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Species composition, abundance and distribution of butterflies associated with selected home gardens in "Hanguranketha", Nuwara Eliya district, Sri Lanka: A preliminary study

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The species richness, abundance and distribution of butterflies associated with a home garden, which was comprised of three micro-habitats; a grassland [GL], shrubland [SL] and disturbed-forest [DF], at "Hanguranketha" region, Nuwara Eliya district, was determined for a period of four months using a visual encounter survey. A 100m transect was established at each of the habitats and the butterflies encountered at a distance of 5 *m* from each side of the transect were recorded weekly from 9.00 am to 11.00 am and 3.00 pm to 5.00 pm. Diversity and evenness were estimated using the Shannon-Weiner diversity index. Species identification was based on taxonomic keys and field guides. A total of 32 species were encountered representing five families, *Hesperiidae*, *Lycaenidae*, *Nymphalidae*, *Papilionidae* and *Pieridae*. Two species were reported as endangered, while 10 were endemic sub-species. These families occurred in all the three habitats, with the exception of *Papilionidae* in the GL. *Nymphalidae* was the most diverse family in DF (35 %) and SL (48 %) whereas *Lycaenidae* and *Nymphalidae* made up the most diversity in the GL (37 %). The DF harbored the highest species richness (88 %) and GL had the lowest (34 %). Altogether, 873 individuals were detected over four months. The abundance was found to be similar ($p > 0.05$) in the DF and SL, but lower ($p < 0.05$) in the grassland compared to the other two habitats. The maximum relative abundance was detected (61 %) in the *Nymphalidae*, while *Hesperiidae* showed the second highest abundance. The highest diversity (H, 2.91) was recorded in the DF with 0.876 evenness. Butterfly counts in the morning hours outnumbered the evening hours ($p < 0.05$). A reduction in butterfly counts ($p < 0.05$) was detected during November and December. The findings of this study revealed that this home garden is rich in butterflies and proper conservation mechanisms are essentially needed to protect them.

Keywords: *Abundance, Butterflies, Diversity, Habitats, Species.*