Assessing fish community structure at two different coral reef depths around Seribu Islands, Jakarta

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(Penilaian struktur komunitas ikan terumbu pada dua kedalaman terumbu karang berbeda sekitar Kepulauan Seribu, Jakarta)

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ABSTRACT

Coral reefs structure play important roles for reef fish assemblages. Coral coverage and reef fish abundance are associated with the positive relationship. However, the relationship between reef fish abundance and composition and depth variation around Pramuka Island is poorly known. This study was carried out to investigate the biodiversity and the trophic level of fish communities between two different
depths (3 and 10 m) around Pramuka Island regions (Pramuka Island and Sekati Island). The hard coral at the depth of 10 m within both study sites in Pramuka island held significantly higher percent cover than the depth of 3 m except in Dock 2. A total of 2620 individual fishes were counted, belonging to 58 species and 13 families. The fish community in 3 and 10 depth was dominated by omnivorous fishes. The multivariate analysis of fish abundance using the Bray Curtis similarity index and non-metric multidimensional scaling (NMDS) clearly showed the clustering of two different depths. The NMDS results showed that at the depth of 10 m are more clustered than 3 m depth. The present study results showed that the biodiversity of reef fishes around Pramuka Island seemed to be linked to the hard coral condition and depth.

Keywords: Coral, Depth, Reef fishes, Trophic level