

Uptake rates of dissolved organic matter by four cold-water coral species from the Cap de Creus canyon (northwestern Mediterranean)

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It has recently been demonstrated that dissolved organic matter (DOM) may be an important carbon and nitrogen source for several symbiotic and asymbiotic tropical coral species. Conversely, there is still no information on the possible DOM uptake by cold-water coral (CWC) species. DOM contains many compounds, such as sugars or amino acids. It is generated in the surface ocean from the degradation by microorganisms, of the primary and secondary productions (remineralization), on time scales of hours to days. However it is also exported from the surface into deeper waters, especially during the high-density water masses formation. In this study we investigated for the first time the uptake rates of DOM in the form of amino acids by *Madrepora oculata*, *Lophelia pertusa*, *Dendrophyllia cornigera* and *Desmophyllum dianthus* from the Cap de Creus canyon, located in the northwestern Mediterranean. This work aims to get a better understanding of the feeding ecology and ecophysiology of Mediterranean CWC species. Results are discussed in the light of recent studies on the ecology of these species, as well as of tropical and temperate corals, and interpreted in order to improve our understanding of the geographical and bathymetrical distribution of CWC populations.