

THE SARAWAK MUSEUM JOURNAL

Vol. LVIII No. 79 (New Series)

ISSN. 0375 - 3050

December 2003

Ecology of Reservoir Park, Urban Forest of Kuching City, Sarawak: Tree Species And Soil Nutrients

by

I.B. Ipor, C.S. Tawan and A. Ngau



SARAWAK MUSEUM DEPARTMENT

Ecology of Reservoir Park, Urban Forest of Kuching City, Sarawak: Tree Species And Soil Nutrients

by

I.B. Ipor, C.S. Tawan and A. Ngau

SUMMARY

Twenty five plots of 20 m x 20 m were established at both well managed park (WMP) and abandoned park (AP) of Kuching Reservoir Park for comparative study on floristic composition, biomass estimation and soil characteristics. All trees with DBH >4.5 cm were enumerated and identified to species level. Total estimated above ground biomass of AP (mean = 234.95 ton/ha) was not significantly different with WMP (mean = 177.64 ton/ha). Total species found in both sites were 58 species from 26 families including palms, bamboos, 12 species of ferns, five species of orchids and an ant plant were recorded from both sites. They were both native or indigenous and exotic or introduced plants such as commercial timber, protected, wild and cultivated fruit species. *Alstonia angustifolia* is the most important species in both sites due to its giant size as shown by its highest relative basal area (RD). The AP consisted of an understorey of small trees as a result of abandonment. WMP had clear understorey layer as a result of regular thinning of undesired plants. The mean thickness of litterfall in AP is 2.68 cm which is significantly different from WMP 1.12 cm thick. The nutrients content such as N, P, K, Mg, Ca, Na, Zn, B, Fe and Cu are varied between both sites. Amount of N, C, P, Zn and Fe are higher in AP than WMP and vice-versa for other elements. The total leaf area index (LAI) of trees in AP is 2.01 m²/ha and 1.76 m²/ha for WMP.

BACKGROUND

Forest structure and plant diversity vary between locations and between regions. The variations occur due to various factors such as