Caratterizzazione ambientale marina del sistema Eolie e dei bacini limitrofi di Cefalù e Gioia (EOCUMM95)
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Fitoplancton, luce e produzione primaria nell'Arcipelago delle Isole Eolie, in estate

MARIO INNAMORATI, LUIGI LAZZARA, LUCA MASSI, NATASCIA BIONDI, CATERINA NUCCIO

Laboratorio di Ecologia, Dipartimento di Biologia Vegetale, Università di Firenze

ABSTRACT

The study of the relationships between phytoplankton (biomass and composition) and vertical distribution of irradiance, nutrients concentration and others environmental factors in the Eolian Archipelago in July 1994 (EOCUMM94) has already pointed out some interesting features (Innamorati *et al.*,1995; 1996). The irradiance attenuation, due essentially to the phytoplanktonic biomass, determines the position of the deep maximum, that is, independently from the depth and the water mass, at the 0,2% of the surface PAR. This DCM is related to the presence of picophytoplanktonic populations adapted to low light intensity. In the nutrient depleted surface layers the phytoplanktonic biomass is scarce, no matter if within TSW, NAW or TIW. The coenoses are the typical summertime thyrrenian ones, characterized by phytoflagellates. However in the Gioia Basin a high biomass layer dominated by diatoms is present around 40 m, here the water is rich of nutrients and is probably of Jonic origin, upwelled through the Straits of Messina.

The measurements carried out in July 1995 (EOCUMM95) confirm these observations, particularly for the relationship between PAR attenuation and the vertical position of the DCM, that is always at the 0,25-0,35% of the surface PAR and for the differentiation of the phytoplanktonic coenoses of the Gioia Basin with respect to the surrounding ones.

The results obtained can also explain the coenoses composition of the DCM through the presence of the pigment divinyl-chlorophyll *b*, exclusively present in *Prochlorococcus*.