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BACTERIAL DISEASES IN A SHRIMP HATCHERY IN THE UDAPPUWA SUBZONE OF THE NORTH WESTERN PROVINCE OF SRI LANKA

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The majority of shrimp hatcheries in Sri Lanka are located in the coastal area of the North Western Province. The production of post larvae have significantly declined in this province due to low hatching rates, the long delay between developing stages, diseases of brood stock, and high mortality of larvae probably due to infectious diseases. As there has been a high incidence of bacterial and fungal diseases in Udappuwa hatchery, the largest hatchery in Sri Lanka, the current study is intended to determine the bacterial and fungal pathogens which cause economic losses in this hatchery located in the Udappuwa subzone of the North Western Province, and to determine possible treatment protocols.

Samples of water from the larval rearing tank, eggs with gum, and post larvae were collected during the period October 2011 to March 2012 from the Udappuwa hatchery. Samples were transported in ice to the Faculty of Veterinary Medicine and Animal Science, University of Peradeniya. In the laboratory, samples were immediately inoculated to trypticase soy agar, thiosulfate citrate bile salts sucrose agar (TCBS), and Saboraud dextrose agar. Bacterial identification was done by isolation and identification using morphological and biochemical characters. The antimicrobial susceptibility of the pathogenic organisms were determined by antimicrobial susceptibility tests (AST).

Vibrio spp. were detected by bacterial culture and 17 isolates on TCBS were used to further identify *Vibrio* spp. by using biochemical tests. Two species were predominantly present in water, eggs and shrimp samples: *V. harveyi* and another not identified up to the species level. Fungi were not detected in any of the samples. AST revealed that chloramphenicol and trimethoprim/ sulphonamide were more effective for both *Vibrio* species while *Vibrio harveyi* was resistant to erythromycin.

Improved management techniques such as the use of medicated feeds and vaccination may control vibriosis in shrimp hatcheries.

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