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Isolation and identification of the potential probiotics from the gut of the African catfish, *Clarias gariepinus*

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The aim of this study is to isolate beneficent probiotic bacteria from the gut of the African catfish, *Clarias gariepinus*. This study could be the first specific study to isolate and characterize indigenous potential probiotic strains from the gut of the African catfish. Eighty-nine isolates from *Clarias gariepinus* gut were screened for *in-vitro* antibacterial activities against five fish pathogens, strains *Aeromonas sobria (A. sobria), Aeromonas hydrophila (A. hydrophila), Pseudomonas aeruginosa (P. aeruginosa), Pseudomonas putida (P. putida)* and *Staphylococcus aureus (S. aureus)*. Seven isolates had antibacterial activities with at least one pathogen, and safe after injection intraperitoneally. Confirmatory tests showed that such isolates can survive in the presence of high bile concentrations (10%) and at highly acidic pH. Three strains are sensitive to selected antibiotics. Four and three out of seven strains had amylase and protease activities, respectively. Based on morphological, biochemical tests and 16S rRNA gene analysis, the isolated strains were identified as follows: *B. subtilis; Bacillus amyloliquefaciens, Bacillus cereus, Citrobacter freundii (2 isolates), Leuconostoc sp. and Edwardsiella sp*.

Biography

Khaled M Selim has completed his PhD from Niigata University, Japan and Postdoctoral studies from Faculty of Science, Niigata University, Japan. He was the Lecturer of Fish Diseases and Managements, Zagazig University, Egypt. At present, he is a Researcher in Kuwait Institute for Scientific Research. He has published more than 10 papers in reputed journals; 6 of them are published in international journals, while 4 of them were published in local journals.

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