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Bird communities and feeding guilds in Monaragala, an isolated hill in the eastern intermediate zone of Sri Lanka

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Abstract

The bird communities and foraging guilds were studied in the entire forest of Monaragala hill, by recording species and their abundances, in 33 plots (each 100x20 m), in four transects laid along its altitudinal gradient. Bird calls and sightings were noted for 30 minutes between 7.00-9.30 am, twice each month from 2004-2008.

The communities were determined, by cluster and ordination analyses of data in all plots. For each community, relative abundance (RA) and frequency (RF) were calculated. Species were assigned to bird guilds based on their habitats, main food types and feeding strategies, from published information.

Within and outside the plots sampled, 112 bird species (23% of Sri Lanka's avifauna, including eight endemics) in 84 genera, 44 families and 13 orders, were recorded. Three communities were identified: i. a low/mid-elevation disturbed forest community (LDFC), inhabited by 40 species (including seven endemics). The Crimson-Fronted Barbet, Black Crested Bulbul and Tickell's Blue Flycatcher co-dominated it. ii. a ridge/upper-elevation undisturbed forest community (RUFC) of 45 species that included eight endemics, nine restricted species, the wet zone Sri Lanka Yellow Fronted Barbet and Sri Lanka Wood Pigeon. The Black Bulbul and Sri Lanka Yellow Fronted Barbet were its dominants. Thirty three species were common to both forest communities. iii. a grassland community, with only 10 non-endemic species, dominated by the Crested Tree Swift and Indian Swiftlet. Three grassland species were also seen in the forest communities.

In each forest community ten bird guilds were present. The arboreal frugivore and gleaning insectivore guilds ranked highest in them, followed by the hawking/hovering insectivore guild in the LDFC, and the omnivore gleaning guild in the RUFC. The grassland community had only three guilds. Based on RA the sweeping insectivore guild and on RF the aerial carnivore and the sweeping insectivore guilds were co-dominant. The arboreal granivore guild was restricted to the grassland.

The study revealed that this intermediate zone, 43 km² isolated hill (1,100 m amsl) harbors a rich avifauna, including some typical wet zone species, and rich populations of the rare Sri Lanka Spur fowl and the Sri Lanka Wood pigeon, justifying its high conservation value.

Key words: Monaragala, intermediate zone, isolated hill, bird communities