

Bacterial communities in UAE water

Amna Al Otaiba and Selwa Alsam

School of Biological Sciences University of Essex, UK

Waterborne microbial pathogens and associated illnesses are a major public health concern worldwide, not only by the morbidity and mortality that they cause, but by the high cost of prevention and treatment. Environmental deterioration is the obvious reason behind water pollution by these pathogens. In the United Arab Emirates (UAE) UAE, studies related to water contamination are not many, therefore this study was conducted to explore bacterial communities in UAE water bodies such as Desalinated Water and Environmental /Natura water. Forty two of water samples were collected, filtered through 0.25 micrometer nitrocellulose membranes. The Membranes were incubated on Plate Count Agar (PCA) media at 30°C and 37°C. Colonies were isolated and propagated further to produce pure axenic cultures. All cultures were characterized morphologically and by Gram staining. After characterizing different types of colonies, all were identified using Vitek 2 technology. This study revealed that all samples had relatively high levels of pathogenic bacteria. which may cause severe illnesses such as hemorrhagic uremic syndrome (HUS) and kidney failure. However there was about 43.75% of the samples contain *Pseudomonas* strains and about 62.5% of the samples contain *Staphylococcus* strains.

Results: Results of this study indicated existence of heavy counts of Gram negative and Gram positive bacteria including some *coliforms* in 15 out of 16 samples. Water distribution Authorities in UAE may have to revisit the current water standard in UAE.

Biography

Ms. Amna al Otaiba is a PhD student under supervision of Dr. Selwa Alsam at the School of Biological Sciences, University of Essex, has published about 10 articles in refereed journals and serving as Director of Environment Department at Al Ain Wildlife Park and Resort in UAE. Has 17 years Experience in the field of Environment and attended many international scientific conferences.

amsalooa@essex.ac.uk
salsam@essex.ac.uk

Notes: