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**AVIFAUNAL DIVERSITY ASSOCIATED  
WITH DIFFERENT  
HABITATS IN WASGOMUWA NATIONAL PARK**

A THESIS PRESENTED

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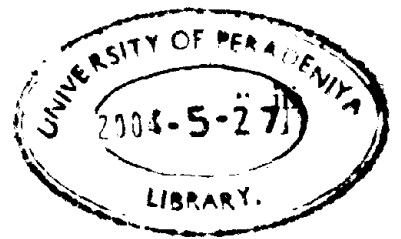
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**Abstract:**

**AVIFAUNAL DIVERSITY ASSOCIATED WITH DIFFERENT  
HABITATS IN WASGOMUWA NATIONAL PARK**

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Wasgomuwa National Park (WNP) is the fourth largest National Park in the Country. It has unique features due to its location in between the intermediate zone and dry zone. The main objectives of this study were to determine the avifaunal diversity, distribution, and abundance in different habitats, and provide information for the scientific management of the WNP.

The survey was carried out at 05 different habitats, with two replicates per habitat. Birds were recorded along a line transect covering 150 X 100 m. Direct observations as well as bird calls were used to confirm the existence of birds in the study sites. Birds were recorded at three time frames and each habitat was covered on 21 occasions during the 03 months field study. The species diversity was analyzed under three categories: species richness indices (Margalef's diversity index, Menhinick's index), species abundance model and indices based on the proportional abundances (Shannon diversity index, Simpson's index) of species. The vegetation of each habitat was described by drawing vegetation profiles.

Within the study period a total of 114 species, belonging to 43 families under 16 Orders were recorded from the Wasgomuwa National Park. The total number of birds recorded

in the study habitats was 4752. The most dominant order was Passeriformes, represented by 41 species in 19 families. Highest number of species was recorded in the riverine habitat and lowest number in the grassland habitat. The highest numbers of individual birds were recorded in the tank habitat and lowest numbers of individuals were recorded in the grassland habitat. A diurnal variation of the existence of birds was observed in every habitat. The Shannon Diversity index was highest in the riverine habitat and lowest in the grassland habitat. There was a significant difference of diversity among study habitats.

This study helped to expand the checklist of birds in the WNP with four new species records. These include the *Lonchura malabarica*, *Ploceus manyar*, *Eremopterix grise* and *Corvus macrorhynchos*. The study area covers less than 0.005% of total land area of the country, but contain more than 50% of native bird species of Sri Lanka which highlight it as an important bird area and hence a should be given a high priority for conservation, education, and tourism. In this study it was revealed that a mosaic of diverse habitats contribute to an increased avifaunal diversity as well as their abundance. Therefore to maintain and enrich the bird diversity the park management should give high priority to conserve the habitat diversity. It is important to note that diversity is the most popular criteria used for conservation evaluation. Study of bird diversity is very important in many aspects. The major reason is the Birds are useful indicators of the quality of the environment, because the health of bird populations highlights the health of our environment. Therefore, bird census and monitoring is an extremely cost-effective way of monitoring the overall health of the environment.