

***Shigella*, *Salmonella*, AND Enteropathogenic *Escherichia coli* IN JUVENILE
TREVALLY (*Caranx ignobilis*) FROM WESTERN SRI LANKA: MICROBIAL
AND MOLECULAR ANALYSIS**

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Marine fish are susceptible to contamination by pathogens through polluted water in their habitats or during handling, packaging, and processing. This study was designed to identify pathogenic bacteria (*Salmonella* spp., *Shigella* spp., and *Escherichia coli*) in the gut of *Caranx ignobilis* (trevally), focusing on the implications for human consumption. Sample collection was carried out from Negombo, Muthuwella, and Beruwela in the western coastal area of Sri Lanka, and five juvenile *C. ignobilis* from each location. The homogenized gut samples were spread onto individual MacConkey agar plates for the initial culturing step. Thirty-three bacterial colonies were identified and sub-cultured on McConkey media by streak plate method. Biochemical tests, including culturing on SIM agar, MR-VP, and Simmons citrate, were done to further identify and differentiate the bacterial species. The results indicated nine *Salmonella* strains., four *Shigella* strains., and four *E. coli* strains. The suspected colonies were further analysed via differential media (Xylose-Lysino-Deoxycholate agar and Chromogenic *E. coli* agar). Results demonstrated the presence of fourteen colonies of pathogenic bacteria, including nine *Salmonella* spp., four *Shigella* spp., and *E. coli*. The antibiotic sensitivity test was conducted with Chloramphenicol, Ampicillin and Erythromycin on the final fourteen isolated bacteria colonies. The resulted nine colonies were sensitive to Chloramphenicol with diameters of inhibition zones ranged from 10.30 mm to 30.30 mm, while all the colonies were insensitive to Ampicillin and Erythromycin. PCR conducted using genes *invA*, *invC*, *eaeA*, *ipaH*, and *bfpA* confirmed pathogenic bacteria as bands were observed for *Salmonella* spp. (*invA*) and *E. coli* (*eaeA*). The overall results of tests confirmed the presence of pathogenic bacteria in the gut of juvenile *C. ignobilis*. Therefore, implementing rigorous contamination control measures significantly decreases the health risk.

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