



INTERACTIONS OF SRI LANKA YELLOW-EARED BULBUL (*Pycnonotus penicillatus*) IN THE MIXED-SPECIES FEEDING FLOCKS AT TROPICAL MONTANE CLOUD FORESTS OF HORTON PLAINS

Chandrasiri P.H.S.P., Dharmarathne W.D.S.C. and Mahaulpatha W.A.D.*

Department of Zoology, University of Sri Jayewardenepura, Sri Lanka

mahaulpatha@sjp.ac.lk

ABSTRACT

Interactions of Sri Lanka Yellow-eared Bulbul (*Pycnonotus penicillatus*) in the Mixed-Species Feeding Flocks (MSFF) at Horton Plains National Park (HPNP) was studied from September 2015 to May 2018. *P. penicillatus* is an endemic threatened bird, assessed under IUCN global conservation status of Near Threatened (NT) and the national conservation status of Vulnerable (VU) categories. The objective of this study was to fulfil the research gaps about the interactions of *P. penicillatus* in MSFF. When a flock was encountered composition of the MSFF was studied. Vertical and horizontal distribution of each species within the MSFF was recorded. Feeding sites and feeding methods were observed. Roles of the species were classified according to their occurrence. Flocking frequency, flocking propensity, crossing score, correlation of occurrence of species, cluster analysis, Cole's coefficient of association and niche breadth of *P. penicillatus* was appraised. *P. penicillatus* was participated in 84.52 % (n=213) of the MSFFs. Twenty bird species and two mammal species were associated with *P. penicillatus*. Flock propensity was 64 % and they were a core species in the MSFFs. There were 4.42± 2.17 individuals participated per MSFF. Vertical distribution of *P. penicillatus* was 5.60± 1.13m and horizontal distance between individuals was 12m. There was a positive correlation between number of species in the MSFF and total number of individuals (Spearman rho = 0.691, P-Value < 0.05). Furthermore, there was a positive correlation between number of species in the MSFF and number of individuals of *P. penicillatus* (Spearman rho = 0.215, P-Value < 0.05). Moreover, there was a positive correlation between total number of individuals and number of individuals of *P. penicillatus* (Spearman rho = 0.461, P-Value < 0.05). They highly utilized the canopy layer of the forest (45%) and the niche breath of the foraging height was 0.739. Twigs and small branches were their main foraging substrate (42%) and niche breath of foraging substrate was 0.701. Gleaning was their major foraging method (86%) and niche breath of foraging method was 0.377. They usually crossed in the middle position of the MSFFs. There were ten species with significant associations with *P. penicillatus* in the MSFFs. The dendrogram has confirmed that the Great Tit (*Parus cinereus*), Dark-fronted Babbler (*Rhopocichla atriceps*) and Pale-billed Flowerpecker (*Dicaeum erythrorhynchos*) are the close associates with *P. penicillatus*. Conclusively, the present study affirmed the *P. penicillatus* is a core species with enormous interactions in the MSFFs. Hence habitat protection is the major enforcement to warrant the protection of *P. penicillatus* for the future. To achieve that, the remnants of Tropical Montane Cloud Forests need to be protected. Therefore, this research will guide the management approaches to keep mixed-forest zones as forest belts in the surrounding forest plantations to make passages to move between feeding habitats. Moreover, this will encourage to practice mixed tree plantations techniques to authenticate habitat protection of MSFFs correspondingly.

Keywords: Sri Lanka Yellow-eared Bulbul (*Pycnonotus penicillatus*), Mixed-Species Feeding Flocks, Horton Plains, Endemic Birds, Tropical Montane Cloud Forests