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Preliminary results on white mats from San Simon Bay (NW Iberian Peninsula) using DNA techniques

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Bacterial mats are seen as white patches on the seabed at active seep sites. In San Simon Bay, located at the innermost part of the Ría de Vigo (NW of Iberian Peninsula), white mats are visualised in intertidal areas. These white mats has been considered to comprise communities of the sulphide oxidising bacterium *Beggiatoa*. To confirm the presence of *Beggiatoa* species in these white mats DNA techniques were applied. Two samples from San Simon Bay 1 km apart from each other were taken in July 2006. After concentration of white mats and DNA extraction, a segment of 450 bp of the 16S rRNA gene was amplified by PCR using universal primers. The PCR products were purified and inserted into a pGEM vector. Competent cells were transformed with these constructions and grown on LB plates with ampicillin. Twenty colonies were randomly selected for plasmid DNA extraction and their inserts were sequenced with the SP6 primer. The sequences obtained were compared with those in the Genbank database using BLAST and two groups of sequences were found. In the first group the best matches (with the lowest e values) corresponded to DNA sequences of the sulfur oxidizing bacteria genera *Thiomicrospira*, *Thiovibrio* and *Hydrogenovibrio*. The other group of sequences had the best matches with DNA sequences of different genera of sulfate-reducing bacteria as *Desulfomicrobium*, *Desulfobacterium*, *Desulfitobacterium*, *Desulfobulbus*, *Desulfovibrio*, *Bacillus*. None of the sequences matched with any *Beggiatoa* DNA sequence deposited in the Genbank database. This could be indicative of either the low presence or absence of *Beggiatoa* species in the white mats sampled in the Ría de Vigo. Nevertheless, more sequences and samples of white patches are required to clarify the putative presence of *Beggiatoa* species in the white

mats in San Simon Bay.