

Structure of Mixed Species Bird Flocks in Montane Forest Habitats of Horton Plains National Park**Kalhari T.* , Mahaulpatha W.A.D.**

Department of Zoology, University of Sri Jayewardenepura, Nugegoda, Sri Lanka
**terani.kalhari94@gmail.com*

Abstract

Mixed species bird flocks (MSBFs) are distributed worldwide and can be reached their maximum diversity in temperate forests during the non-breeding season and in tropical rainforests year round. The structure of MSBFs can be explained using vertical and horizontal distribution of flocks. MSBFs were observed in the tropical montane cloud forest habitats of Horton Plains National Park (HPNP) from December 2017 to October 2018. As soon as a mixed species flock was met, the vegetation was scanned thoroughly from the canopy layer down to the forest understory to identify the vertical structure of all flock participants. Height which each participant occupied was visually estimated. Horizontal distribution was determined by standing at a fixed point, and recording the order in which each species appeared and disappeared as the flock went past the observation point. The Crossing score values were calculated. Scarlet Minivet utilised the highest canopy height and Sri Lanka Bush Warbler utilised the lowest canopy height. Great Tit occupied a higher range of canopy height than other species. There were nine species who led the MSBFs. Sri Lanka Orange-billed Babbler was the most specific leading species and Scarlet Minivet was in the second place. Sri Lanka Yellow-eared Bulbul had the least possibility to lead a flock. Great Tit, Grey-headed Canary Flycatcher, Sri Lanka White-eye and Sri Lanka Scimitar Babbler had higher chance to lead MSBFs because Sri Lanka Orange-billed Babbler and Scarlet Minivet were not common in MSBFs and they were not frequent flocking species. Sri Lanka Orange-billed Babbler had the least crossing score value (0.18 ± 0.15) and Sri Lanka Bush Warbler had the highest crossing score value (0.89 ± 0.12). Sri Lanka White-eye, Great Tit, Sri Lanka Scimitar Babbler and Velvet-fronted Nuthatch utilised a wide range of crossing score values in the MSBFs. The vertical and horizontal structure of the MSBFs indicates the niche partition between the flocking species. Findings of this study can be utilised for the conservation measures within these habitats.

Keywords: Mixed species bird flocks, Vertical structure, Horizontal structure, Crossing score