

Molecular characterization and antibiotic resistance patterns of *Vibrio cholerae* isolated from ornamental gold fish (*Carassius Auratus*)



Muralidharan Velappan¹, Deecaraman Munusamy² and Saritha Valsalam³

¹AMET University, India

²Dr M G R Educational and Research Institute, India

³Loyola College, India

Abstract

The objective of this study was to determine the presence and density as well as the antibiotic profile of *Vibrio cholerae* isolated from ornamental gold fish (*Carassius auratus*). A total of 175 ornamental gold fish (*Carassius auratus*) were analyzed for the presence of *Vibrio cholerae* bacteria. Infected and moribund gold fishes skin, gill and intestine were collected for the bacteriological investigation in the month of March 2017 to December 2017 at a local breeding farm in Chennai. The obtained samples were confirmed by polymerase chain reaction-plating on TCBS agar methods, *V. cholerae* was detected in 50 samples and also *V. cholerae* O139 was detected in 14 samples, with a density ranging between 3.5 to 85.0 MPN/g respectively. The isolated *V. cholerae* were further subjected to antibiotic susceptibility test in Mueller-Hinton agar using disc diffusion method of 10 different antibiotics. All the *V. cholerae* isolates shows highly resistant to Penicillin, Amoxycylav, Kanamycin and Cefotaxime when compared with other antibiotics used in this study. The MAR index values of 0.2 to 1.0 indicate that the isolates were exposed to high risk sources in the environment. This study also recommends saquariumfish may disseminate the bacteria in the aquatic environment and may transfer it to water birds that consume them. Thus, aquarium fishes are reservoirs of *V. cholerae* and may play a role in its global dissemination.

Biography

Muralidharan Velappan is a microbiologist, and a PhD research scholar in the department of marine biotechnology at AMET University, Chennai. He worked as a microbiologist and teaching faculty at Southern College of Medical Technology in the Department of Pharmacology. He's fields of work include, chronological order, marine microbial ecology, aquaculture pathology, marine bacteriology, in vitro susceptibilities of selectively used antibiotics against *Vibrio* species, role of bacteriophage in aquatic animal infectious diseases and novel *In-silico* drug designing. He has published eight research articles and one review article in peer review journals. He is a reviewer and editorial board member in various reputed international journals.



International Conference on Virology and Microbiology | July 30, 2020

Citation: Muralidharan Velappan, Molecular characterization and antibiotic resistance patterns of *Vibrio cholerae* isolated from ornamental gold fish (*Carassius Auratus*), Virology Congress 2020, July 30, 2020, page 4