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bot@tubitak.gov.tr

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# Weekly Variations in Phytoplankton Structure of a Harbour in Mersin Bay (north-eastern Mediterranean)

Elif EKER, Ahmet Erkan KIDEYS
Middle East Tecnical University, Institute of Marine Sciences,
Department of Marine Biology and Fisheries, P.O. Box: 28, Erdemli, Içel-TURKEY

**Abstract:** Weekly variations in the phytoplankton composition of a harbour in Mersin Bay were studied with two methods: filtration for the assessment of >55 mm phytoplankton from July 1995 to June 1997; and sedimentation for the assessment of all phytoplankton (both>55 μm and <55 μm) between 15 February and 25 May in 1996. With both sampling methods, a total of 175 phytoplankton species were identified. In the filtered samples, the total diatom abundance was much higher than that of dinoflagellates. The highest diatom abundance was detected on 8 February 1996 ($11.7x10^3$ cells $1^{-1}$ ) and 19 June 1997 ($11.1x10^3$ cells $1^{-1}$ ), represent mainly by the species Asterionella japonica Cleve and Rhizosolenia alata Brightwell respectively. The highest dinoflagellate abundance (737 cell $1^{-1}$ ) in the filtered samples occurred on 4 April 1996. However, on the following day a dinoflagellate (Prorocentrum micans Ehrenberg) bloom was found in great numbers ($90.9x10^6$ cells $1^{-1}$ ) in the sedimented samples. When this number was compared with the P. micans abundance of the previous day ($3.1x10^6$ cell $1^{-1}$ ) in the sedimented samples, the growth rate of this species was calculated as ~3.37 $day^{-1}$ . In this study, two techniques of phytoplanton analysis (sedimentation and filtration through a 55 μm mesh) were compared, the advantages and disadvantages of both methods wete assessed, and it was concluded that both techniques should be applied during the process of phytoplankton enumeration. The contribution of small forms, mostly coccolithophorids and small flagellates (<20 μm), to the total phytoplankton abundance was found to be 37±21%.

**Key Words:** Phytoplankton composition, Mediterranean, size groups, nanoplankton

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