

# Taxonomic identification of six morphs of common edible marine crabs (Crustacea: Decapoda) in the southern coast of Sri Lanka

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## Abstract

Southern coast of Sri Lanka contributes to the country's economy by providing a huge income from marine fishery industry. Among important crustacean food fish species, crabs gain an attention due to its nutritive value and the distinctive taste. Although, several crab species are caught throughout the southern coast of Sri Lanka and available in the market for consumption, no proper scientific identification has been conducted to verify their exact species and taxonomic status. So far most studies have been reported on ecology and fisheries management aspects of mud crab species *Scylla serrata*. The current study was carried out to determine the taxonomic status of six morphs of edible marine crab species commonly available. Crabs were collected from fish landing sites and the markets along the southern coastal region. Three specimen from each morph were selected for genetic analyses. DNA sequence data were collected from partially amplified mitochondrial Cytochrome Oxidase I (COI) gene region (bar coding region).

Approximately 550bp long DNA fragment was recovered from each specimen and consensus sequence was prepared for each morph. To identify the collected morphs taxonomically, derived sequences of each morph were matched with the sequences available in the database of the National Center for Biotechnology Information (NCBI) using BLAST option. Results revealed that all six morphs belong to two different genera, namely Genus *Portunus* and Genus *Charybdis*. Four different species were identified as *P. pelagicus*, *P. sanguinolentus*, *C. hellerii* and *C. japonica*. To confirm the predicted species status, reference samples were rechecked for morphological characters using published reference materials. This investigation together with bar coding information could be utilized in developing crab fishery industry and in return for conservation purposes.

**Keywords:** *Genus Charybdis, Genus Portunus, mitochondrial COI gene, Southern coast of Sri Lanka*

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