

## Molecular Barcoding Reveals Possible Existence of Sympatric Species of *Emerita emeritus* in South Coast of Cilacap Central Java

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| <b>Abstract</b>     | <p>Cilacap Regency resides in the southern part of Central Java. It faces the Indian Ocean and has a quite long coastline with sandy beaches as the favorable habitats for mole crabs. Careful examinations on previously identified as <i>Emerita emeritus</i> samples from Cilacap, the mole crabs showed slight morphological differences to <i>Emerita emeritus</i> Linnaeus. We assume that our samples are sympatric species of <i>E. emeritus</i> complex rather than <i>E. emeritus</i> Boyko. A length of 560 bp fragments of the cytochrome oxidase 1 was sequenced. Homology test resulted in 83 - 86% sequences similarity to <i>E. emeritus</i> sequence available in GenBank (KR047035). Our samples also had high genetic distances (0.152 0.155) to the sequence of KR047035. The phylogenetic tree showed a clear separation between our samples and reference sequence (<i>Emerita emeritus</i> KR047035) with a quite long branch. Those all three kinds of data prove that our <i>Emerita</i> samples are most likely not belong to previously identified <i>Emerita emeritus</i> Boyko although it shows only slight morphological differences. These results indicate that possible cryptic species of <i>Emerita emeritus</i> or <i>E. emeritus</i> complex inhabits sandy beaches in Cilacap coast. It has been described that cryptic species are common in aquatic organisms. However, we need more samples to examine and strengthen our finding.</p> |
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