

**DIVERSITY STUDY ON EPIPHYTIC MOSSES
IN MOUNT ALAB PERMANENT RESEARCH
PLOT, CROCKER RANGE PARK**

CHIN MUI KEN

**BERSEKUTU
UNIVERSITI MALAYSIA SABAH**

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ABSTRACT

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This study investigated the diversity of epiphytic mosses in Mount Alab Permanent Research Plot, Crocker Range Park (CRP). The objectives were (1) To determine the diversity and abundance of epiphytic mosses in Mount Alab Permanent Research Plot; (2) To determine the relationships between vertical distributions, tree size and DBH of host tree with species composition of epiphytic mosses, and (3) To produce an updated checklist of mosses for Crocker Range Park based on the area studied. This study was conducted in six 10 m x 10 m sub plots; three sub plots B2, C4 and D3 with large trees and three sub plots A0, D1 and E4 with small trees. On each tree, three quadrats of 600 cm² each (20 cm x 30 cm; on small tree 15 cm x 40 cm) were positioned at height zone 1:0-40 cm; height zone 2:40-80 cm and height zone 3:140-180 cm. Parameters such as vertical zone and tree size were selected to determine their relationships with species composition of epiphytic mosses. A total of 20 species belonging to 10 genera with 163 specimens of epiphytic mosses were documented. Sub plots B2 and C4 yielded the highest total number of species with 12 species respectively followed by D3 and D1 with 10 species respectively, whereas E4 recorded nine species and A0 recorded the lowest number of species that is eight. In all, seven families were recorded. The family Sematophyllaceae yielded the highest number of species, followed by Dicranaceae, Calymperaceae and Leucobryaceae. Meanwhile, Hypnaceae, Sphagnaceae and Daltoniaceae yielded the lowest number of species. The three most dominant species were *Dicranaloma blumei*, *Acroporium rufum* and *Mastopoma armitti*. There was a significant difference in the species composition of epiphytic mosses at different vertical zones where species composition was highest in height zone 3 followed by height zones 2 and height zone 1. However, the species composition of epiphytic mosses was not significantly different for tree size. The correlation between DBH of host tree and species composition of epiphytic mosses was not significant except for host tree *Tristaniaopsis*. An updated checklist of mosses in CRP was compiled whereby a total of 173 species in 87 genera and twenty nine families were documented. Out of this number, 9 species are new records to CRP, namely *Acroporium rufum*, *Acroporium cf. convolutum*, *Trichosteleum pseudo-mammosum*, *Mastopoma armitti*, *Dicranaloma blumei*, *Syrrhopodon laevis*, *Leucobryum scabrum*, *Ectopothecium falciforme* and *Sphagnum junghuhnianum*.