



PROXIMATE COMPOSITION AND ANTIOXIDANT ACTIVITY OF FOUR PENAEID PRAWN SPECIES

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Due to the necessity of investigation on the nutritional value and the antioxidant activity of penaeid prawn, the present study was conducted for commercially available four penaeid prawn species namely; *Penaeus indicus*, *Penaeus monodon*, *Metapenaeus dobsoni* and *Metapenaeus ensis* found in the Sri Lankan market. This study is principally channeled towards proximate analysis of the biochemical composition following the standard AOAC methods and assessing the antioxidant potentials by DPPH radical scavenging assay. All statistical analyses were conducted using MINITAB program, version 14 with statistical significance at $P < 0.05$. The comparison overall demonstrated high amounts of moisture and protein with low amounts of total fat in all the four prawn species investigated. The moisture content ranged from 74.61% to 78.65% followed by the crude protein content which ranged between 18.29 - 19.87%. Total fat content added up to 1.32 - 1.53% and the ash content varied from 0.64% to 2.98%. The highest values for crude protein and total fat were recorded for *P. monodon* followed by *M. dobsoni*, *P. indicus* and *M. ensis*, respectively. The highest value for ash content was recorded for *P. monodon* and the lowest for *M. ensis*. The methanolic extracts of the analyzed four prawn species showed potent antioxidant activity in which IC₅₀ ranged between 0.038-0.099 g/mL, in the DPPH radical scavenging assay. These extracts from all the four species possessed DPPH radical-scavenging activity in a concentration-dependent manner. The highest IC₅₀ was shown by *M. ensis* followed by *P. indicus*, *P. monodon* and *M. dobsoni* orderly. As evidenced by the lowest IC₅₀ value (0.038 g/mL), *M. dobsoni* exposed the highest antioxidant activity and thus rate as a much important source of natural antioxidants compared to the other three species. As a whole, the present study revealed that the four penaeid prawns investigated comprise reasonably good nutritional value as well as possess antioxidant properties confirming the presence of potent natural antioxidant substances.

Keywords: *Penaeid prawn, biochemical composition, nutrition, antioxidant activity, DPPH*