

B-44: Phytosociological analysis of Adam's peak wilderness sanctuary

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The Adam's Peak Wilderness Sanctuary comprises altitudinally graded, structurally and physiognomically different, biologically diverse forest formations.

A floristic survey was conducted to investigate the phytosociology of the forest formations of the sanctuary. In addition, the endemicity and economical importance of plant species, and threatened plant species found in the sanctuary was recorded.

Thirty one plots (each 20 x 20 m), were demarcated purposively within the sanctuary representing lowland, sub-montane and montane forest formations. These plots were permanently marked and all the plants above 5 cm dbh (diameter at breast height) were also tagged. Diversity Indices (Shanon's) and Important Value Indices (IVI) were calculated and stand tables were prepared for each forest formation. Plant specimens were collected from all the plots and a general collection was also made to prepare herbarium specimens for identification.

There were 497 plant species belonging to 265 genera and 107 plant families recorded from the sanctuary of which 184 were endemic (representing 92 genera and 45 families). Eleven endemic genera and 9 species of the endemic genus, *Stemonoporus* (Dipterocarpaceae) were also recorded from the sanctuary.

Lowland forest formation showed the highest plant diversity compared to the sub-montane and montane formations while the highest endemism was recorded from the montane forests.

Most species were recorded from a few plots and therefore may be consumed.

Nine community types were identified in the sanctuary: (1 from lowland forest formation *Palaquium*, *Cullenia*, *Anisophyllea*, *Strombosia*, *Trichadenia*, *Myristica* and *Cyathocalyx* community) 5 from sub-montane formation (1 *Stemonoporus* and *Carallia* community, (2) *Stemonoporus cordifolius* and *Stemonoporus angustisepalum* community, (3) *Shorea*, *Stemonoporus*, *Kokoona* and *Elaeocarpus* community, (4) *Stemonoporus*, *Syzygium*, *Litsea* and *Palaquium* community, (5) *Shorea*, *Stemonoporus*, *Bhesa*, *Litsea*, *Andinandra*, *Syzygium* and *Calophyllum* community) and 3 from the montane forest formation (1 *Stemonoporus*, *Garcinia*, *Calophyllum* and *Palaquium* community, 2 *Calophyllum*, *Palaquium*, *Garcinia* and *Pseudocarapa* community, 3 *Calophyllum*, *Garcinia*, *Syzygium* and *Palaquium* community).

The investigation revealed that the forest formations of the sanctuary had a unique and high species diversity.

Adam's peak wilderness sanctuary is culturally and biologically important and it is advisable to divide it into different management zones with different management objectives and regulations.