

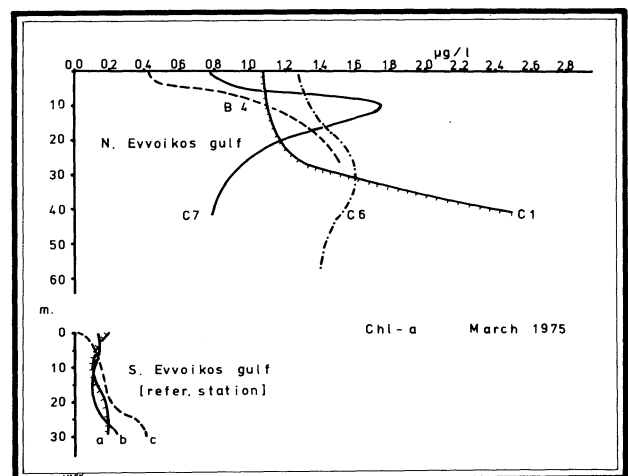
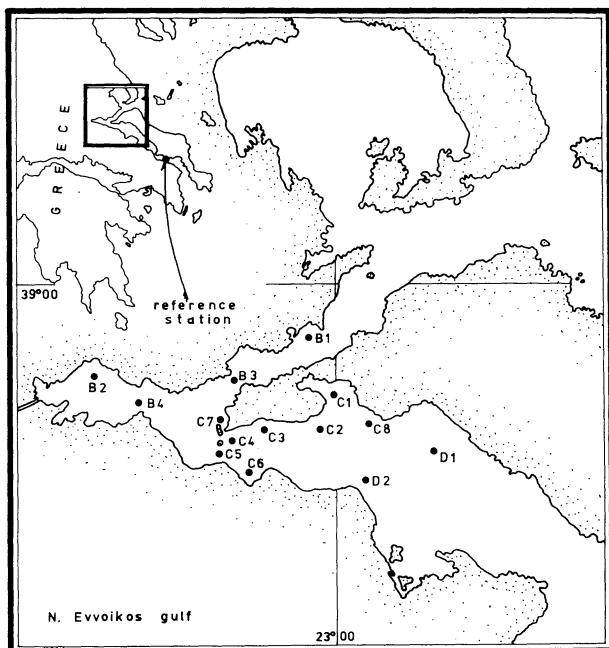
*PHYTOPLANKTON STANDING STOCK, AS CHL-a VALUES, IN THE EVVOIKOS GULFS,
AEGEAN SEA*

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Le stock phytoplanctonique a été étudié par l'estimation de Chl-a, dans les golfes Euboïques où les courants de marée sont très rapides. Les valeurs chlorophylliennes sont exceptionnellement élevées dans la partie septentrionale du golfe Euboïque Nord indiquant la présence d'une source nutritive. Tous les autres régions présentent des valeurs analogues à celles trouvées dans la Mer Egée.

Phytoplankton standing stock studies have been carried out, by means of Chl-a measurements, in the Evvoikos gulfs in an attempt to clarify the source of the observed eutrophication in the northern part. A station grid of 14 stations was established in the North and a reference station in the South Evvoikos gulf (fig. 1). Sampling was carried out during March and August 1975. The reference station was sampled few days latter on a 24 hours basis, every 8 hours. Extraction and calculation of the Chl-a values have been obtained as recommended by the report of SCOR-UNESCO working group 17. Figure 2, presents a selection of the March values of Chl-a at various stations from the northern channel and from the reference station at different a, b, c, hours. It is obvious that there is no relation between the two areas; the eutrophicated region is limited to the northern part of the 200 km long channel roughly and the tidal currents do not exchange water masses in a large scale, so that, the enriched waters of the North never reach the reference station and in fact, do not go further to the south than the D1-D2 line. From more recent work, carried out towards the NE direction of the B1 station, it was found that eutrophication does not go out of the NE channel to the Aegean Sea either (Yannopoulos, in preparation).

The Chl-a values during March were elevated in the eutrophicated vicinities with maximum value $2.55 \mu\text{g}/\text{l}$ of Chl-a. From more recent data there are positive indications that under certain circumstances, the Chl-a values can go up twice the fore-mentioned one; the minimum value, during the same period, was $0.43 \mu\text{g}/\text{l}$ of Chl-a, which is within the usual range reported from other regions of the Hellenic waters (Becacos-Kontos, 1973). Finally the vertical profiles were abnormal in most cases, and they signified the complexity of the circulation pattern, mainly due to the tides. During August the Chl-a values from the northern part were very low with a maximum $0.29 \mu\text{g}/\text{l}$ and a minimum equal to zero. At the same period, the max and min from the reference station were $0.10 \mu\text{g}/\text{l}$ and $0.00 \mu\text{g}/\text{l}$ respectively. The maximum value from the northern part is three times higher than the one of the reference station and was obtained at the B4 position and must be attributed to the Sperchios river input, the only freshwater source available at Summer. During Winter, the input of the same river must be considered much greater not only as amount of fresh water but also as highly enriched with fertilizers. The same period, the absence of stratification over the deep basin, 400 meters, at the D1 vicinity, will probably allow the mixing with deeper water, while tides take place. The contribution of this source to the eutrophication of the area, has not been estimated yet.



LITERATURE.

BECACOS-KONTOS, T., 1973. *Rapp. Comm. int. Mer Medit.*, 21, 7, 325-329

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