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Preliminary survey on avifaunal diversity in an urban ecosystem: Malabe, Sri Lanka

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Permanent changes caused due to urbanization have resulted in wide-ranging impacts on the avifauna. Altered environmental conditions such as air pollution, artificial light, garbage pollution, different predation pressures and anthropogenic disturbances have pushed the avifauna to its range of tolerance. Therefore, a study was designed to ascertain the avifaunal species diversity of an urban ecosystem: Malabe, with the objective of assessing the contribution of local habitats for the conservation of avifaunal species. Three different habitat types *viz.* Canal along with the terrestrial habitat, habitat with vegetation and urbanized/home garden habitat, were studied using 500 m transects, and bird species within 50 m on either side were recorded three times per day, in the morning (6:30 – 8:30), noon (11:30 - 1:30) and in the evening (15:00 – 17:00), within a period of 12 months from November 2016 to October 2017. As per observations, 8269 birds belonging to 35 species, 21 families and 11 orders were recorded within the area. The Simpson's index and Shannon diversity index were 0.91/3.22, 0.99/2.65 and 0.99/2.53 at the three habitats respectively. The most dominant species recorded were the House crow (*Corvus splendens*), Spotted Dove (*Spilopelia suratensis*), Rose-ringed Parakeet (*Psittacula kramera*), Red-vented Bulbul (*Pycnonotus cafer*) and Yellow-billed Babbler (*Turdoides affinis*) with a relative abundance of 15.82%, 10.59%, 7.66%, 7.62%, and 6.35% respectively. Globally near threatened, Spot-billed Pelican (*Pelicanus philippensis*) was the least recorded species during the study with a relative abundance of 0.04%, which was recorded only during floods in the area. The least diversity was recorded in the urbanized area with a Shannon diversity index of 2.53 and the highest (3.22) was recorded in the canal along with the terrestrial habitat. Therefore, it is evident that these urban habitats act as wildlife refuges in the area and neutralizes the negative effects of urbanization on birds to a certain extent. Thus, proper conservation plans should be implemented through proper research to manage and improve the existing local habitats and thereby protect the avifauna.

Keywords: Avifauna, Diversity, Urban ecosystem, Malabe