

Phytoplankton of the Atlantic Ocean, off Lagos, Nigeria

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Abstract : A study was carried out in the Atlantic Ocean off the Lighthouse Beach, Lagos. There were monthly and spatial variations in physical and chemical characteristics of the neritic ocean (August - December, 2014). Mean and standard deviation values for air temperature were 27.67 ± 2.98 °C, water temperature (28.37 ± 1.88), pH (7.85 ± 0.17), conductivity (44738.75 ± 6262.76 μ S/cm), total dissolved solids (29236.71 ± 4273.30 mg/L), salinity (27.11 ± 3.91 ‰), alkalinity (126.99 ± 42.81 mg/L) and chloride (15056.67 ± 2165.78 mg/L). Higher estimates were recorded in the dry than wet months for these characteristics. On the other hand, reducing values were recorded for acidity (2.34 ± 0.63 mg/L), total hardness (4711.98 ± 691.50 mg/L), phosphate (1.1 ± 0.78 mg/L), sulphate (2601.99 ± 447.04 mg/L) and nitrate (0.12 ± 0.06 mg/L). Values for total suspended solids and biological oxygen demand values were low (<1mg/L). Twenty-one species of phytoplankton were recorded. Diatoms recorded 80.92% and were the dominant group. *Hemidiscus cuneiformis*, *Coscinodiscus centralis*, *Coscinodiscus lineatus*, *Coscinodiscus radiatus* and *Oscillatoria limosa* were more frequently occurring species. *Biddulphia sinensis* and four species of *Ceratium*, were representatives of the dry season. The dry season also recorded comparatively higher individuals of phytoplankton than the wet season. *Spirogyra* sp. (green algae) appeared only in the wet season. Species abundance (N) was highest in December at Station 1 (13.15%) (dry season) and lowest in August (wet season) at Station 3 (2.96%). The physico-chemical factors and phytoplankton reflected a tropical unpolluted neritic oceanic environment.

Keywords : sea, physico-chemistry, lighthouse beach, microalgae

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