

**COMPOSITION AND BIOMASS OF PHYTOPLANKTON IN THE
SOUTHWESTERN BLACK SEA USING HPLC-DETECTED PIGMENTS**

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ABSTRACT

The composition of phytoplankton assemblages of Southwestern Black Sea in May 2001 was studied by means of characterization pigment measured by high-performance liquid chromatography (HPLC). Pigment data reflecting phytoplankton assemblages dominated by dinoflagellates, diatoms and coccolithophores in May 2001 were compared to phytoplankton cell counts. There were significant ($p < 0.01$, $r^2: 0.55$) relationship between the taxon-specific pigment concentrations and the taxon-specific cell numbers during sampling period. The ratios of chlorophyll a to the diagnostic pigment were calculated by multiple linear regressions. These were 1.29 (chlorophyll a: peridinin), 1.7 (chlorophyll a: fucoxanthin), and 2.59 (chlorophyll a: 19'-hexonoyloxyfucoxanthin). HPLC-determined chlorophyll a biomass corresponded with the sum of the taxon-specific chlorophyll a biomass ($p < 0.001$, $r^2: 0.94$). These results show that HPLC pigment analysis can be used to describe phytoplankton assemblages by simple ratios, providing complementary information to the cell counting methodology.