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Genetic population differentiation of the blue swimming crab *Portunus pelagicus* (Portunidae) in Thai waters revealed by RAPD analysis

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ABSTRACT. Genetic diversity and population differentiation of the blue swimming crab, *Portunus pelagicus*, in Thailand were analyzed by RAPD analysis. One hundred and twelve RAPD fragments were generated from 109 individuals of *P. pelagicus* using OPA02, OPA14, OPB10, UBC122, and UBC158 primers. The percentage of polymorphic bands in each geographic sample and that of each primer across overall samples were 72.7-85.0 and 92.0-100%, respectively. Large numbers of polymorphic bands found in the RAPD analysis suggested high genetic diversity of Thai *P. pelagicus*. The mean genetic distance between

samples across all primers was 0.0929-0.2471. Significant geographic heterogeneity was observed across samples overall and between all pairs of geographic samples ($P < 0.01$ for θ and $P < 0.0001$ for the exact test), indicating strong genetic differentiation of *P. pelagicus* in Thai waters, despite its high potential of dispersal. Limited gene flow levels (0.44-1.19 individuals per generation) of Thai *P. pelagicus* were also observed. A fine scale level of differentiation suggested that *P. pelagicus* from each geographic sample in Thai waters should be regarded as a separate genetic population and treated as a different exploited stock.

Key words: Genetic diversity; Population structure; RAPD; *Portunus pelagicus*; Species-specific markers

