

A PHYTOSOCIOLOGICAL STUDY OF
SEMI-EVERGREEN FORESTS OF KNUCKLES
AND UDA WALAWE, SRI LANKA

a thesis submitted by

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ABSTRACT

Floristic structure and composition of three forest stands of semi-evergreen forests NE of the Knuckles region were studied. The woody taxa above 30 cm gbh were enumerated in a total area of 12000 sq.m. Altogether 1006 woody individuals were enumerated. The ground vegetation was subjectively assessed. Cover value indices (cvi) based on relative density and relative basal area were calculated for families and species. Average cvi showed the dominance of *Dimocarpus longan* (12.75) and Sapindaceae (16.21) of the semi-evergreen forests of Knuckles. The distribution of girth classes has shown the behavior of normal inverted 'J' shape curves characteristic of relatively undisturbed forests. Profile diagrams depict the presence of canopy (17 m - 20 m), sub-canopy (9 m - 13 m) and a shrub/herb layer (1 m - 3 m).

Ecophysiological studies were carried out to characterize these forests using five leaf indices viz. potential leaf tissue hydration, degree of succulence, degree of consistancy, specific leaf area and development leaf area. The average leaf size class of these forests has turned out to be microphyllous (1969 sq.mm).

Tentative check lists of flowering plants were prepared for the semi-evergreen forests of Knuckles (394 species of 90 families) and the flora was compared with that of the Uda Walawe National Park (314 species of 75 families). The data have indicated the superiority of semi-evergreen forests of Knuckles with regard to floristic diversity and endemicity.