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POSSIBLE INVASION OF TERRESTRIAL BACTERIA TO MARINE ALGAL CONSORTIUM

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ABSTRACT: The Indian subcontinent has shown luxuriant growth of marine algae along its continental shelf. The algal consortium discussed here was collected from a fisherman's net in the Arabian Sea at the Kovalam Beach, Trivandrum, Kerala. The geographical location of the spot is 8°30'27?N 76°58'19?E? . The algae after collection was kept in 10% of saline water collected as an aliquot from the Arabian Sea itself. Further observation showed that the algae caused blackening of the layer of sand which got precipitated beneath the vessel due to liberation of hydrogen sulphide (H_2S). It was experimentally observed that hydrogen sulphide was liberated not by the algae but by the bacteria present in the vicinity. The algae were having an antagonistic relationship with bacteria, as the later reduced the algal viability and shelf life. The bacteria was isolated, characterized and identified by 16s DNA analysis. It was gram positive, non motile organism and a common resident of soil and genetically identified as *Bacillus mycoides*, which probably is not a natural resident of sea. It showed citrate positive, methyl red and Voges Prauskaur tests positive. This clearly demonstrates that the sewage carried by different rivers or canals flowing into the sea is causing serious damage to the marine biodiversity in the estuarine areas of the subcontinent.

Key words: *Antagonistic relationship, Bacillus mycoides, Hydrogen sulphide, Marine algae, Soil borne bacteria*