A SAPROPELITIC LAYER IN CORES TAKEN AT THE GULF OF HAGION OROS , NORTHERN AEGEAN SEA

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ABSTRACT: A sapropelitic layer was recognized in four cores taken at the gulf of Hagion Oros northern Aegean Sea. This layer is tentatively corelated with the S_1 sapropelitic layer of the Eastern Mediterranean cores (7000 to 9000 y.b.p.).-

Eleven cores were taken in the gulf of Hagion Oros (Northern Aegean sea) during a marine geological research program executed in this area (*Perissoratis 1980*). Seven of these cores were taken in the deep parts of the gulf(hemipelagic environment ,depth 200 m.) in four of which (AG1, AG3, AG5 and AG8) a sapropelitic layer was recognized (fig. 1).

Core AG1 was taken at a depth of 315m. and its length is 175 cm.The sector between 58 cm to 111 cm has a high organic carbon content that ranges from 0,65 % to 1,0% and therefore can be characterized as a sapropelitic layer (Sigh et al. 1978). The sediment is a clayey silt of dark greeinish gray colour.

Core AG3, was taken at a depth of 372 m. near a sea basin. The sapropelitic layer extends from 113 to 153 cm (total core length 184cm),with an organic carbon content from 0,85% to 1,30%. The sediment is clayey silt of dark greenish gray colour, strongly bioturbated.

Core AG5 was taken at a sea depth of 551m. and its length is 180cm. Here the sapropelitic layer is between 83cm and 129cm but is interrupted by a section of regular sedimentation between 98 to 103 cm. The section 83 to 98 cm has an organic carbon content of about 0,9% while the section from 103 to 129 cm has organic carbon content of about 1,25%. Both these sections exhibit a dark greenisch gray colour. On the contrary between 98 to 103 cm, the content drops down to 0,55%.

Core AG8, finally, was taken at a sea depth of 396m.The high organic carbon content,in this core is up to 1,15% and occurs between 95 to 139cm (sapropelitic layer) in a total core length of 180cm. The sediment is clayey silt to silty clay.

The sapropelitic layer which was recognized in the above cores(fig.2), can be tentatively correlated with the S1 sapropelitic layer recognized in the eastern Mediterranean cores (*Stanley 1978*),and therefore its age can be postulated between 7000 to 9000 years before present. Based on this, the rate of deposition in the studied area can be estimated between

10 & 15 cm per thousand years. This low sedimentation rate at the gulf can be explained by the absence of big rivers in the area and the scarcity of sedimentary formations in the surrounding land combined with the great depth of the gulf.

References.

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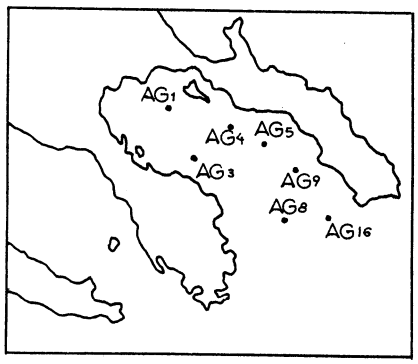

Fig. 1

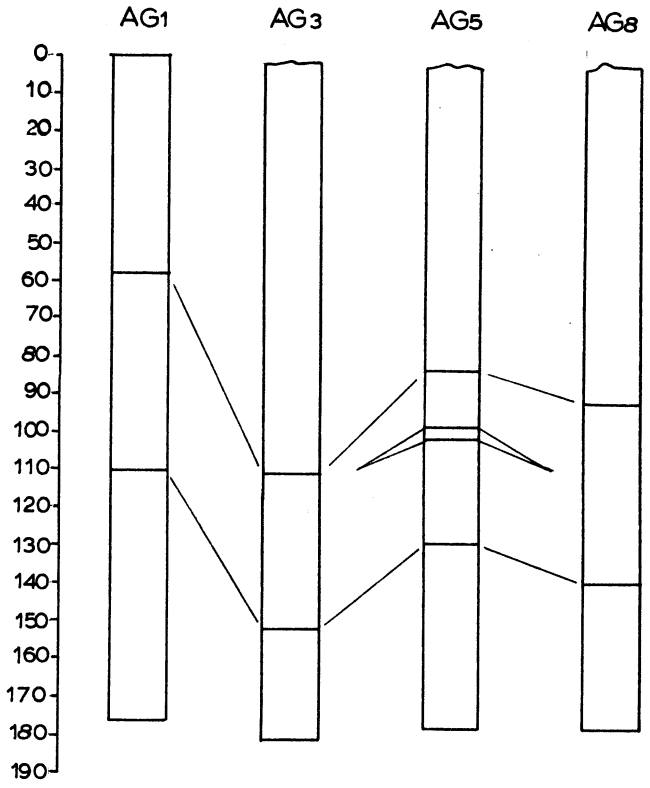

Fig. 2