

BOOK OF ABSTRACT

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***Acinetobacter venetianus*: A POTENTIAL THREAT TO SHRIMP AQUACULTURE OF BANGLADESH**

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Acinetobacter venetianus has been reported as a potential pathogen of red leg disease of whiteleg shrimp. Still, there is lack of information on *A. venetianus* as a pathogen in the world shrimp industry. For the first time in Bangladesh, we have detected this potential pathogen in the shrimp PL nurseries of south-west region. Moreover, the antibiotic susceptibility and multiple antibiotic resistance profiles were also investigated for the representative *A. venetianus* isolates.

The sampling covered eight nurseries of south-west region of Bangladesh. To isolate the *A. venetianus*, shrimp PL and three kinds of water *viz.* raw seawater, treated (after filtration and disinfection) water and outlet water were collected. The processed samples were inoculated in TCBS, EMB, SS, MSA agar media. Based on the colony morphology on selective agar plates, representative isolates were cultured on TSA plates for DNA extraction. Detection of the *A. venetianus* strains were performed by 16S rRNA gene sequencing. The Kirby-Bauer disc diffusion technique was performed to determine the sensitivity of the isolates against 12 antibacterial compounds. Multidrug resistance and MAR index of the isolates were calculated.

Among 49 primary isolates, 6 were finally identified as *A. venetianus*. The isolates YPL3-35, YWT4-39, YPL6-75, YWR7-79, YWO7-86 and YWR8-91 showed 100% similarity with *Acinetobacter venetianus*. These isolates were screened mainly on EMB agar plates showing pinkish colored small colonies except YPL6-75, which was isolated from SS agar plate showing cream color. The six isolates were resistant to penicillin G, trimethoprim, tetracycline, and five isolates were resistant to azithromycin, ciprofloxacin and erythromycin. However, no isolate showed resistance against ceftazidime and gentamycin. All the six isolates having MAR index from 0.5 to 0.75. The presence of this pathogen in the raw sea water, treated water, outlet water, and PL samples of five different nurseries is a matter of concern for the shrimp industry of Bangladesh. The findings of this research will help the shrimp farmers and policy makers to take proper biosecurity measures and surveillance program to protect shrimp industry from the potential threat of *A. venetianus* infection.

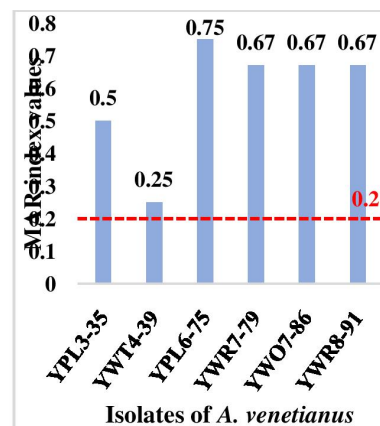


Fig. 1. MAR index values of six studied *Acinetobacter venetianus* isolates.