

## Microbial Quality Assessment of Indian White Shrimp, *Penaeus Indicus* from Southwest Bangladesh

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**Abstract :** The microbial quality of Indian white shrimp (*Peneaus indicus*) from Bagerhat, Khulna and Satkhira of southwest Bangladesh was assessed where the parameters varied with different sources and the quality was found to be poor for Satkhira shrimp samples. Shrimp samples in fresh condition were collected to perform the microbial assessment and 10 pathogenic isolates for antibiotic sensitivity test to 12 antibiotics. The results show that total bacterial count of all the samples were beyond the acceptable limit 10<sup>5</sup> cfu/g. In case of total coliform and *E. coli* density, no substantial difference ( $p < 0.5$ ) was found between the different shrimp samples from different districts and also high quantity of TC exceeding the limit ( $> 10^2$  cfu/g) proves the poor quality of shrimp. The FC abundance found in shrimps of Bagerhat and Satkhira was similar and significantly higher ( $p < 0.5$ ) than that of Khulna samples. No significant difference ( $p < 0.5$ ) was found among the high density of *Salmonella*-*Shigella*, *Vibrio* spp., and *Staphylococcus* spp. of the shrimp samples from the source places. In case of antibiotic sensitivity patterns, all of them were resistant to ampicillin, Penicillin and sensitive to kanamycin. Most of the isolates were frequently sensitive to ciprofloxacin and streptomycin in the sensitivity test. In case of nutritional composition, no significant difference ( $t$ -test,  $p < 0.05$ ) was found among protein, lipid, moisture and ash contents of shrimp samples. The findings prove that shrimp under this study was more or less contaminated and samples from Satkhira were highly privileged with food borne pathogens which confirmed the unhygienic condition of the shrimp farms as well as the presence of antibiotic resistance bacteria in shrimp fish supposed to threat food safety and deteriorate the export quality.

**Keywords :** food borne pathogens, satkhira, *penaeus indicus*, antibiotic sensitivity, southwest Bangladesh, food safety

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