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Diversity and distribution pattern of butterflies at Northern flank of Knuckles region, Sri Lanka

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Abstract

One influencing factor for the distribution pattern of the butterflies is the availability of nectar resources and the larval feeding plants. The feeding plant preferences of butterflies are rarely being studied. A study on butterflies was carried out at the Northern flank of the Knuckles region from January to April 2012 to find out how butterflies are distributed and interact with plants. Three different sites namely Mahalakotuwa, Attanwela and Bellanela were selected. A linear transect of 1km each was selected at each site for sampling and each transect was trekked for 1.5 hours to sample butterflies using the standard 'Pollard Walk' methodology. The feeding plants of the adult butterflies were recorded. The Shannon index (H') was used to compare the diversity of butterfly species within sites. A total of 58 species were recorded from all three sites. The highest diversity of butterflies was recorded from Bellanela (H' -3.87) representing all 58 species. The lowest number of butterflies was from Attanwala with 46 species (H' -3.526) and Mahalakotuwa had 48 species (H' -3.602). The study recorded eight endemic species and all of them were recorded from Bellanela. 7 species of butterflies were common during the study. Common butterflies at Mahalakotuwa Bellanela and Attanwala were Chocolate soldier (*Junonia iphita*), Common leopard (*Phalantha phantha*) and Jezebel (*Delias eucharis*) respectively. Some of the rare butterflies like Blue Admiral (*Kaniska canace*), Painted Lady (*Vanessa cardui*), Black flat (*Celaenorrhinus spilothyrus*), Indian Fritillary (*Argynnis hyperbius*), Hedge hopper (*Baracus vittatus*) and water snow flat (*Tagiades litigiosa*) were confined to Bellanela. A total of 25 plant species including 12 plant families were used by adult butterflies for feeding. Introduced plant species such as *Lantana camara* and *Austroeupeatorium inulifolium* were heavily utilized ((56%) of the butterflies) probably due to nectar being present in their flowers during the study period. The conservation of feeding plants is essential for the protection of butterflies. This study has shown that Northern flank of Knuckles hold rich and unique butterfly assemblages. The habitat loss may result in population loss and extinction of many of these valuable butterfly species.

Key words: extinction, distribution, protection, population loss