

Bird species abundance and their correlation with microclimate and habitat variables at natural wetland reserve, Peninsular Malaysia.

ABSTRACT

Birds are the most conspicuous and significant component of freshwater wetland ecosystem. Presence or absence of birds may indicate the ecological conditions of the wetland area. The objectives of this study were to determine bird species abundance and their relationship with microclimate and habitat variables. Distance sampling point count method was applied for determining species abundance and multiple regressions was used for finding relationship between bird species abundance, microclimate and habitat variables. Bird species were monitored during November, 2007 to January, 2009. A total of 8728 individual birds comprising 89 species and 38 families were detected. Marsh Swamp was swarmed by 84 species (69.8) followed open water body by 55 species (17.7) and lotus swamp by 57 species (12.6). Purple swamphen *Porphyrio porphyrio* (9.1 of all detections) was the most abundant bird species of marsh swamp, lesser whistling duck *Dendrocygna javanica* (2.3) was dominant species of open water body and pink-necked green pigeon *Treron vernans* (1.7) was most common species of lotus swamp. Results revealed that the habitat characteristics such as vegetation composition (i.e. emergent and submerged vegetations, grasses, shrubs, and trees), vegetation structures (tree diameter and height) and microclimate variables (temperature, relative humidity and light intensity) were the key factors that influenced the distribution, diversity and density of the wetland bird species. This study also revealed that the wetland bird species have adapted a fairly unique set of microhabitat and microclimate conditions.

Keyword: Abundance; Microclimate; Habitat; Wetland.