

## Species diversity and conservation of avifauna in Mihintale sanctuary, Sri Lanka

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Sri Lanka's avifauna is one of the richest in the whole of Asia and it is the highest species richness among the vertebrate fauna of Sri Lanka. Despite such a wealth in avian species diversity and endemism, very little ecological studies have been carried out in the dry zone. Mihintale sanctuary is one of the important forest reserve situated in the dry zone with scarce information on avifauna. This area has been subjected to anthropogenic activities, which has affected the habitat quality and the resident biodiversity. This was the first detailed study to estimate the avifaunal diversity and its conservation value within this sanctuary. The selected study sites were Kaludiyapokuna forested area (8020'51.752"N and 80030'27.498"E) and Aquatic habitat at Kuda Kirindegama wewa (8020'36.518"N and 80031'34.034"E). The Study was carried out from November 2008 to May 2009. Line transects (200m x 50m) method, point counts and the opportunistic observation methods were used for gather avifaunal data.

Altogether, 109 species of birds belonging to 43 families were recorded, including 90 breeding residents, 19 winter visitors, 4 endemic species and 4 species that are proposed as endemic birds. It included 6 rare species, one very rare winter visitor, *Zoothera citrina* (Orange-headed ground thrush), 6 nationally threatened and one globally threatened species, *Pelecanus philippensis* (Spot billed pelican). The total number of bird species observed at forested and aquatic habitats was 40 and 93 respectively. Shannon Diversity Index ( $H'$ ) for forest habitat was 3.32 whereas it was 3.83 in aquatic habitat. The results indicated that diversity of birds was significantly ( $p < 0.05$ ) higher in the aquatic habitat.

As aquatic habitat provides suitable niches and food resources for many types of birds, species diversity near aquatic habitat is high compared to the forest. Fragmentation of large tracks of forest ecosystem into small patches result in low diversity in the forested habitat. So strategies should be developed to conserve the bird diversity that exists in these forest patches. Lack of sound empirical data on forest fragments is the greatest limitation in devising such a strategy. As birds are useful indicator species of the health of an ecosystem they can be used as focal species to gather data on status of forest fragments and the level of isolation. This will ultimately lead to both conservation of birds and their habitats within the Mihintale sanctuary.

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