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Studies on the most active time period and spatial distribution of butterfly species in the Kiralakelle Wetland in the Matara District

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Lepidopteran species are known to exhibit species-specific activity patterns and habitat utilization to reduce interspecific competition and for protection from predators. These behavior patterns could be more complex and unique in natural habitats of Sri Lanka, a country which possesses rich biodiversity including 244 butterfly species. The present study investigated the most active time period and spatial distribution of butterflies in different strata of vegetation in Kiralakelle, an important urban wetland in the Matara District, which provides shelter for a large number of animal species. Based on the high abundance of butterflies, a major butterfly trail in the wetland was selected for the present study. The most active time period of butterflies and their use of different vegetation strata in the selected trial were recorded. This study was based on the flying activity and resting behavior of butterflies, which was monitored continuously from 0700 to 1800 hrs, twice a month from June to November 2008.

Twenty four species of butterflies were observed during the study period. Results revealed that, only one species of butterfly utilized the highest vegetation strata (>2m). Eight species of butterflies occupied the ground layer (1m>) and five species were recorded in the middle layer (1 - 2m). Accordingly, the highest number of butterfly species was distributed at ground level vegetation when compared to the other strata. Danaid butterflies were found mostly in the middle strata, while Pierids, Nymphalids and Papilionids occurred both in the middle and upper layers. Results of the active time period of butterflies revealed that, only three butterfly species namely Banded Blue Pierrot (*Discolampa ethion ethion)*, Common Mormon *(Papilio polytes romulus)* and Common Pierrot (*Castalius rosimon)* were active throughout the day, from 0800 to 1630 hrs. Activity times of other butterfly species varied throughout the day. Most of the butterflies belonging to families Papilionidae and Danaidae were most active during midday, whereas most Satyrids were active at dawn and dusk. These results confirm that the most suitable time period to watch butterflies in the Kiralakelle wetland is between 0900 to 1500 hrs. These findings could be effectively incorporated into the developmental plan of an eco-learning centre in the future.

Keywords: active time, butterflies, Kiralakelle, vegetation strata.