

Diversity of Avifauna at Two Altitudes in the Northern part of the Knuckles Mountain Range

W. M. Sriyani¹, U.K.G.K. Padmalal² and S.W. Kotagama³

¹*Department of Biological Sciences, Faculty of Applied Sciences,
Rajarata University of Sri Lanka, Mihintale*

²*Faculty of Natural Science, Open University of Sri Lanka, Nawala, Nugegoda,*

³*Faculty of Science, University of Colombo, Colombo 3*

Knuckles Forest Range has been identified as a unique biological resource in Sri Lanka with high biodiversity. Despite the high biodiversity of this region, only a few taxa have been studied. Most of the avifaunal studies have been restricted mainly to the same altitudes of different geographic localities and not to different altitudes in the same geographic locations. The selected study sites Riverston (1387 m) and Pitawalapatana (855 m) are located on the northern part of the Knuckles region in the Kandy district. This area has been subject to anthropogenic activities, which have decreased the habitat quality and a decline in the resident biodiversity has occurred. The present study was carried out from April 1998 to January 1999 to investigate avifaunal diversity and abundance at the two different altitudes.

Line transects and opportunistic methods were used for data collection. Eight belt transects each of 300 x 50 m and 400 x 50 m were selected at Riverston and Pitawalapatana respectively, in order to determine the species diversity and abundance of birds. One hundred species of birds were recorded during the study that included 14 species of migrants and 13 endemic species. The species abundance and richness were significantly different between the two altitudes. The number of species observed in Riverston was 16 while 56 species were encountered in Pitawalapatana. Thirty one species were recorded in both sites. Shannon Diversity and Shannon Evenness indices were calculated for the two sites to determine species diversity and species evenness. Shannon Diversity Index (H') for Riverston was 3.05 whereas it was 3.46 for Pitawalapatana. The results indicate that the diversity index was highly significant between the two sites ($p < 0.001$). The avifaunal diversity at different forest habitats (edge, undisturbed, disturbed and riparian) from the same altitude also varied. Highest species diversity was shown in Riverston disturbed forest ($H' = 2.91$) while in Pitawalapatana the highest diversity was in the riparian habitat ($H' = 3.25$). However, the evenness ($H'_{max} = 0.8$) of the disturbed habitat at Riverston was less compared to the other three habitats which indicate that some species were dominant within that particular habitat while some species had disappeared. According to the floristic composition some groups of birds preferred undisturbed habitats while others were restricted to mixed vegetation habitats. The range of species distribution along the northern part of the mountain range differed depending on food availability and the habitat conditions.