

Comparison of plant species diversity and composition between two sites in Likas Bay, Kota Kinabalu, Sabah

ABSTRACT

The aim of this study is to compare the plant species diversity between 2 mangrove sites in Kota Kinabalu, Sabah. The study sites selected were the non-degraded Alamesra mangrove area and the degraded Kota Kinabalu Wetland Centre (KKWC). Both of these 2 study sites were located in Likas under the jurisdiction of the Sabah State Government. A total of 6 plots was established randomly at both sites. Each site consisted of 3 plots at different locations and each plot covered an area of 0.1 ha which was rectangular in shape with 50 m x 20 m. The main plot was then further divided into subplots of 10 m x 10 m to determine the distribution of tree stand. From the findings, mangrove species diversity found in Alamesra mangrove area was less diverse with Shannon-Wiener (H') = 0.18 compared to Kota Kinabalu Wetland Centre (KKWC) with H' = 0.77. In addition, Shannon Evenness (E) measure at Kota Kinabalu Wetland Centre (KKWC) was 0.38 while the value at Alamesra was 0.26 which did not show much difference in terms of evenness in both sites. In terms of plant species composition, a total of 11 species was sampled at both study sites. There were 10 species at Kota Kinabalu Wetland Centre (KKWC) and 3 species at Alamesra. The most common species counted in the study sites was *Rhizophora apiculata* with an IVI (Importance Value Index) of 181.16 at Kota Kinabalu Wetland Centre (KKWC) and 237.01 at Alamesra. It seemed that all the plots in both study sites were under the *Rhizophora* zone. Other abundant species was *Lumnitzera racemosa*, *Avicennia marina*, and *Rhizophora mucronata*. The results showed that the degraded Kota Kinabalu Wetland Centre (KKWC) had higher tree diversity compared to the non-degraded Alamesra mangrove area. It is recommended that more studies be conducted in these areas in the future.