

ON THE DISTRIBUTION OF UTERMÖHL PHYTOPLANKTON IN A COASTAL SUB-AREA OF THE GULF OF NAPLES.

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Summary. A phytoplankton bloom in a coastal area of the Gulf of Naples is described.

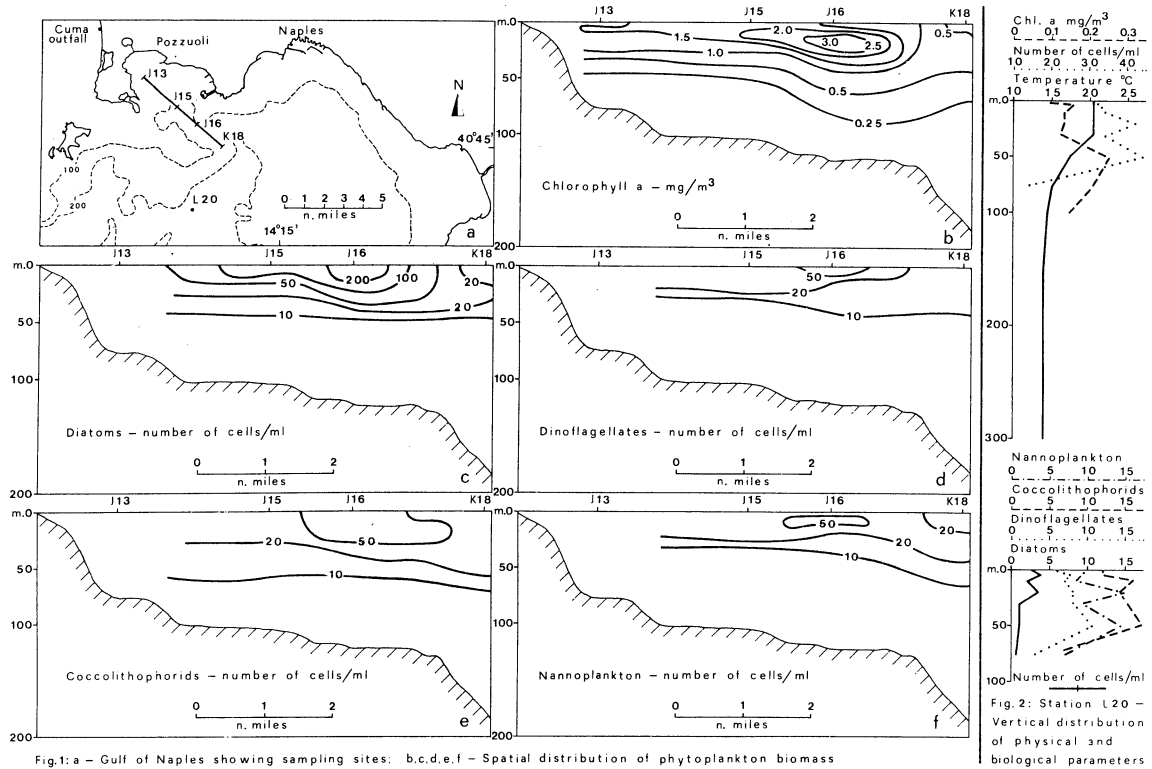
Résumé. On décrit une poussée phytoplanctonique dans une zone littorale de la Baie de Naples.

Phytoplankton blooms have been found the year around in various sites of the coastal subsystem of the Gulf of Naples. The identification of such blooms through the study of the complete floristic spectrum gave further information regarding their possible evolution.

The following data are based on the material collected in October 1977 along a 5-mile transect in Pozzuoli Bay (Fig. 1). A reference station L 20 (Fig. 2), situated at the outer fringe of the coastal subsystem, has also been examined (Carrada et al., 1978a).

Pozzuoli Bay is characterized by frequent phytoplankton blooms as a result of fluctuations in domestic and industrial discharges and admixtures of offshore waters driven by N-NW winds and influenced by the Cuma sewage outfall and the Volturno River (Carrada et al., 1978b).

A maximum phytoplankton biomass has been observed in the upper 30m at Stats. J15 and J16, mainly due to the presence of fast growing diatoms. The latter station showed chlorophyll a values of 3 mg/l or 500 cells/ml. The distribution of phytoplankton in this limited area of the Bay was heterogeneous both quantitatively and qualitatively. *Chaetoceros* species (*C. affinis*, *C. curvisetus*, *C. rostratus*) and a large number of incomplete and often senescent colonies of the same genus predominated at St. J15, followed by *Thalassiosira* aff. *subtilis*, *T. rotula*, and *T. nordenskiöldi* in their division phase. The total number of cells at St. J16 was almost double that found at St. J15. *Thalassiosira* species comprised more than 50% of the total. On the other hand, other diatoms were extremely rare. Moreover, minimum silicate concentration values (0.8 ug-at/l) and maximum dissolved oxygen values (110%) were recorded at the same site. A possible supplanting of *Chaetoceros* by *Thalassiosira* may have been in process. The fast evolution of such blooms allows the rap-



id uptake of nutrients which are known to enter the system irregularly in both space and time (Carrada et al., 1978b). Such an irregularity, together with the presence of a sharp thermocline confining non-motile cells to the photic layer, could explain the "success" fast growing diatoms have in outcompeting dinoflagellates which are generally responsible for blooms in eutrophicated areas.

#### References

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