

THE BC10 BOX-CORE (PALEOFLUX CRUISE I) FROM THE "INNER DOME" AREA IN URANIA BASIN (EASTERN MEDITERRANEAN). PALEOCLIMATIC DATA FROM PTEROPOD ASSEMBLAGES

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The distribution of twelve Pteropods species of box-core BC 10 from the Inner Dome (Urania Basin - Eastern Mediterranean) was analyzed quantitatively. The aim was to study the Pteropod assemblages in a pelagic sedimentary sequence where typical lithological marker (sapropel) of the Pleistocene of eastern Mediterranean was not manifest. Box-core BC 10 was raised from the Inner Dome (Urania Basin Lat: 35°14'00" N Long: 21°30'23" E) at depth of 3382 m, during the Paleoflux Cruise I of the R/V Urania (September-October 1993). The box-core has a length of 55 cm. Pteropod mud is the dominant lithology (fig.1); a brownish millimetric level, and a strongly bioturbated level also occur. Quantitative analysis was carried out on nine samples, considering the size fraction larger than 250 μ .

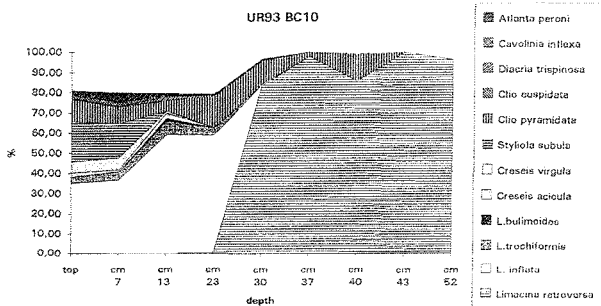
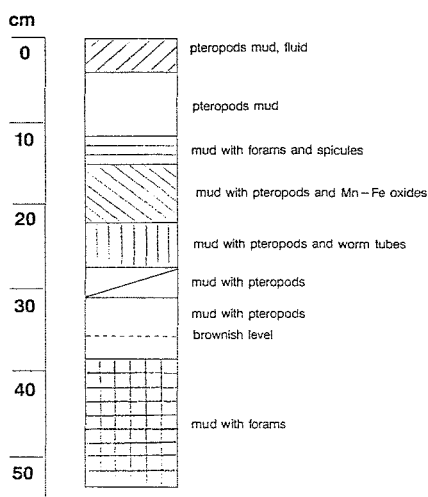
For each sample, all Pteropod species were identified and respective specimens counted. The twelve species here considered as warm or cold water indicators are still living in the world oceans. Therefore, their ecology is rather well known, on account of studies on living populations. The planktonic species recorded in the present study have been subdivided as follows: 1) warm water indicators (*L. inflata*, *L. trochiformis*, *L. bulimoides*, *C. acicula*, *C. virgula*, *S. subula*, *C. cuspidata*, *D. trispinosa*, *C. inflexa*), 2) cold water indicators (*L. retroversa*), 3) cosmopolitan species (*C. pyramidata*, *A. peroni*).

The plot of relative frequency of warm water indicators and cold water indicators was prepared. The composition of the pteropod assemblages and the proportion pertaining to different species of pelagic mollusc shells found in the box-core varies from top to bottom (fig. 2). The lower levels (cm 52, cm 43, cm 40, cm 37) yielded an association with cold water species, such as *L. retroversa* (sub-polar species, which today isn't in the Mediterranean sea) and *C. pyramidata* (eurythermic and euryaline species). This group of Pteropods seems to have characterized the end of Würmian age (late Pleistocene). The upper levels (top and cm 7) contain an association of warm sub-tropical water species (*L. inflata*, *L. trochiformis*, *S. subula*) and warm tropical species (*C. virgula*, *C. acicula*, *C. inflexa*). This group of Pteropods seems to have characterized the recent age after the optimum climatic time. At 13 cm from the top the pteropod assemblage proves the optimum climatic time (about 8000 years B.P). This is supported by the presence of *L. bulimoides* (PASTOURET, 1970).

Usually, in the eastern Mediterranean, concomitant with of the optimum climatic time (about 8000 years ago) sapropel S-1 whose deposited. In the box-core here considered, at a stratigraphic level approximately coincident with the deposition of S-1, about cm 2 of grayish brown sediment are noted, which separate the upper brown pteropod mud from the lower light brownish gray pteropod mud. The lack of clear sapropelitic level can be related to biological activity or chemical diagenesis or both.

BC-10

"INNER DOME" URANIA BASIN



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