

VERTICAL DYNAMICS OF A LARGE RESERVOIR (ALQUEVA, SOUTHERN PORTUGAL)

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An integrated field campaign took place in Alqueva reservoir (Southern Portugal) from June to September 2014 with the objective of the determination of the trophic status and the analysis of the physico-chemical and biological vertical dynamics. Vertical profiles of environmental parameters, water samples for physical-chemical analyses and biological elements were monthly collected from three fixed platforms in the lacustrine zone and selected sites in the margins. Diatoms were collected from artificial substrates at discrete depths and from the margins and phytoplankton was analysed at discrete depths and from integrated samples. Preliminary results reveal that the trophic status of the lacustrine area and corresponding margins can be classified as mesotrophic, based in the vertical profiles (showing also the stratification) and in the TN:TP ratio. Diatom communities and indices did not differ between platforms, revealing the uniformity of the reservoir, in spite of its size. However, diatom taxa richness (S) and Shannon index of diversity (H') differed with depth, with higher values at 20m depth, which is near the bottom in two sites, and clearly below the euphotic zone. A total of 62 taxa were identified in the integrated phytoplankton samples, with chlorophytes being the taxa richest group whilst cyanobacteria dominated in abundance. The observation of the phytoplankton samples collected at discrete depths revealed the presence of cyanobacteria in the bottom samples (20m and 50m). The presence of diatoms and cyanobacteria at depths far below the euphotic zone, raises the question of which environmental parameters were influencing algal development in the reservoir.