

A COMPARISON OF BIRD DIVERSITY BETWEEN THE CORE AREA AND THE BUFFER ZONE OF BODHINAGALA FOREST RESERVE, SOUTHWESTERN SRI LANKA

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Bodhinagala Forest Reserve (BRF) is located in Dhombagaskanda, Ingiriya, within the Kalutara District of south-western Sri Lanka. Based on the floristic composition and structure, it can be defined as a lowland rainforest surrounded by well-wooded home gardens of Bodhinagala village. A rich avifauna has been documented by previous studies conducted in BRF. A thirty-month-long avifaunal survey was conducted from October 2020 to April 2023 using a visual encounter survey with bird calls, and point counts were conducted along a 2,500 m long line transect with 150 m gaps between consecutive points. Birds surveys were conducted between 0600 h and 1000 h, 1400 h and 1800 h. Bird diversity was measured using Shannon (H') and Simpson's (1-D) diversity indices. A total of 314 birds consisting of 82 species belonging to 19 orders and 46 families were recorded in both transects. The Shannon Index and Simpson's Index, respectively, for the core forest area were 3.91 and 0.97, and for the buffer zone, were 3.96 and 0.97. Thirteen endemic bird species were recorded, such as Sri Lanka Swallow (*Cecropis hyperythra*), Red-backed Flameback (*Dinopium psarodes*), Sri Lanka Junglefowl (*Gallus lafayettii*), Green-billed Coucal (*Centropus chlororhynchos*) and Sri Lanka Gray Hornbill (*Ocyceros gingalensis*), while migrant birds such as Barn Swallow (*Hirundo rustica*), Blue-tailed Bee-eater (*Merops philippinus*), and Asian Brown Flycatcher (*Muscicapa dauurica*) were also documented during the study. Species such as Malabar trogon (*Harpactes fasciatus*), Black-backed Dwarf-Kingfisher (*Ceyx erithaca*) and Black-naped Monarch (*Hypothymis azurea*) are uncommon in the lowland wet zone, were frequently observed. Both areas of the forest reserve and buffer zone showed equally high bird diversity. This study identified a rich avifaunal diversity that has not been extensively studied in this reserve. We recommend conducting comprehensive biodiversity surveys to identify potential threats and develop conservation strategies for both the species and their habitats.

Keywords: Bird Diversity, Bodhinagala Forest Reserve, Buffer Zone, Comparison, Core Area