# COMPARISON OF FLORISTIC COMPOSITION AND DIVERSITY OF THREE VEGETATION TYPES IN THE LOWER WALAWE BASIN

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Floristic composition and diversity of the remnant degraded forest (RDF), rock outcrop forest (ROC) and scrubland (S) were investigated in the lower Walawe basin spanning the area of 15, 000 ha. A total of 45 transects, each 50 m × 5 m were surveyed.

A total of 166 species belonging to 136 genera and 55 families were identified. Among the taxa identified, 67 had medicinal value, 5 timber value and 2 both timber and medicinal values. There were 36 tree spp., 41 shrub spp., 78 herbaceous spp. and 11 climber spp. In the vegetation size class > 10 cm gbh, the dominant taxa in the RDF were *Manilkara hexandra* and Sapotaceae (IVI = 109 and 105), in the ROC *Ficus mollis* and Moraceae (IVI = 140, 137) and in the Scrubland *Prosopis juliflora* and Fabaceae (IVI = 113, 154). The highest number of species (100), genera (79) and families (42) were recorded in the rock outcrop forest, including two endemics [*Barleria nutans* Nees and *Diplodiscus verrucosus* (Thw.) Kosterm.], whereas the lowest numbers were recorded in the scrubland (species-83, genera-65 and families-30). Of the accounted species, 24% (24 species), 15% (13 spp.) and 12% (10 spp.) were climax species in the ROC, RDF and Scrubland, respectively. On the other hand, 76% (76 spp.), 85% (73 spp.) and 88% (73 spp.) were secondary and pioneer species in the above vegetation types, respectively.

Comparisons of the diversity among vegetation types showed that the rock outcrop forest was high in diversity (Simpson's Diversity; D=16.4, Shannon-Wiener diversity index; $H'=1.5$ and Alpha diversity index; $\alpha=19.8$), while scrubland was lower in diversity (D=10.2, $H'=1.2$ and $\alpha=10.2$). Results of rarefaction and rank abundance curves also showed that the ROC was high in diversity followed by RDF and Scrubland. Species abundance distributions show a log series, with a model fit of 98% in the case of RDF, 86% in ROC and 51% in S of the four main models of species abundance distributions in communities. The low diversity of scrubland vegetation reflects its degradation because of repeated burning and shifting cultivation, while ROC rich in diversity and attained a climax stage because of the least human disturbance. The results can be compared with the characteristic of dry mixed evergreen forests of Sri Lanka and with those in similar climates elsewhere.