

Investigating the genetic diversity and connectivity of giant mangrove crab *Scylla serrata* (Forsk., 1775) inhabiting mangrove swamps in Indonesia

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The giant mangrove crab *Scylla serrata* (Forsk., 1775), which is closely associated with mangrove forest, is one of the highly valued fishery commodities in Indonesia and is abundantly present throughout this region. However, the increasing human population and demands lead to unsustainable exploration and unsuitable management of mangrove forest, which is the primary habitat for *S. serrata*. The degradation of mangrove swamp might lead to declining crab populations and even threaten its existence. The relatively long pelagic larval duration (PLD) enables the planktonic larval stage of *S. serrata* to disperse as far as 1500 km, depending on the current. Thus, the currents and tides are crucial in determining the recruitment of larvae into an adult population. Knowledge of these patterns of connectivity is useful for fisheries management.

In order to analyze the genetic diversity and connectivity of giant mangrove crabs, a fragment of the mitochondrial cytochrome oxidase subunit I gene (COI) will be used. Another approach to achieve a better resolution of the genetic structure of *S. serrata* is using both mitochondrial and microsatellite DNA markers. In addition, the connectivity of giant mangrove crab between the population in Indonesia and East Africa might be worth to investigate.

Sampling in the main islands of Indonesia was done from September to October 2018 and photo of every individual captured as a reference. As the preliminary step of the molecular genetic investigation, DNA extraction and amplification performed and amplicon intensity checked with gel electrophoresis. DNA sequencing will be carried out in the near future.

Keywords: *Scylla serrata*; Pelagic larval dispersal; COI; Microsatellite; Connectivity