

ISOLATION OF HALOARCHAEA FROM LOW SALINITY COASTAL SEDIMENTS AND WATERS OF GOA – INDIA

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ABSTRACT

Solar salterns form an important part of the landscape and ecology of Goa. Haloarchaea are the dominant microorganisms inhabiting such ecosystems. Most probable counts of haloarchaea in solar salterns and estuarine regions were obtained using MPN technique modified during the study. Solar salterns and sea water showed a 90% higher count of extreme halophiles as compared to sea sediments. Twenty one haloarchaeal cultures having orange, pink or red pigments were isolated. Their archaeal nature was substantiated by their resistance to 500 IU/ml penicillin, presence of glycerol diether lipid moieties, bacterioruberin pigments, lysis of cells in water and the absence of DAP. Based on chromatograms of polar lipid profiles and constituent glycolipids and phospholipids detected therein, the cultures were tentatively assigned to *Haloferax*, *Halobacterium*, *Haloarcula* and *Halococci*. The biochemical activities of these cultures indicated that they could utilize a wide range of sugars as sole source of carbon.

KEYWORDS: haloarchaea, hypersaline, bacterioruberins, *Halobacteriaceae*, polar lipids.