

Microbiological Quality of Exported Sea Food Varieties in Sri Lanka in 2020-2022.

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The fisheries sector plays a vital role in Sri Lanka's social and economic status with approximately 1.3% contribution to the national Gross Domestic Production. Tuna species such as yellowfin tuna and bigeye tuna have the highest export demand in Sri Lanka. Seafood products such as prawns, crabs, squid, cuttlefish, lobsters, and sea cucumber are other varieties relished by the export industry. As raw fish and seafood need to meet appropriate microbial quality standards to eliminate potential health hazards prior to export, the current study was carried out to assess the microbiological quality of frozen/chilled raw seafood exported from the years 2020 to 2022. A total of 172 samples, including raw fish (n= 105), prawns (n=30), crabs (n=10), and marine molluscs (n=27) were assessed for Aerobic Plate Count (APC), *Escherichia coli*, *Vibrio cholerae*, *Vibrio parahaemolyticus*, *Salmonella* and *Listeria monocytogenes*. Microbiological analysis of the samples was done according to the ISO standards in an accredited laboratory. Out of 172 samples tested for APC, 84.88% of the samples resulted in $<5 \times 10^5$ CFU/g, 13.95% of samples detected values between 5×10^5 - 10^6 CFU/g, and 1.16% of samples exceeded 10^6 CFU/g. Out of 172 samples, 67.44% of samples did not detect *E. coli*. *E. coli* was detected only in 32.56% of samples. Out of positive *E. coli* samples, 98.26% of samples detected <11 MPN/g level, 1.74% indicated *E. coli* presence between 11-500 MPN/g level, and none of the samples exceeded 500 MPN/g. *V. parahaemolyticus* was detected in 7.79% of the samples out of 77 total samples tested. None of the tests was positive for *V. cholerae* (n=125), *Salmonella* (n=172) and *L. monocytogenes* (n=110). Results of the current study indicate an acceptable level of microbiological quality of fish and seafood samples exported from Sri Lanka.

Keywords: Export; fish; microbiological quality; seafood

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