

BUTTERFLY SPECIES DIVERSITY IN SALAIMBAKULAM, PAMBAIMADU, VAVUNIYA, SRI LANKA

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Butterflies are one of the widely spread insect community that plays a vital role in the biosphere and very sensitive to weather, climate change and habitat disturbance. Land use pattern and climate change influence the butterfly diversity and abundance due to modifying its microhabitats. Therefore, butterflies indicate how healthy a given ecosystem based on their distribution. As Salaimbakulam, Pambaimadu, Vavuniya has been urbanizing due to the establishment of new university, this study focused on the influence of land use patterns and hydro-climatic factors on butterfly diversity and abundance. Data collections were done via visual encounter survey (within 5m³ imaginary box along a total of 700m transect) for 3 times per month during October, 2019 - March, 2020. A total of 2098 individuals of butterflies belongs to 45 species and 4 families of order Lepidoptera were recorded and Shannon – Wiener's diversity index was estimated. Rainfall and air temperature were obtained from Meteorology Department, Vavuniya. The family Pieridae was the most dominant with 902 individuals representing 10 species and contributed 42.9% of the total individuals of butterflies. The family Nymphalidae was the second largest dominant family with 799 individuals representing 18 species and followed by family Papilionidae (4 species) and Lyceanidae (13 species) that recorded during the study period. *Euremahecebe* and *Ypthimaceylonica* were dominant species and this may be due to the available host plant like *Heliotropium indicum* and *Lantana camera* and the adaptability to the weather conditions. Maximum and minimum diversity index was observed as 2.98 and 1.99 during October and December respectively. Lower diversity in December may be due to the considerable rainfall (349.3mm), low air temperature (26.2⁰C), beginning of agricultural activities and human disturbance on this site. Conclusively, extreme weather events due to climate change impacts on butterfly diversity and abundance are inevitable. However, impacts of land use patterns via agriculture and urbanization on the microhabitats of butterflies should be minimized for conserving butterfly diversity in this region. Therefore, unnecessary removal of the native host plants and planting of non-native ornamental plants should be considered within the university premises and frequent monitoring of butterfly diversity via research activities in this region is essential.

Keywords: butterfly diversity, Pambaimadu, weather, host plants.