Diversity and ecology of ferns on Mount Alab, Crocker Range Park, Sabah, Malaysia

Abstract

This study was conducted to investigate the fern diversity in tropical montane forest of Mount Alab, Crocker Range Park, Sabah. A total of eight quadrats of 400 m2 were set up in a line transect at an elevation of 1,800 m to 1,900 m above sea level. The quadrats were positioned at an interval of 100 m along a transect line that parallels a nature trail. The diversity index represented by Shannon Index, H', is 2.946, whereas the computed evenness index is 0.84. А total of 35 taxa belonging to 12 families of ferns were observed, representing 4.1% of the currently recorded 804 species of ferns in Sabah. Polypodiaceae and Hymenophyllaceae contributed the highest richness of species and were commonly found within the environment of the study Most of the area. species in these two families are epiphytes and thrive in cool moist habitats such as fallen logs and stumps, which provide suitable substrate and niches for epiphytic ferns. Polypodiaceae and Hymenophyllaceae were also dominantly abundant. Selliguea taenita (Polypodiaceae) was frequently observed and dominated most habitats as epiphytes and terrestrial ferns. Hymenophyllaceae is a potential indicator for climate change as species of this family are sensitive to desiccation caused by increased temperature. Fluctuation in abundance and species diversitv of Hymenophyllaceae may provide a warning signs in the event of climate change such as global warming.