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Spatial Distribution of Fishing Cat (*Prionailurus viverrinus*) in Selected Wetlands of Colombo Ramsar Wetland City using Camera Traps

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Abstract

The first wetland capital city in the world, Colombo Ramsar Wetland City (CRWC), provides a diverse array of habitat types intermixed with one another to the faunal and floral communities. In this research, the spatial distribution of Fishing Cat (*Prionailurus viverrinus*) was studied in Baddagana Wetland Park (BWP), Diyasaru Wetland Park (DWP) and Heen Ela Marsh (HEM) located within the CRWC, from June 2021 to January 2022. *Annona* (*Annona glabra*) woodland, mixed woodland, herb dominated high vegetation and herb dominated low vegetation habitat types were selected and camera trap stations were established providing equal trapping effort for each habitat type. Camera trap locations were selected to ensure a sufficient coverage of each wetland. Trap locations were changed every 30 days, and cameras were set to function during both day and night for 24 hours a day. A total number of 2,831 camera trap records belonging to 6 species were identified as meso-mammals. Spatial distribution was determined by the habitat preference of *P. viverrinus* and Relative Abundance Index (RAI) was used for the analysis of preference in each habitat type. It was evident that *P. viverrinus* mostly preferred *Annona* woodlands in both BWP (RAI, 14.4) and DWP (RAI, 12.7). However, the most preferred habitat type in HEM (RAI, 9.1) was mixed woodlands. Herb dominated high vegetation was the least preferred habitat type of *P. viverrinus* in BWP (RAI, 6.7) while herb dominated low vegetation was the least preferred habitat type in both DWP (RAI, 4.7) and HEM (RAI, 3.6). Mixed woodlands were almost equally preferred by *P. viverrinus* in all study sites and the preference of herb dominated low vegetation and herb dominated high vegetation was relatively low in all the study sites compared to other habitat types. This study suggests that the preference of *P. viverrinus* varied among different habitat types and one of the major reasons for *Annona* woodlands being the most preferred habitat type is that they are directly accessible to water. This increases their prey availability within the *Annona* woodlands, compared to the other habitat types. Thus, it is greatly important to conserve the wetland habitat types associated with water, in order to protect and conserve the *P. viverrinus* in Colombo wetlands.

Keywords: Colombo Ramsar Wetland City, Meso-mammals, Camera trapping, Biodiversity, Carnivores