THE DIVERSITY AND ASPECTS OF THE ECOLOGY OF BIRDS IN NUWARA ELIYA AND ADJACENT AREAS OF SRI LANKA

A PROJECT REPORT PRESENTED BY

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to the Board of Study in Zoological Sciences of the

POSTGRADUATE INSTITUTE OF SCIENCE, SRI LANKA

*in partial fulfillment of the requirement
for the award of the degree of*

MASTER OF SCIENCE IN FISH & WILDLIFE MANAGEMENT

of the

UNIVERSITY OF PERADENIYA

SRI LANKA

2004

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Abstract

The central hill zone of Sri Lanka represents one of the areas rich in bird life, in terms of both species richness and bird habitat diversity. The present study, conducted from March to May 2003, was carried out in six habitat types in a selected area in the central hill zone, namely primary montane forests, secondary montane forests, open scrub, grasslands, grassland-forest interface, and home gardens.

Point counts with unlimited distance (Variable Circular Plot Method or VCPM) used in conjunction with BIODIVERSITY PRO and DISTANCE software indicate that primary montane forests have the highest bird species diversity (with a Shannon Index [Log Base 10] of 1.218), followed by grassland-forest interface (1.216). Home garden habitat has the lowest bird species diversity (with a Shannon Index [Log Base 10] of 1.142). The species evenness index used (Shannon Evenness) indicate that species evenness is highest in open scrub habitat (with an index value of 0.971). This was also found to be indicative from the dominance index used (Berger-Parker Index, with an index value of 0.125).

The characteristic pattern of species abundance in primary montane forest fits closest to the log normal distribution, whereas in other habitat types studied, it fits closest to the broken stick distribution. In terms of similarity, the primary and secondary montane forests rank together as habitats in which the bird species composition is most similar.

In terms of habitat preferences, it was found that a considerable number of bird species preferred primary montane forests. Furthermore, there was a marked preference by frugivores and nectarivores for the primary montane forests. Studies on activities of birds indicate that birds are most active during the early and late hours of the day.

Estimates of density from DISTANCE software indicate that black crow has the highest density in the study area (154.17 individuals per km^2) followed by grey tit (117.40), common tailorbird (111.42), and Sri Lanka white-eye (105.84), the last of which is an endemic species.