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Floristic communities of Doluwakanda: an isolated hill in the northern intermediate zone of Sri Lanka

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This study assessed the present conservation value of Doluwakanda, a small isolated hill (110-600 m) in the northern intermediate zone, by examining the altitudinal variation of its woody flora and plant community structure, using the gradsect method. Plants ≥10 cm girth at breast height in 54 plots, each 10 m^2 in size, were sampled and their taxa were identified. Plant communities were discerned by a cluster analysis and a Multidimensional Scaling ordination (MDS). The correlation between altitude and the tree/liana flora was examined by a RELATE test. In these analyses PRIMER Ver.6 was used. Community-wise species dominance was identified based on relative values of density, frequency, basal area and the Importance Value Indices of the species. The 704 individuals enumerated represent 37 families, 84 genera and 111 species, with 26 endemic to Sri Lanka. Five plant communities, which varied in elevation/topography, forest physiognomy and degree of disturbance, were recognized: of them were at low and mid elevation (110 - 490 m) degraded sites, dominated by cultivated and successional species; and three in relatively undisturbed forests on the lower/upper slopes and ridge (340 - 600 m), where the restricted endemics *Pterygota thwaitesii* and *Balanocarpus brevipetiolaris,* and the non-endemic *Humbodltia laurifolia* dominated. A significant positive co-relation between the tree species distribution and altitude was observed. The rare endemics *Memecylon gracillium* and the herb *Stachyphrynium zeylanicum* were recorded, but not *Wrightia flavido-rosea,* which is reported as restricted to this site and thus, it might now be extinct. The study reveals the high conservation value of the remaining natural forests in Doluwakanda and thus its urgent protection.

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