# AVIFAUNAL DIVERSITY IN FACULTY OF APPLIED SCIENCES PREMISES RAJARATA UNIVERSITY OF SRI LANKA

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## INTRODUCTION

Sri Lanka's avifauna is one of the richest in the whole of Asia (Kotagama and Ratnavira, 2010). About 482 bird species were recorded including 220 breeding residents and 26 species endemic to the country (Kotagama, *et al.*, 2010). Although several studies have been carried out previously about the avifauna of Sri Lanka, most of these studies are confined to the wet zone and information on the dry zone avifauna is scarce. In 2008 a detailed study on avifauna was carried out in Mihintale sanctuary which is one of the important sites within the dry zone (Wimalasekara and Wickramasinghe, 2010). The faculty of applied science locates adjacent to the Mihintale forest and provides habitats for different species of birds. Hence the present study focuses to identify the species diversity and feeding ecology of bird species within the faculty premises.

## MATERIALS AND METHODS

The current study was conducted during the period from August to September 2011. Data was recorded during morning from 06.00 hr to 08.00 hr and 16.00 hr to 18.30 hr in the evening for 30 days. Two methods namely line transect method (Bibby et al., 1993) and the opportunistic observation method were used. The area covered during sampling was 500 m x 50 m. The birds were counted within a fixed width of 25 m on either side of the transect. The Faculty of Applied Sciences Premises consists of different types of habitats; ranging dense vegetation to open grasslands. Eastern border of the study site is covered with dense vegetation while the southern border consists of grassland. The open spaces, shaded areas and rocky places are dominating within the faculty premises.

## RESULTS AND DISCUSSION

### Species composition

Altogether, 80 species of birds belonging to 32 families were recorded, including 69 breeding residents, 06 winter visitors, 2 endemic species and 3 species that are proposed as endemic birds. Out of breeding residents recorded in Mihintale, 75% observed in the faculty premises. The total number of bird species observed at edges, open spaces and shady areas. Number of species varies in the morning and evening. Highest number of species (72) was recorded in the morning hours whereas it was 62 in the evening hours. This may be due to the climatic condition of the day. In the evening hours ambient temperature exceeds 35 C° and hence most of the avifaunal species try to avoid open areas. The dominant species within the study site vary with the time period. Yellow billed Babbler (*Turdoides affinis*) and Red vented Bulbul (*Pycnonotus cafer*) were dominant species in the morning and evening hours respectively.

### Diversity and abundance of species

Total numbers of birds fluctuated with the weather factors. Individual numbers were higher during the morning (56.6%) hours than in the evenings (43.4%). The Shannon Diversity Index (H') for morning and evening were 3.37 and 3.24 respectively. There were 18 species highly abundant within the study site. Out of them individual numbers of Rose-ringed Parakeet (*Psittacula krameri*), Purple-rumped Sunbird (*Nectarinia zeylonica*), Scaly-breasted Munia (*Lonchura punctulata*) and Red vented Bulbul were high in the morning. This may be due to the availability of food which is than in near by forest patches. In evenings Spotted Dove (*Stigmatopelia chinensis*), Yellow billed Babbler (*Turdoides Affinis*), Indian Robin (*Saxicoloides fulicata*), Rose-ringed Parakeet (*Psittacula krameri*) and Red vented Bulbul were high because these birds were roosting in the faculty premises (Figure 1)

