

Soil Physico-Chemistry in the Habitat of Rafflesia in Kinabalu Park, Sabah, Malaysia

ABSTRACT

This study was conducted to identify the type of soil texture, and its relationship with *Tetrastigma* sp., a host of the *Rafflesia* sp. in Kinabalu Park, Sabah, Malaysia. The soil samples were collected from five study areas: Losou Podi, Losou Minunsud, Sayap Substation, Langanan and Gansurai. The plot was selected when the host exhibited traits of being infected by *Rafflesia*, either by the presence of buds, flowers or residual scar marks found on the host. The result reveals that the soil in the habitat of *Rafflesia* sp. and their host is sandy loam type, with a high volume of sand compared to silt and clay, between 65.40-79.25%. The soil moisture in the area is low, ranging from 14.89% to 27.96%. The soil in the plots was less fertile due to low value of soil organic matters (1.12-1.40%), with slightly acidic soil pH value (4.08-4.73). The most abundant elements contained in the soil were Fe, Al and Mg. The different *Rafflesia* habitats were observed to have a relationship with different soil factors: either physical, chemical, or both to promote the growth of *Rafflesia*. There was relationship between Sayap Substation with some chemical elements in the soil, rather than the soil's physical characteristic. Both Langanan and Losou Podi were only influenced by the physical characteristics of the soil. In comparisons, the Gansurai and Losou Minunsud have a relationship influenced by a combination of physical properties and chemical elements in the soil. From this study, it can be concluded the presence of *Tetrastigma* sp. in the different *Rafflesia* habitats has its own relationship with the soil and is not influenced by one factor.