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PRELIMINARY ORGANIC GEOCHEMICAL STUDIES ON THE ALGAL MATS OF MANNAR, SRI LANKA

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Algal mats are presently being studied in many parts of the world for their organic constituents, their environments of formation and also for their metal contents. Samples of algal mats covering an extensive area over the tropical clastic tidal flats of Mannar were collected in precleaned polythene containers. The 80 mesh fraction of air dried and pulverized samples were taken for trace metal ion content and metal ion absorption studies.

It was observed that the metal trapping of the algal mats was extremely high and that the pH conditions were critical in such absorption. By the use of highly acidic solutions, the trapped metal ions were partially removed.

The samples taken from different tidal zones (Low, Intermediate and Upper tidal zones) were analysed for Cu, Fe and Mn and these show a marked increase towards the more marine environments. A range of 2.5-110 micro g/g for the metal ions were observed for the different tidal zones. The metal trapping capacities of algal mats and their derivatives indicate their potential use in industrial waste treatment processes and the variations of the trace metal contents indicate different geochemical conditions that had prevailed in the tidal flat environments.