

**FLORISTICS DIVERSITY ALONG A FOREST DISTURBANCE  
GRADIENT IN SINHARAJA RAINFOREST COMPLEX,  
SOUTHWEST SRI LANKA**

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Plantation agriculture and human settlements have degraded and fragmented the tropical rainforests of southwest Sri Lanka. In this study, floristic diversity along a disturbance gradient in *Endane* Biodiversity Corridor (EBC) that links *Iharakanda* forest reserve to *Sinharaja* forest complex were assessed. The site is classified into five forest-based land use categories; *Walankanda* forest, *Iharakanda* forest, two woodlands (tea lands abandoned 21 years ago) and scrub land (tea lands abandoned 08 years ago). Floristic parameters: Shannon index, species richness and above-ground biomass (AGB) obtained by allometric equations were assessed and data analysis was done through linear mixed effect models. A total of 108 tree species belonging to 38 families were documented. The highest Shannon index and species richness ( $p < 0.05$ ) were recorded in *Walankanda* forest. The AGB among the land use categories were not different ( $p > 0.05$ ). Greater AGB was recorded in *Walankanda*, maybe due to the higher tree density and lower disturbance than the other land use categories. The species area relationships indicated that sampling is sufficient for woodlands and scrubs but not for *Walankanda* and *Iharakanda* forests. Findings revealed the potential for restoring AGB and species richness in abandoned tea lands in lowland, wet zone of Sri Lanka. An extended vegetation survey is suggested to capture the species richness in *Walankanda* and *Iharakanda* forests.

**Keywords:** Above ground biomass, Disturbance, Floristic survey, Shannon index, Species richness