Comparative Analysis of Morphological Characters of Blue Swimming Crab, *Portuntis pelagicus* (Linnaeus, 1758) Populations of Western and North-Western Regions in Sri Lanka

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The blue swimming crab, *Portunus pelagicus*, is abundant in indo-west pacific regions and extremely contributes for commercial fishery industry. In Sri Lanka, this species is typically found in Western, Northern, North-Western and North-Eastern Coasts. Morphological studies of *P. pelagicus* are important to identify population clusters and distribution patterns. Hence, this study was conducted to identify morphological variations of blue swimming crabs collected from Puttalum and Kalpitiya areas of the North-Western coastal region and the Negombo area of the Western coastal region. A Total of 240 individuals, 80 from each site were analyzed using twelve morphometric parameters. Standardized morphometric measurements were subjected to Discriminant Function Analysis (DFA) to observe intra-specific variations. According to the results, two discriminant functions were derived with 63.8% and 36.2% of variance for function I and 2 respectively, while function 1 was predicted as the strongest component ($P < 0.05$). The length to width ratio of the major cheliped merus (MEL/MEW=0.71) and ratio between carapace width (including 9th anterior-lateral tooth) to carapace length (CW2/CL-0.59) were identified as highly contributing parameters for function 1 and 2 respectively. The overlapped group plots suggested that there was no intra-specific morphological variability among three populations. Based on the results, it can be suggested that all three *P. pelagicus* groups are morphologically similar and consider as one population. The length-weight relationships of crabs in all three sites recorded negative allometric growth ($b<3$). However, results need to be confirmed using molecular data. Results of the current study provide basic information which could be utilized when constructing management plans on fisheries and conservation for this economically important carb species.

Keywords: Crabs, Morphometry, Population Study, Fisheries Management, Sustainability