NOTE ON THE PALMOPHYLLUM CRASSUM-STYLOCIDARIS AFFINIS COMMUNITY IN THE SOUTH-EASTERN MEDITERRANEAN SEA.

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Abstract. At the lower limit of the circalittoral zone (90-120 m depth) there is an almost continous belt of the green alga Palmophyllum crassum, concentrating high population densities of its grazer, the sea urchin Stylocidaris affinis. This association has a stable character and therefore it should be regarded as a distinct benthic community in the south-eastern Mediterranean Sea.

Résumé. A la limite inférieur de l'étage circalittorale (90-120 m de profondeur) il y a une ceinture presque continue de l'algue verte Palmophyllum crassum, concentrant des populations denses de l'oursin brouteur Stylocidaris affinis. L'association a un caractère stable, en conséquance elle doit être considéré comme une communauté distincte du benthos de la Mediterrannée sud-orientale.

Investigations on the benthos carried out during 1975-1976 along the eastern coast of Libya, covering the shelf area comprised between the meridians 19°30' E and 25°00' E, provided new data on the community succession in relation with depth gradient. One of the characteristics of the vertical zonation within the phytal system is the constant occurrence of several distinct macrophytic associations, forming more or less perennial belts of soft vegetation. All over the lower infralittoral and circalittoral zones, between depth ranges as broad as 10-130 m, these belts occur alternatively, roughly parallel against each other. The stability of this feature of the phytal benthos has been established during four consecutive seasonal cruises, by means of 296 samples.

The deepest situated and possibly the most stable belt of soft vegetation is dominated by the green alga Palmophyllum crassum (NACC.) in depths between 75-130 m. However, the most dense populations were found within the range 90-120 m on maërl sediments, transitory from DC to DL (PÉRÈS & PICARD, 1964; PÉRÈS, 1967). The mean algal biomass amounts 210 g/m^2 (wet wt.), its stored energy potential being equal to 6906 cal/m^2 (299 cal/g dry wt.).

First mentioned by PÉRÈS and PICARD (1958), then stated by PÉRÈS (1967) that "..son abondance permet de dire qu'il y a un facies oriental a P. crassum du maërl", now I also agree the necessity to estabilsh a distinct community based on the perennial thriving of this alga in the close vicinity of the shelf edge, as being the deepest situated belt-like formation determined by the presence of a soft macrophyte, marking the lowest limit of the circalittoral zone. Dense populations of P. crassum are always associated with striking densities of the sea urchin Stylocidaris affinis (PHIL.) - 22-116 ind/m^2 - grazing on the algae. Although eurybathic (FREDJ, 1974), this sea urchin do not attain such high densities elsewhere. Consequently, in order to define this distinct subunit of the circalittoral benthos in the south-eastern Mediterranean - and to express the principal producer/consumer relationship within the community too - I propose the adoption of the "Palmophyllum crassum-Stylocidaris affinis community" term.

Among other macrobenthic species the following ones are particularly frequent within this community: Scyllarus pygmaeus (BATE), Munida iris rutlandi ZARIQUIEI ALVAREZ, Heterocrypta maltzani MIERS, Actea rufopunctata (MILNE-EDWARDS), Ebalia cranchii LEACH, E. tumefacta (MONT.), further Eulima aff. monterosatoi (DE BOURY) mostly as endobiotic in Stylocidaris, Astrea rugosa (L.), Arcopagia balaustina (L.) and Palliolum incomparabilis (RISSO). As concerns quantitative aspects, in 21 samples taken from this community the average values of the total zoobenthos amounted D = 25,212 ind/m^2 and B = 117.28 g/m^2, from which the meiobenthos were D = 22,083 ind/m^2 and B = 3.01 g/m^2.

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