

Genetic variation of



The genus Parapenaeopsis is an important group of marine shrimps for wild capture in the Indo-West Pacific region. Phylogenetics of penaeid shrimps is still a debatable issue. This study focuses on the phylogenetic relationships among seven species within the genus Parapenaeopsis, the population genetic variation of *Parapenaeopsis sculptilis* along Bangladesh coastline of the Bay of Bengal and the phylogeography of *P. sculptilis* in the Indian Ocean region by analysing cytochrome oxidase subunit 1 barcode (CO1) sequence. No population structure was detected in *P. sculptilis* collected from two sampling sites along the Bangladesh coastline (AMOVA and $\Phi_{ST} = -0.014$, $p > 0.05$; $F_{ST} = 0.061$, $p = 0.04$), which expanded first around 73 (CI: 36-119) kyr ago. The genealogical relationships in Bangladesh *P. sculptilis* population are shallow with haplotype diversity (h) of 0.58 and nucleotide diversity (π) of 0.0014. The different *P. sculptilis* samples from Bangladesh, India and Mozambique of the Indian Ocean revealed connectivity between western Indian Ocean and the Bay of Bengal. The phylogeny within the genus *Parapenaeopsis* showed a polyphyletic relationships for *P. hardickwii* and its taxonomy needs to be reevaluated. The study will help for genetic upgradation in aquaculture and monitoring of the population genetic diversity of *P. sculptilis*.

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