NEW DATA ON DEEP DIVING AND DREDGING ON THE MEDINA RISE AND THEIR GEODYNAMIC IMPLICATION

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RESUME - Deux dragages effectués en 1982 sur le Monts de Medine (Mer Jonienne) ont récupéré des roches d'age Aptienne et Cretacée superieure. Cettes nouvelles données augmentent les connaissances, mais, en même temps, posent des problèmes sur l'evolution paleogéographique du bassin.

The Jonian Sea is bordered by poorly tectonized margins limiting the Apulian and Malta plateaux and Medina and Cyrene seamounts on which Mesozoic and Cenozoic sedimentary sequences are exposed. During 1980 and 1981 the ESCARMED Group carried out a detailed bathymetric survey of the principal escarpements, took some still photographs of the sea bottom and some dredgings. 25 dives of the submersible CYANA were also devoted to the exploration. A complete documentation of continuous television records, still photographs and some rock samples were collected. The preliminary results, presented to the CIESM (ESCARMED 1981) and in press in the I.F.P. Revue (ESCARMED 1982), show a different age for the geological evolution of the different zones: while on the Apulian rise during all the Upper Cretaceus a greatly subsident shelf existed, in the Malta excarpement during Middle Jurassic (or Upper Lias) the subsiding platform is broken up, lowered and a pelagic sedimentation is established. On the Cyrene plateau pelagic facies of Senonian age follow lower and medium Cretaceous breccias and shelf deposits.

On the Medina Seamounts, to the contrary, the lack of samples did not yet permit any consideration. A dive (CY 80-33) conducted between 2900 and 1400 mt of depth on Mount Medina "B" has nevertheless confirmed the presenceof a thick sedimentary sequence consisting of an alternation of massive and well stratified banks. A new dredging station made in the same zone (J 82-1:35 00.6'-17 05.8'/35 00.1 - 17 06.2') by the R/V BANNOCK in 1982 between 2650 and 2050 mt. of depth recovered:

- white pelagic marly limestone and marls ("Trubi Formation") of lower Pliocene age (G. punticulata zone);
- calcarenites of shallow water deposition with Pachyodonts and Orbitolina of Aptian age.

From an other dredging carried out more to the west, on Mount "B", (J 82-7: 35 22.2' - 16 42.4'/35 21.8 - 16 41.3' - 2000-1740 mt.) we obtained (apart from recent calcareous crusts):

- fragments of marly linestone with Globotrucana tricarinata of Upper Cretaceous age;
- breccias with siliceous and calcareus laminated elements with fragments and fanthoms of macrofossils of an imprecisable age.

These new data raise some considerations:

- during Aptian a shallow area existed in the Medina Rise zone that sunk in the upper Cretaceous, as indicated by the sediments with Globotruncana;
- the upper Cretaceous sedimentation is therefore pelagic in all the Jonian escarpements with the only exception of the Apulian Rise where the shallow water facies continues to the Aptian-Albian when the area emerges;
- the drowning of the platforms, the major Mesozoic palaeogeographic event in the area, was not syncronous: in the Malta zone this happened in the Middle Jurassic, while on Medina and Cyrene it took place throught Cretaceous (between Lower and Late?);
- these differences between very close areas suggest important implications on the geodynamic evolution of the basin in terms of palaeoenvironments;
- the age of formation of the escarpements still remains indeterminable. The frequent recovery of Lower Pliocene marls ("Trubi") which seem to carpet the slopes suggests an age at least older than this epoc.