

**Comparison of macro, trace and ultra-trace minerals contents of kelulut honey
(*heterotrigona itama sp*) from West Coast of Sabah**

ABSTRACT

Various minerals in Kelulut honey possess a high value in human health, and crucial in regulating multiple biological metabolisms. However, the amount of each mineral from different the sources of honey need to be monitored to avoid contamination and food poisoning. The amount of minerals content is vary based on geographical region and nectar sources. The aims of this study to identify and determined the minerals content in Kelulut honey samples collected from different locations in West Coast of Sabah. The samples were analyzed using ICP-OES and a total of 20 minerals elements (Ag, Al, As, Ca, Co, Cr, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Rb, Se, Sr, Ti, V, and Zn) were presents. The most abundant minerals which is categorized as macro minerals present in all the samples are K (1821.253 ± 35.16 mg/kg), followed by Na (371.00 ± 5.06 mg/kg), Ca (338.643 ± 3.07 mg/kg) and Mg (98.899 ± 1.77 mg/kg). While from the group of minor minerals, Zn had the highest amount with mean concentration of 6.38 ± 10.35 mg/kg followed by Mn (2.04 ± 1.61 mg/kg), Cu (1.26 ± 2.97 mg/kg). No toxic elements were detected except for Ag (0.06 ± 0.01 mg/kg) considered as unbeneficial minerals, and the concentration considered as no harmful effect to biological system.