Floristic community composition in *Rafflesia*'s habitat at Kinabalu Park, Sabah

ABSTRACT

In the vicinity of Kinabalu Park, Sabah, a study was conducted to determine the plant community and its composition in the habitat of *Rafflesia* sp. and its host, *Tetrastigma* sp. A total of 5 circular-shaped plots each with a fixed radius of 20 meters, were located around Kinabalu Park, namely in Losou Podi, Losou Minunsud, Sayap Substation, Langanan and Gansurai. The *Rafflesia* species detected in Kinabalu Park during the present study were *Rafflesia* pricei and *R. keithii*. Overall, 19 *Rafflesia* individuals were detected, which comprised of 3 flowers and 16 buds. A total of 20 scars from former dead flowers and buds were obtained on the host, where they possessed an average diameter of 2.2-4.8 cm from the five plots. There were 778 individuals recorded for plant community, belonging to 111 genera, 53 families and 250 species. The total tree density was 1238 individuals/ha, where the family Lauraceae (11.05%) had the highest individuals followed by Annonaceae (8.61%). Although the species *Baccaurea lanceolata* were found in all study plots, the species *Xantophyllum macrophyllum* has the most individuals detected (3.60%) in the plant community habitats. The value of the Shannon-Wiener Index was H'=3.23 and the Evenness Index is low, E=0.10. The percentage of family similarity between plots was high (S_{BC}=70.19–48.23%), but the percentage of species similarity between plots was very low (S_J=4.31–1.54%). This study shows that both the species of *Xanthophyllum macrophyllum* and *Baccaurea lanceolata* have a relationship with the habitat of *Rafflesia* in Kinabalu Park, as both species were located nearest to the *Rafflesia*'s host. Moreover, these two species were seen to be well associated with *Tetrastigma* since the *Tetrastigma* was observed to climb several trees of these species in the plot.