

D-62 Diversity of Family Orchidaceae in different forest formations of Adam's Peak in the Peak Wilderness Sanctuary

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The Peak Wilderness sanctuary covers a large altitudinal range and different climatic conditions which is well reflected by its forest type and biodiversity. Forests ranging from Tropical Lowland Forests (<1050m) to Tropical Montane Forests (>1650m) can be identified within the area. Therefore this sanctuary is ideal to study the relationship between physical conditions and sensitive floral and faunal taxa. The main objective of this study was to examine the species diversity of Family Orchidaceae which is very much sensitive to physical factors, at various forest formations of the sanctuary.

Every orchid species recorded along 2 main trails and 1 foot path to the summit of Sri Pada was studied. Approximately about 30000 m² was studied in each habitat. The species were identified *in situ* and approximate number of individuals, elevation of the locality, height from the ground, flowering fruiting details and other important ecological characters were noted down.

Results show that the highest species diversity (28), endemism (16 - 57.4% of total species recorded from habitat), terrestrial species (28.5%) and approximate population (10000) were recorded from the Sub-Montane Forest. Lowest species diversity (19), endemism (05 - 26.31%) and terrestrial species (15.9%) were recorded from Tropical Montane Forest area. Although Tropical Lowland Forest had a higher diversity (23) than the Tropical Montane Forest (19) its recorded population was the least. The study recorded 54 species of orchids and 23 of them were endemic.

From this study it is clear that for orchids, physical conditions such as temperature, rainfall, sunlight and soil nutrients may be optimum in the Sub-Montane Forest than other forest formations.