

D-63: Phytosociological study of woody flora of montane forests of the Knuckles region

H D Ratnayake

(Royal Botanic Gardens, Peradeniya)

A field enumeration of the woody flora of montane forest of the Knuckles region was carried out to characterize the forests with reference to their structural and floristic features. Two plots totalling an area of 5,000 m² were studied on the western slopes of the Knuckles range at Kalupahana and Thangappuwa. All the woody individuals equal to or above 20 cm girth at breast height were enumerated. Importance Value Indices (IVI) of the species

were determined taking the sum total of relative values of density, basal area and frequency of each taxa.

Based on IVI, *Calophyllum trapezifolium* Thw., *Syzygium umbrosum* Thw., and *C. walkeri* Thw., dominated the forests at Thangappuwa. Likewise *C. trapezifolium* Thw., *C. walkeri* Thw. and *Semecarpus nigro-viridis* Thw. dominated the forests at the Kalupahana site. Average IVI calculated for the 2 sites showed the dominance of *C. trapezifolium* Thw., *C. walkeri* Thw., and *Syzygium umbrosum* Thw., in montane forests of the Knuckles region.

In 0.5 ha of forests sampled, a total of 1,681 individuals, 761 at Kalupahana and 920 at Thangappuwa were encountered. These plants represented 23 families, 40 genera and 52 species. The pattern of girth class distribution at both sites showed inverted "J" shape curves characteristic of relatively undisturbed natural forests. About 50% of woody species in the study plots, were endemic to Sri Lanka and they contributed to 85% of the woody individuals sampled.

In conclusion it may be stated that the montane forests of Knuckles have a characteristic assemblage of woody plants dominated by Clusiaceae. The montane forests at Horton Plains and Hakgala are reported to be dominated by Lauraceae and Myrtaceae respectively.