BD Benthic deposit feeders Echinoderms, Holothurians

The phy-tobenthos, principally diatoms, was a major component of the sedimentary organic carbon pool. Bacteria are more strongly selected during feeding by holothuroids than are other organic components (Moriarty, 1982), and are also more efficiently assimilated (Yingst, 1976; Moriarty, 1982), they cannot be considered a major food source. Moriarty (1982) suggested that they may account for about 10 % of the carbon requirements of *Holothuna atra.* It therefore appears likely that detrital (non-living) material is the major source of nutrition for the deposit feeding holothuroids and spatangoids. The data on meiofauna and phytobenthos, and the inferred biomass of bacteria, imply that more than half of the sedimentary carbon pool is represented by detritus. Other workers have found the detritus to comprise 60 to 90 % of the total organic carbon in reef sediments (de Vaugelas, 1981; Moriarty, 1982). Even assuming complete assimilation of bacteria, meiofauna and killed phytobenthos, at least fifty percent of the ration of assimilated carbon must derive from detritus.

Considered nonselective feeders, holothurians shovel, scoop, and rake large quantities of sediment into their mouths to extract nutrition from biofilms, organic debris, and microorganisms.

|  |  |
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| **prey item** | **probability of consuming** |
| MI Phytobenthos diatom benthic | 0.3 |
| BAC Bacteria demersal | 0.2 |
| DL Detritus | 0.3 |
| DR Detritus | 0.3 |
| BO meiofauna | 0.2 |

Reference

L. S. Hammond 1983 Nutrition of Deposit-Feeding Holothuroids and Echinoids (Echinodermata) from a Shallow Reef Lagoon, Discovery Bay, Jamaica MARINE ECOLOGY - PROGRESS SERIES Vol. 10: 297-305,

Erin R. Graham a, Joseph T. Thompson 2009 Deposit- and suspension-feeding sea cucumbers (Echinodermata) ingest plastic fragments Journal of Experimental Marine Biology and Ecology 368