

### **Diversity of Butterflies in Horagolla National Park, Sri Lanka**

P.H.M.G.C. Priyadarshana<sup>1\*</sup>, R.A.H. Dilrukshi<sup>2</sup> and M.P. Gunawardena<sup>1,2</sup>

<sup>1</sup>*Biodiversity Educational Research Initiative (BERI), Le cube, No. 130,  
High Level Road, Colombo 06, 00700, Sri Lanka*

<sup>2</sup>*Faculty of Science, Horizon Campus, Malabe 10115, Sri Lanka*

*\*priyadarshanachathural@gmail.com*

Butterflies play an important role in the environment as pollinators, in natural pest control and as model organisms to study habitat loss, fragmentation, and climate change. However, over the past few decades, the butterfly population has been affected negatively due to anthropogenic activities such as deforestation and urbanization which lead to environmental degradation. Therefore, a study was conducted in the smallest national park in Sri Lanka, the Horagolla National Park (33.6 acres) which is located in the Gampaha District with the objective of assessing the contribution of small protected areas for the diversity and conservation of butterflies. Sampling for butterflies was done two times per day, in the morning (8.30 am-10.30 am), and afternoon (1.30 pm-3.30 pm) for four months, from October 2019 to January 2020. Butterflies present within 5 m on either side of two line transects, each 1 km in length, were recorded. According to the observations, 79 individuals belonging to 15 species representing 3 Lepidoptera families were present in Horagolla National park. Out of the recorded species, 10 species are migratory indicating the presence of migratory butterfly species within the park. Shannon and Simpson's diversity indices depicted a relative diversity of 2.03 and 0.15, respectively. The most dominant butterfly species recorded were Common Grass Yellow (*Eurema hecabe*), Psyche (*Leptosia nina*), Common Evening Brown (*Melanitis leda*), and Jezebel (*Delias eucharis*), with a relative abundance of 27.85%, 18.99%, 13.92%, and 12.66%, respectively. Since flowering plant density is low in the park, butterfly diversity is low compared to man-made flower gardens. However, the study indicates that small protected areas can also act as refuges for butterflies in highly fragmented, changing landscapes. Through further research and studies, integrated conservation actions should be implemented to manage the influence of anthropogenic activities.

**Keywords:** Butterflies, Horagolla, National park, Small protected areas, Western province