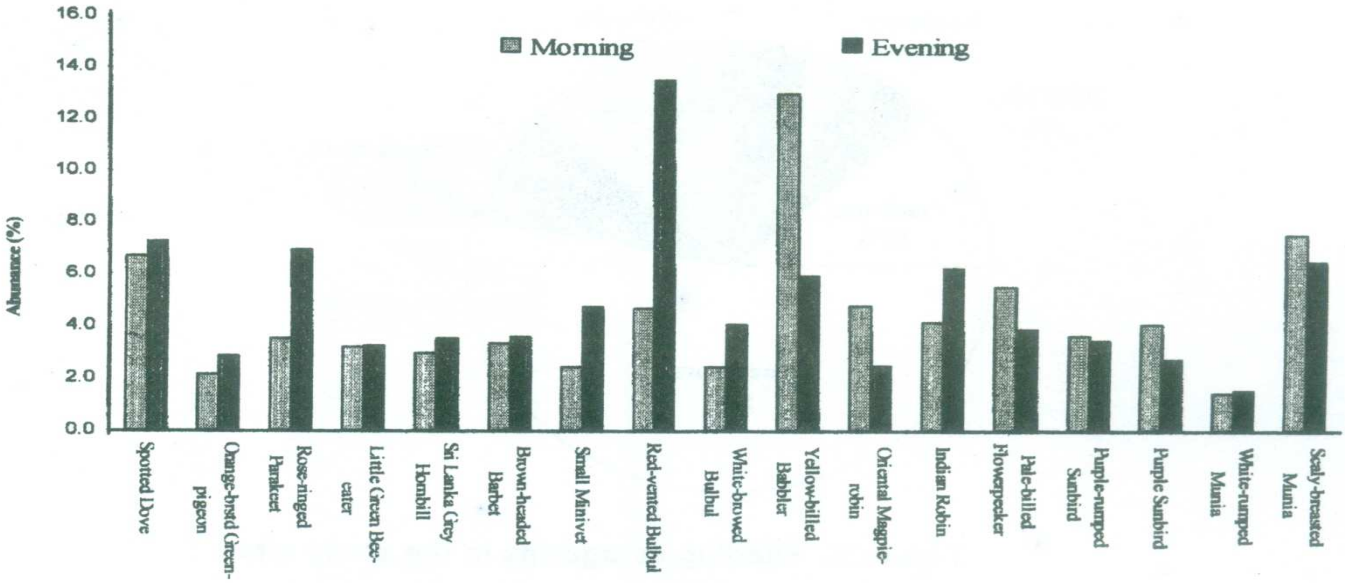


**Figure 1- Abundance of most common birds in the study site**

## Trophic guilds

Seven major feeding categories (Trophic guilds) were observed within the study site (Fig. 2). A large number of insectivores (54%) can be observed and it reflects the abundance of insects in that area. With the increase of the number of fruiting trees the number of frugivores (13%) increases. Flowering plants in the site attracted nectarivores (3%) and also attracted insects that attract insectivores. Terrestrial insectivores are more abundant in grasslands compared to other habitats. This may be due to the presence of higher percentage of inhabiting invertebrates within the ground cover. According to the Daniels (1989), the scattered trees in disturbed habitat provide large number of insect species among the foliage and other microhabitats which attract insectivore birds. Also he found an increase in bird species diversity when forests are disturbed. Because when disturbed it has fewer specialist species and more generalist species. So this may be the reason for the species richness to be high in the faculty premises.

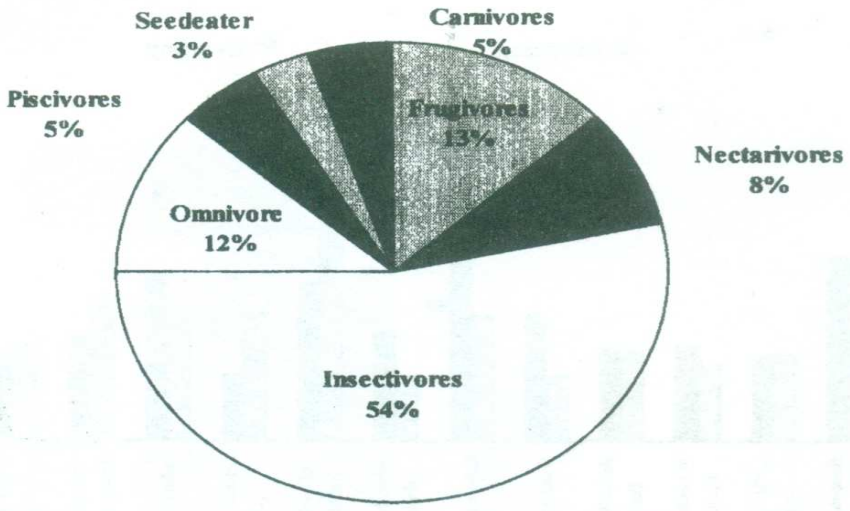


**Figure 2- Feeding categories in the study site**

## CONCLUSION

The mixtures of vegetation types within the study site provide suitable habitats for a variety of birds. Morning hours are more preferable time for the avifaunal species than evenings. Diurnal variations of birds mainly depend on the weather factors and availability of food.

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