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Title: Detection of *Aeromonas* sp. from Chicken and Fish Samples by Polymerase Chain Reaction

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Abstract: A polymerase chain reaction was standardized for the identification of *Aeromonas* sp. using primers against 16S rRNA gene and aerolysin gene. The primers used were found to be highly specific for *Aeromonas* sp. and did not give positive result with other bacteria including other Gram positive and Gram-negative bacteria. The minimum detection level of PCR was found to be 10^2 and 10^4 cells mL^{-1} in case of 16S rRNA and aerolysin gene targeted assay, respectively. Suitability of the enrichment broth (Alkaline peptone water-cephalothin, APW-C) when tested to detect *Aeromonas* from the spiked samples gave good results on direct usage of the broth for template preparation without any subsequent treatment. The kinetics of the spiking study indicated that a minimum of 24 h enrichment was required for the detection of *Aeromonas* by cultural and PCR method. Among two PCR assays detection limits achieved by PCR targeting16S rRNA gene were better than aerolysin gene PCR assay. The results were comparable to cultural method. A total of 100 samples comprising of 50 each of chicken and fish samples were screened by cultural and PCR methods for the presence of *Aeromonas*. Two chicken samples and three fish samples turned out to be positive by both cultural method and PCR targeting 16S rRNA. From this study it was concluded that PCR assay targeting 16S rRNA gene can be used for the rapid detection of *Aeromonas* from chicken and fish samples after one step enrichment in APW-C.

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A. hydriphila, fish, meat, sensitivity and specificity