

Examining the Presence of Heterotrophic Aerobic Bacteria (HAB), and Sulphate Reducing Bacteria (SRB) in Some Types of Water from the City of Tripoli, Libya

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Abstract : This study aimed at testing the various types of water in some areas of the city of Tripoli, Libya for the presence of Heterotrophic Aerobic Bacteria (HAB), and anaerobic Sulphate Reducing Bacteria (SRB). The water samples under investigation included rainwater accumulating on the ground, sewage water (from the city sewage treatment station, sulphate water from natural therapy swimming sites), and sea water (i.e. sea water exposed to pollution by untreated sewage water, and unpolluted sea water from specific locations). A total of 20 samples have been collected distributed as follows: rain water (8 samples), sewage water (6 samples), and sea water (6 samples). An up-to-date method for estimation has been used featuring readymade solutions i.e. (BARTTM test for HAB and BARTTM test for SRB). However, with the exception of one rain water sample, the results have indicated that the target bacteria have been present in all samples. Regarding HAB bacteria the samples have shown a maximum average of 7.0×10^6 cfu/ml featuring sewage and rain water and a minimum average of 1.8×10^4 cfu/ml featuring unpolluted sea water collected from a specific location. As for SRB bacteria; a maximum average of 7.0×10^5 cfu/ml has been shown by sewage and rain water and a minimum average of 1.8×10^4 cfu/ml by sewage and sea water. The above results highlight the relationship between pollution and the presence of bacteria in water particularly water collected from specific locations, and also the presence of bacteria as the result of the use of water provided that a suitable environment exists for its growth.

Keywords : heterotrophic aerobic bacteria (HAB), sulphate reducing bacteria (SRB), water, environmental sciences

Conference Title : ICESE 2015 : International Conference on Environmental Sciences and Engineering

Conference Location : Istanbul, Türkiye

Conference Dates : March 23-24, 2015