

An inventory of flora in urban forests of Universiti Malaysia Sabah Campus, Sabah, Malaysia

ABSTRACT

Species diversity is one of the most important measures for estimating the sustainability of forest communities. This study aims to compare plant diversity between two secondary forest sites namely the UMS Hill and ODEC in Universiti Malaysia Sabah (UMS) and to update the list of flora in UMS forests. A plot of 50 m x 50 m (0.25 ha) was set up at each forest site. Temperature, light intensity and relative humidity were measured in both study plots with HOBO data loggers. A total of 5,301 individuals, 84 species and 48 families were recorded in both plots. The family Zingiberaceae was represented by a single species *Alpinia aquatica* which dominated other families and species by having the highest abundance, contributing to 19.79% of the total density while the family Rubiaceae was the most speciose in both plots. There was no significant difference between plant species diversity in UMS Hill ($H' = 3.355$, Hill's number=29) and ODEC ($H' = 3.290$, Hill's number=27) ($t = 1.827$; $p = 0.0677$). Species in UMS Hill ($E = 0.792$) was distributed more evenly compared to ODEC ($E = 0.785$). Measured climate parameters have slight variation in both plots which is attributed to microhabitat influence within each study plot. Similar environmental conditions in both study plots contribute to relatively similar plant diversity and composition in the study plots. The study added 26 species as new records to the existing flora checklist thus giving a total of 302 plant species for the UMS forest.