INTRODUCTION

All over the world microorganisms, isolated from natural environments, have been screened for asparaginase production. Hvozyak and Carpenter (1973) isolated strains from different sources and concluded that secretion of effective asparaginase producers depended on the place of collection. Selvakumar (1979) reported that intertidal gastropod _Telescopium telescopium_ harboured higher percentage of L-asparaginase positive bacteria than bivalves and oysters. Not all asparaginas derived from different microbial sources exhibited antitumour property, and further their proteinaceous nature causes immunological disorders. Therefore it is important to look for new sources of asparaginas with antineoplastic and antitumour properties from different organisms in order to overcome these difficulties. With this objective the present investigations on asparaginas from bacteria associated with _Chicoreus ramosus_ are carried out.

MATERIALS AND METHODS

The bacterial strains were identified to the generic level following the scheme of Simidu and Aiso (1962) The L-asparaginase positive bacteria were identified by the method proposed by Selvakumar _et al._ (1979).

RESULTS AND DISCUSSION

A total of 75 bacterial strains were isolated from shell surface, mantle and gut of _C. ramosus_. From shell surface, 24 strains were isolated. _Vibrio_ sp. and _Pseudomonas_ sp. constituted 20.8% respectively followed by _Bacillus_ sp. (12.5%) _Photobacterium_ (12.5%) and _Enterobacteriaceae_ (8.3%). About 27 strains were isolated from mantle in which _Bacillus_ sp. constituted 29.6% followed by _Micrococcus_ sp. 19.2%, _Corynebacterium_ sp. 11.1%. _Alcaligenes_ sp. _Flavobacterium/Cytophaga and Photobacterium_ were few in numbers. About 24 strains were isolated from gut region in which _Vibrio_ sp. (20.8%) represented a major portion. This was followed by _Enterobacteriaceae_ 16.6% and _Micrococcus_ sp. 12.5%. Considerable number of _Bacillus_ sp., _Pseudomonas_ sp. and _Photobacterium_ sp. were also isolated.

The shell surface harboured about 66.6% asparaginase positive strains of the total strains isolated. _Bacillus_ sp. and _Pseudomonas_ showed highest percentage (100%) of positive strains followed by _Vibrio_ 80%, _Enterobacteriaceae_ 75% and _Micrococcus_ 66.6%. In mantle about 55% of the total strains screened showed positive result. Members of _Enterobacteriaceae_ and _Vibrio_ showed 100% positive result followed by _Bacillus_ and _Pseudomonas_, 66.6% respectively. About 70% of the bacteria isolated from the gut was found to be L-asparaginase positive. _Enterobacteriaceae_ showed highest percentage of positive cultures (100%) followed by _Vibrio_ (80%) _Pseudomonas_ (80%) and _Photobacterium_ (66.6%). It is inferred from this study that the number of L-asparaginase producing bacteria is higher in the gut region than in shell surface and mantle. Mantle seems to be less preferred area by the L-asparaginase positive bacteria. Further studies are in progress to investigate the virulence of the particular L-asparaginase positive strains and activity of L-asparaginase isolated from the virulent strains at test animals with induced cancer.
REFERENCES


