

**THE EFFECT OF SOIL ORGANIC MATTER AND REDOX
POTENTIAL TO THE DISTRIBUTION AND ABUNDANCE OF
CRABS BETWEEN TWO MANGROVE ZONES**

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ABSTRACT

THE EFFECT OF SOIL ORGANIC MATTER AND REDOX POTENTIAL TO THE DISTRIBUTION AND ABUNDANCE OF CRABS BETWEEN TWO MANGROVE ZONES

The amount of soil organic matter and redox potential can affect the distribution and abundance of crabs in mangroves. The soil samples from both mangrove zones were quantified by determining the soil organic matter by using loss on ignition (LOI) method. The redox potential (RP) which refers to oxidation-reduction conditions in the soils were measured by using redox potential meter to determine which mangrove zones effectively managed the amount of oxidation-reduction condition in the soils. Three sampling were done according to the moon phase, starting from early October until end of November. This study shows that, there were no differences in both the distribution and abundance of crabs and soil organic matter between the two mangrove zones. However, there were differences in the redox potential, where the redox potential in *Rhizophora mucronata* zone was lower compared to *Bruguiera cylindrica* zone, which shows the ability of *Rhizophora mucronata* in managing the changes of charges in the soils after every tidal inundation. There was a weak positive correlation between the soil organic matter to the distribution and abundance of crabs within the mangrove itself; *Rhizophora mucronata* zone ($R = 0.00$) and *Bruguiera cylindrica* zone ($R = 0.24$). There was a negative correlation between the redox potential to the distribution and abundance of crabs within the mangrove itself; *Rhizophora mucronata* zone ($R = -0.47$) and *Bruguiera cylindrica* zone ($R = -0.088$). In conclusion, only redox potential has effect to the distribution and abundance of crabs between the two mangrove zones.