

(ID 224)

A Comprehensive Butterfly Checklist and Conservation Assessment at Baddagana Wetland Area, an Urban Ecosystem in Sri Lanka

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Abstract

Butterflies are obtrusive creatures of the nature belonging to Class Insecta, Order Lepidoptera in biodiversity classification hierarchy. The primary objectives of this study were valuating the diversity of butterfly species found in the Baddagana wetland, assessing their current conservation status, and proposing conservation action to protect these enigmatic creatures in their unique habitats. Data was collected in Baddagana wetland area from August to October 2023. In order to maximise sampling effort, three sessions per day were allocated for the visual encounter survey, which was carried out between 8:00 am, and 6.00 pm at pre-determined locations. Thus, most of the butterfly species were observed 8:00 am to 11.00 am and 12.00pm to 02.00pm. Field notebooks were used for documenting comprehensive observations. The identification of butterfly species was based on field guides. Throughout the study, observations showed that 15 butterfly species, belonging to 4 families, were present. 30 butterflies were the average per day. Most common and frequent species were Psyche (*Leptosia nina*), Glassy Tiger (*Parantica aglea*), Common Crow (*Euploea core*), and White-four ring (*Euploea core*) in the wetland habitat. On the other hand, the Lime Butterfly (*Papilio demoleus*) and Great Eggfly (*Hypolimnas bolina*) were noted as uncommon or rare species in the area according to the study. Of the species of butterflies that were observed, one was classified as vulnerable (Blue Glassy Tiger/*Ideopsis vulgaris*) and 14 were considered least concerned according to the 2012 Red List assessment. These finding shed light on the basic understanding of the diversity of butterflies that inhabit the Baddagana Wetland. The butterflies observed in this area emphasise how crucial this unique habitat is for conservation efforts as most of the species were absent or less common outside the wetland habitat. In order to increase butterfly populations while promoting the conservation of these creatures, this study suggest growing appropriate feeding and host plants in the wetland area. The dataset created by this study will be starting point for future research and plan future habitat enrichment in this area.

Keywords: Butterfly diversity, Lepidoptera, Baddagana wetland, Conservation, Urban ecology