

# **Distribution of trace elements in salt lick soils from Segaliud Lokan Forest Reserve, Sabah**

## **ABSTRACT**

Mineral reservoirs or salt licks are important places used by the wildlife especially ungulate to regulate their nutrient intake for their diets to stay healthy. The utilization of the salt lick is known to be influenced by the chemical composition, but the information on the trace elements in Segaliud Lokan Forest Reserve salt licks is scarce. In this study, the chemical composition of trace elements is determined as well as the physico-chemical properties. Soil samples were collected from six salt licks for the analysis of physicochemical and trace elements concentration. Physico-chemical parameter analyses such as pH, moisture content (MC), organic matter (OM) and grain size were performed to identify the factors affecting the distribution of trace metals in the salt licks. The samples were analyzed using Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). The results show the salt lick's pH range from slightly acidic to alkaline, moisture content (19.41% - 38.36%), organic matter (0.36% - 5.27%) and electrical conductivity (43.40 uS/cm – 243.32 uS/cm). The average concentration of copper (Cu = 4.84 mg/kg – 54.07 mg/kg), iron (Fe = 9993 mg/kg – 25770.34 mg/kg), strontium (Sr = 7.40 mg/kg – 70.71 mg/kg), vanadium (V = 12.14 mg/kg – 41.33 mg/kg) and zinc (Zn = 23.66 mg/kg – 76.67 mg/kg) in salt lick soils. The findings of the study support the hypothesis that the usage of salt licks by wildlife is used to solve nutritional deficit that result from herbivorous diets.