

Avian density in different habitat types at Paya Indah Natural Wetland Reserve, Peninsular Malaysia.

ABSTRACT

Population monitoring is an essential tool to detect changes in avian community structure for their effective management and conservation. Present study determined bird diversity and density in five habitat types i.e., marsh swamp, lotus swamp, open water body, dryland and shrub patches using distance sampling point count method at Paya Indah Natural Wetland Reserve, Peninsular Malaysia from November, 2007 to January, 2009. Overall avian density at the reserve was 83.92 ± 4.53 birds/ha which might range from 75.40 – 93.41 birds/ha at 95% confidence interval. Highest bird density was recorded in November, 2007 (11.83 ± 1.92 birds/ha), and the lowest in April, 2008 (3.01 ± 0.45 birds/ha). Marsh Swamp habitat supported the highest avian density (i.e. 136.55 ± 21.21 birds/ha) and open water body lowest one i.e., 70.40 ± 11.14 birds/ha. Yellow-vented Bulbul – *Pycnonotus goiavier* was the most abundant bird species of Marsh Swamp (11.81 ± 1.30 birds/ha), and Dryland (13.93 ± 1.42 birds/ha), Jungle Myna – *Acridotheres tristis* (8.43 ± 2.07 birds/ha) for Open Water Body while Scaly-breasted Munia – *Lonchura punctulata* (31.52 ± 4.75 birds/ha) and Pinknecked Green Pigeon – *Treron vernans* (19.99 ± 4.52 birds/ha) was the most dominant species of Lotus Swamp and Shrub Patches, respectively. However, 26 bird species (each) of Marsh Swamp and Lotus Swamp, 20 species of Open Water Body, 28 species (each) of Dryland and Shrub Patches were not analyzed due to the small sample size (< 5 detections). Kruskal–Wallis One–Way Nonparametric ANOVA and Tukey’s (HSD) test results showed that bird density of marsh swamp habitat is significantly different from shrub patches, open water body and lotus swamp habitat ($F_{4, 285} = 6.31, P < 0.05$). This study highlighted that Paya Indah Natural Wetland Reserve encompasses heterogeneous vegetation that provides diversity food resources, suitable loafing, safe foraging and breeding sites for wide array of avian species.

Keyword: Aves; Wetland; Habitat types; Density; Diversity; Distance sampling.