D-16 Morphological diversity of overstorey vegetation of Hakgala Strict Natural Reserve at two elevations

R M W Rathnayake, S M Solangaarachchi, L R Jayasekera
(*Dept. of Botany, Univ. of Kelaniya*)

A study of morphological diversity of leaves of overstorey vegetation was carried out at 2 elevations (1600 m - lower elevation and 2000 m - near peak elevation) in Hakgala Strict Natural Reserve. Leaf is the principal appendage or lateral organ borne by the stem and, generally morphological characteristics of leaves reflect the environmental conditions of the ecosystem.

For the present study, representative areas were selected at each elevation. Species present in the overstorey vegetation at each elevation were identified. Healthy mature "Sun Leaves" were collected from these species and their leaf morphological characteristics were studied.

44 species were found at lower elevation and 18 species were found at near peak elevation. According to the results, acute apex (27.3%), obtuse apex (27.3%), oval shape (45.5%), entire margin (68.2%), mesophyll leaf size class (59.1%), cuneate lamina base (88.6%) and glabrous surface (50%) were common morphological characteristics at lower elevation. At near peak elevation, acute apex (27.8%), oval shape (61.1%), entire margin (66.7%), microphyll leaf size class (77.8%), rounded lamina base (50%) and glaucous surface (72.2%) were common.

However, the diversity of leaf morphology of overstorey vegetation varied according to the elevation. Leaf area and leaf surface varied from mesophyll

size class to microphyll size class and glabrous surface to glaucous surface from lower elevation to near peak elevation respectively. These variations are adaptations to overcome prevailing environmental conditions such as wind velocity and light intensity at each elevation.