

AVIFAUNAL ECOLOGY
WITH RESPECT TO DIFFERENT HABITAT TYPES IN
THE MADURUOYA NATIONAL PARK

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ABSTRACT

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in the Maduruoya National Park.

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The study was an attempt to identify some aspects of ecology of birds in a selected area in the dry zone of Sri Lanka. Diversity, distribution, associations and activity of avifauna with respect to their habitat in Maduruoya National Park were studied between September 1988 and May 1991. A habitat analysis in terms of vegetation was attempted to supplement the information collected for the birds. Seven major habitat types namely, undisturbed, degraded, scrub, abandoned homegardens, wateredge, riverine and grassland were identified in the study area.

Birds were captured using mist nets. Transects and opportunistic observations were done to study birds that were not captured. Of the 151 species of birds recorded in the study area, 134 were breeding residents, which included five endemic species. There were 17 migrants. Among the resident species, 62 species were common, 53 were very common and 19 were rare species. Of the migrants, 10 common species, 5 very common species, 1 rare species and 1 very rare species were recorded. Based on mist netting data, four species namely, White-browed Bulbul, Black-fronted Babbler, Brown-capped Babbler and Black-capped Bulbul, whose capture number exceeded 100 were considered as dominant species in the park. Also they were widely distributed. The Species Accumulation Rate in the

study area appeared to be low when compared with that of the rain forests of Sri Lanka and other tropical countries.

The guild structure of the avifauna was determined by assigning them to different guilds. Six such guilds, namely insectivorous, frugivorous, piscivorous, graminivorous, netivorous and carnivorous were identified. More than 60% of the birds captured in each habitat type were insectivorous species, except in the grassland. In grassland habitat this percentage was 48%. The highest number of graminivore species was recorded in the grassland habitat.

Indian Pitta, a regular winter visitor to the island, appeared to be site specific. The bird was originally captured in an abandoned homegarden habitat and recaptured in the same locality after two years. This is the first authentic record of the same individual Indian Pitta returning to the same locality.

The riverine habitat appeared to be rich in both avifauna and vegetation. The highest diversity in avifauna, woody and undergrowth vegetation was recorded for the riverine habitat. With regard to avifaunal associations, the closest association was recorded between the avifaunal communities of the scrub habitat and degraded habitat. The grassland community differed 100% from the rest of the communities of other habitats.

The diurnal activity pattern of the avifauna in different habitats was determined for three time segments of the day, morning, mid day and evening. The birds of the riverine habitat had the highest

diversity in the morning, whereas the birds of the undisturbed habitat had the highest diversity in the evening.

The birds of the grassland showed the lowest diversity in the morning and evening whereas the degraded habitat showed the lowest during mid day.

Associations in avifaunal communities with respect to their habitats showed different patterns during the day. The avifauna of the undisturbed and scrub habitats were the most closely associated communities in the morning while the degraded and scrub habitats were closely associated during mid day. In the evening, avifaunal communities of the riverine and degraded habitats were closely associated. The avifaunal community of the grassland habitat differed 100% from the rest of the community during mid day and evening. It showed about 40% similarity with the wateredge habitat in the morning.