

## **Bird-Plant Interactions and Bird Diversity in Unrestored and Restoring Habitats in Lower Hantana**

**K.R.D. Hamage<sup>1</sup>, A.M.T.A. Gunaratne<sup>2</sup> and M. Meegaskumbura<sup>1</sup>**

<sup>1</sup>*Department of Zoology, Faculty of Science, University of Peradeniya*

<sup>2</sup>*Department of Botany, Faculty of Science, University of Peradeniya*

Bird-plant interactions are of prime importance in evaluating the health of ecosystems. This study focused mainly on bird diversity and bird-plant interactions in four habitats; un-restored grassland (UG), restoring grassland (RG), unrestored pine stand (UP) and restoring pine stand (RP) in Lower Hantana. Birds were censused from 7.30 am – 11.00 am, once a week for a period of 24 weeks, from August 2010 to March 2011 (except January), using the point transect method.

A total of 65 species of birds, including seven endemic and five migrant species, were observed during the study. Forty species of plants including four endemic plant species were used by birds for feeding, nesting and perching. The bird species richness was highest in UG (54), followed by that in RP (52), UP (43) and least in RG (39). Across all habitats the most abundant bird species was the Pale-billed Flowerpecker (*Dicaeum erythrorhynchos*). The mean number of bird encounters in UG was significantly higher than that of RG, whereas the difference observed between the two pine stands was not significant. Of the total number of bird encounters (4117), over 60% exhibited perching behaviours while the remaining included feeding and nesting behaviors. Nesting activities were recorded only in the RG and the UP. Mixed species flocks comprising of Minivets, Velvet-fronted Nuthatch, Babblers, Common Iora, Bar-winged Flycatcher Shrike, Grey Tit, Golden-fronted Leafbird and Jerdon's Leafbird were observed only in pine stands and these flocks were followed by the Sri Lankan Torque Monkey.

Based on diversity indices, considering the two pine habitats, RP had the highest bird diversity. Although less than RP, bird diversity was relatively high even in UP. This may be due to the high number of insectivorous bird species using this habitat especially to feed on bark insects living in *Pinus caribaea*. In contrast, the diversity of UG was higher than that of RG. The latter habitat had the least diversity, among sites. The difference is attributed to abundance of food resources (grass seeds and isolated fruiting trees) among sites and the wider distribution of UG in the area. The higher total count of birds recorded in UG than in any other habitat is probably due to high visibility in this habitat compared to the other sites. Results from this study can be used (i) to lay out trails for bird watching for ecotourism, (ii) to select plant species to enhance bird attractive habitats and (iii) to design undergraduate and postgraduate field studies in ecology in the Lower Hantana area.