Bacterial flora in farmed *Huso huso* before and after releasing to cages located in the Caspian Sea

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Abstract

Considering the significance of sturgeon rearing and producing the meat and caviar which are one of the most development programs in aquaculture, it is necessary to investigate on hygiene condition of rearing environment to gather information about current rearing condition and to adopt the best method for prevention of disease and treatment in sturgeon. In this study, skin, gills, water and kidney bacteria flora before transferring the farmed *Huso huso* (with average weight 103.45± 27.5 gr) and after transferring to the cage were determined in fish washed with saline (0.85% NaCl) in the laboratory under sterile conditions since 2011 to 2012. In order to count the CFU (colony forming unit), 1 square centimeter of skin, and 1 gram of fish gill were removed and washed for preparing of a homogeneous solutions of the decimal dilutions. In order to cultivate the kidney, the ventral surface of fish, disinfected and then the body aseptically opened for kidney sampling. Primary cultured on bacteriological medium was TSA. In addition to purification and identification of bacteria using standard bacterial identification, API 20E kit was used. Bacterial investigation results showed that total bacteria in rearing water tanks, fish gills and skin were 5.80-5.84 Log cfu ml^{-1}, 3.28-3.41cfu g^{-1} and 5.36-5.58 cfu $(cm^2)^{-1}$, respectively. The range of bacterial count in sea water, skin and gill were 3.97-5.92 Log cfu ml^{-1}, 3.74-5.41 cfu $(cm^2)^{-1}$ and 2.01-3.40 $cfug^{-1}$, respectively. Before and after releasing fish, isolated bacteria from fish and rearing water were included Enterobacteriaceae, *Aeromonas* sp., *Pseudomonas* sp., *Acinetobacter* sp., *Staphylococcus, Halomunas* sp. *and Shewanella* sp.

Keywords: Farmed *Huso huso*, Caspian Sea, Total count, Bacteria.