(corresponds to 10^6 cfu mL^{-1}) and was added to the freshly prepared plates in duplicate. The plates were incubated at 28^0C for 48 h, Results obtained from haemolytic activity of crustacean haemolyph were compared with healthy human blood. A clear zone of haemolysis was observed for all the aquatic bacterial pathogens on both shrimp and crab blood agar plates, where no hemolysis was observed for human pathogens. In case of human blood agar, all the isolates produced clear zone of haemolysis. This result shows that specificity of host-pathogen relation towards the crustacean haemocytes and is most accurate method of haemolysis determination. In conclusion, haemolytic assay employing crustacean haemolymph can be used to evaluate the mechanism of host specificity for invasion by the aquatic pathogens.

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Studies on *Photobacterium damselae* subsp. *damselae* infecting marine finfish

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Marine fish farming is a very important activity of Indian aquaculture industry. The main marine fish species intensively cultured are cobia (*Rachycentron canadum*), asian seabass (*Lates calcarifer*) and pompano (*Trachinotus auratus*) and several new marine fish species are being evaluated as potential candidates for aquaculture production. The intensive culture of these new fish species has favoured the appearance of several outbreaks with varied mortality rates. In recent years, *Photobacterium damselae* subsp. *damselae* has been repeatedly isolated from epizootic outbreaks affecting several cultured fish species in different geographical regions. In addition, this bacterial pathogen has been reported to cause diseases in humans, and for this reason, it may be considered as an agent of zoonoses. The present study was aimed to characterize and identify *Photobacterium damselae* subsp. *damselae* present in diseased cobia collected from Gulf of Mannar region of India. *Photobacterium damselae* subsp. *damselae* was isolated from gills, kidney, liver and spleen by using the thiosulfate citrate bile salts sucrose agar supplemented with 1.5% NaCl medium. A total of 11 *Photobacterium damselae* subsp. *damselae* isolates were studied together with one reference strain. The biotyping and multiplex PCR analysis of ure C and 16S rRNA, 16S rDNA, Damselysin (dly) genes confirmed the phenotypic characterization of the isolates as *Photobacterium damselae* subsp. *damselae*. Experimental infection studies revealed *Photobacterium damselae* subsp. *damselae* was found in the internal organs of cobia and it showed pathogenicity to fish. The study reports the first time isolation of this bacterium from cultured cobia in Gulf of Mannar region, which warns us to pay more attention to fishery in this geographical area.

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Characterization of *Vibrio mimicus* isolated from fish and aquatic environment

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Vibrio mimicus, a species closely related to *Vibrio cholerae*, is a type of