**POSTERS**

**PENV.49**

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**Environmental Microbioloy, POSTERS**

**PENV.50**

Carbohydrate on the bacteriological quality of breeders and larvae in a hatchery of Ostrea edulis L. in the Northwest of Spain

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**PENV.51**

Culturable bacterial diversity in the drinking water distribution system of Sevilla

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**PENV.52**

Effect of conditioning on the bacteriological quality of breeders and larvae in a hatchery of Ostrea edulis L. in the Northwest of Spain

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**PENV.53**

Microbial communities in the cooling water system of a Spanish Nuclear Power Plant

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**PENV.54**

Survival of VBNC Legionella pneumophila in drinking water following chlorine disinfection

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Legionella pneumophila is a waterborne pathogen that has been found to be resistant to the chlorine disinfection of drinking water. The aim of this work is to demonstrate that although no L. pneumophila can be detected by using standard plating techniques, VBNC cells can still be present in such systems. In a cell suspension of L. pneumophila NCTC 12821 was prepared in dechlorinated and filter-sterilised drinking water. Chlorine was added and samples were taken after 0, 10 and 30 minutes for cell quantification by culture on BCYE agar plates and by SYTO 9 double staining. In the control assay (no chlorine) the number of cultivable and viable cells remained constant with time. When exposed to 0.2 mg L-1 of chlorine it was observed that cell cultivability decreased with time, but the number of viable cells remained constant. When chlorine concentration was increased to 0.7 mg L-1 and 1.2 mg L-1, cultivability was completely lost in 30 and 10 minutes, respectively. Both cases there was no significant decrease in the number of viable cells and VBNC cells were detected by DNA electrophoresis. These results demonstrate that even after completely losing cultivability, it is possible to find live cells in drinking water in the VBNC state. This suggests it is necessary to employ new methods to detect pathogens in water after disinfection to guarantee a safe distribution of drinking water.

**PENV.55**

Chromobacterium violaceum, Pseudomonas aeruginosa and Ralstonia solanacearum: homologous fucose/mannose and heterologous fucose/mannose and galactose specific lectins

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**PENV.56**

Strain N64, an exopolysaccharide-producing bacteria capable of denitrifying

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**PENV.57**

Strain N64 is an halophilic, exopolysaccharide-producing and denitrifying bacterium, isolated from a hypersaline soil, bordering a Mediterranean coast in Almería (Spain). Strain N64 is Gram-negative, non-motile and shows a morphology of short rods, appearing single or associated; it is oxidase and catalase positive. The physiology and metabolism of this strain have been characterized. The results obtained show that the strain is significantly different to the genus Halomonas. This information has been complemented by sequencing of the 16S rRNA and nosZ genes, keys in the denitrification process and useful to investigate phylogenetic relationships among communities of Nitrobacter. The G+C content and the distribution of the lipopolysaccharide tests also show that it could be assigned to this genus: It is moderately halophilic, growing best with 5%-10% w/v of NaCl. It is also able to grow in a wide range of temperatures, from 4ºC to 45ºC. It hydrolyses casein, tyrosine and esculin. Urease, lecithinase, phenylalanine deaminase and phosphate are positive. Growth in the presence of nitrate is also positive. The strain N64 can grow in anaerobiosis with nitrite or fumarate as terminal electron acceptors. The results obtained suggest that strain N64 could belong to the genus Halomonas.

**PENV.58**

Cultural bacterial diversity in the drinking water distribution system of Sevilla

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The present study is focused on monitoring the biodiversity of drinking water of Seville (Spain) by using several physico-chemical parameters (temperature, pH, free chlorine, total chlorine, total organic carbon), total and viable cell counts and heterotrophic plate count. Moreover, a broad study of the culturable bacteria of this system was carried out based on molecular and phylogenetic analysis of 16S rRNA gene sequences. For this purpose, four sampling campaigns during one year were carried out. A total of 253 strains were isolated and studied based on their partial 16S rRNA gene sequences. They were affiliated to 18 different phyla but only 10 species were obtained from more than one phylum but only 10 species were obtained from more than one genus. The predominant genus was Pediococcus (3%) and Bacteroidetes (2%) were also detected. The results obtained suggest that strain N64 could belong to the genus Halomonas.