Response of upperstorey birds to the environmental variables at different distances from the edge of an isolated forest reserve in Malaysia.

ABSTRACT

This study was conducted in Ayer Hitam Forest Reserve (AHFR), Puchong, Selangor, Peninsular Malaysia to investigate the response of upperstorey birds to the environmental variables and to determine variables which correlate with upperstorey birds at different distances from the forest edge. The information on upperstorey birds and micro-environment variables were recorded using point sampling method. Altogether about 88 points survey were established randomly along the 13 transects lines. A total of 113 species from 3,226 observations of birds were recorded of which 61 species (45.86%) and 1,618 observations (50.15%) were classified as upperstorey birds during the study period. Results showed that RDA ordination of all canonical axes for the group of upperstorey birds were significantly correlated ($F = 12.34$, $p<0.05$). The first two axes of species data was significant ($p<0.05$) with 19.80% explained by the first axis and 26.70% explained by the second axis. RDA ordination for upperstorey bird species at different distances from forest edge showed that the response and the environmental variables were significantly correlated ($F = 9.25$, $p<0.05$) for the first canonical axis, and $F=1.19$, $p<0.05$ for all of canonical axes. This relationship was due to the ability of upperstorey birds to tolerate different types of habitats and climatic condition. Based on the findings in this study, it is important to conserve the remaining habitats and the bird communities in the forest reserve. This would ensure the continued existence of the remaining habitats and species in the future.

Keyword: Upperstorey birds; Forest edge; Forest interior; Environmental variables; Redundancy analysis; Isolated forest reserve; Ayer Hitam Forest Reserve; Selangor; Peninsular Malaysia.