

## Utilisation des hydrocarbures par la microflore bactérienne du site hydrothermal du bassin de Guaymas (Golfe de Californie)



Microbial utilization of occurring hydrocarbons by the sediment microbiota of Guaymas basin hydrothermal site (Gulf of California) The Guaymas Basin (Gulf of California) is an actively spreading oceanic basin and a site of hydrothermal activity. The basin floor, at about 2,000 m depth, is covered with a thick layer of pelagic sediments. The thermal alteration of recent sedimentary organic matter by the hydrothermal system generates hydrothermal petroleum. During the French-Mexican cruise Guaynaut, in November 1991, various samples were collected by means of the French submersible Nautil. Among the different scientific objectives of this campaign is the examination of the potential for hydrocarbon degradation by microbiota. Investigations were carried out to characterize hydrocarbons in the collected samples and to research microbial utilization of these hydrocarbons. Degradation of petroleum and one aromatic hydrocarbon (phenanthrene) was observed at 20 degrees C in aerobic conditions for a hydrothermal mineral deposit and some surface sediments. Mesophilic hydrocarbon-utilizing bacterial communities were not capable of growing on hydrocarbons as the sole carbon source. These preliminary results correlate well with geochemical analyses indicating

microbial hydrocarbon degradation. The conclusions of this study are in a good agreement with a prior biodegradation study by Bazylinski et al. (1988; 1989) carried out at this hydrothermal site.

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