

**D-24 The diversity and abundance of avifauna at the Kekandura rain forest reserve as a bio-indicator to determine the human impact**

P U U Fernando<sup>1</sup>, N J de S Amarasingha<sup>1</sup>, K A D W Senaratna<sup>1</sup>, S W Kotagama<sup>2</sup>  
(<sup>1</sup>Dept. of Zoology, Faculty of Science, Univ. of Ruhuna, Matara, <sup>2</sup>Dept of Zoology, Open Univ. Nawala, Nugegoda)

This was a part of the avifauna study at Kekandura Rain Forest Reserve. Sections of its natural forest cover have been cleared for *Pinus* plantation. As the bird community has a key contribution in the assessment of impacts upon ecosystems, this study was carried out to determine variation in their community structure between natural forest and *Pinus* plantation. The study was based on the point scan line transect technique in which data was collected along 4 line transects (each 200 m long) at each site monthly over a year in 1995. Diversity, evenness, dominance and richness indices were estimated. At each site, the evenness and dominance did not vary over the year whereas diversity and richness varied significantly. Analysis between forest and *Pinus* reveals that there were no significant differences in diversity and richness but there were significant differences in evenness and dominance between them. Higher evenness at forest reveals that there is a variation in the distribution of different bird species at the 2 sites. This factor coincides with the utilization of preferred habitats by different birds evenly at forest but not at *Pinus*. At *Pinus* habitats to be occupied by birds are rather limited. Higher dominance values at *Pinus* revealed that different bird species are not equally abundant at *Pinus* and few

of the abundant species contribute to raise the diversity. Comparatively, at forest bird species equally contribute to diversity. The number of bird species recorded at forest was 72 and at *Pinus* 57. The study indicates that there is an unfavourable impact on the bird community structure by destruction of their natural habitat.

Financial assistance by Faculty of Science, University of Ruhuna (Research grant RU/SF/RP 94-04) is acknowledged.