = 76, 19%), *Abs. promelaena* (n = 64, 16%), *Pygoluciola* sp2 (n = 53, 13.2%) and *A. humeralis* (n = 45, 11%) were common species in RFR, while the rest of the 8 species were recorded as less abundant fireflies in the forest. Three species, *Scl. substriata*, *Pygoluciola* sp1 and sp2, were recorded from water-associated areas, and the other 11 species were recorded from terrestrial areas. Terrestrial habitats consisted with moderate canopy of intermediate trees and water associated habitats mainly contained ferns and other riparian vegetation. Both types of habitats are free of human-induced disturbance. This baseline survey is vital as the first taxonomic survey of fireflies in RFR, and its findings will crucially support enhancing the information on firefly biodiversity in Sri Lanka.

Keywords: Lampyrids, Rammale Forest Reserve, Southern-Intermediate zone, Sri Lanka

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