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## ABSTRACT

### THE EFFECT OF SOIL PARTICLE SIZE ON THE SOIL ORGANIC MATTER AND THE ABUNDANCE OF SAND BUBBLER CRAB *Scopimera globosa* AT TANJUNG ARU BEACH, KOTA KINABALU, SABAH.

Sandy beach area is an important ecosystem for most beach and intertidal animals especially for the crustaceans such as crabs and clams. The aim for this study is to identify the relationship of the soil particle size, soil organic matter and the abundance of sand bubbler crab, *Scopimera globosa*. This study was conducted at Tanjung Aru Beach 1, Tanjung Aru Beach 2 and Tanjung Aru Beach 3, Kota Kinabalu, Sabah. Three samplings were conducted from 11<sup>th</sup> August until 5<sup>th</sup> October 2015. The soil particle size was determined by using sieving method while the soil organic matter was determined by using the loss-on-ignition (LOI) method. The abundance of *S. globosa* was calculated based on the number of *S. globosa* obtained from the sampling. Results showed that positive correlation can be seen in the relationship of sand particle size on the soil organic matter ( $n = 81, r = 0.447, p < 0.05$ ) and the abundance of *S. globosa* ( $n = 81, r = 0.311, p < 0.05$ ). Besides, the relationship of soil organic matter and the abundance of *S. globosa* also showed positive correlation ( $n = 81, r = 0.361, p < 0.05$ ). However, the relationship occur inversely for silt and clay whereby both showed negative correlation on soil organic matter ( $n = 81, r = -0.447$  and  $-0.53, p < 0.05$ ) and the abundance of *S. globosa* ( $n = 81, r = -0.310$  and  $-0.431, p < 0.05$ ). For recommendation, in order to study on the distribution of different types of soil particle size, soil organic matter and abundance of any crustaceans at the beach area, other factors such as tidal level, wave actions and vegetation in the area should be included because they also affect the distributions.