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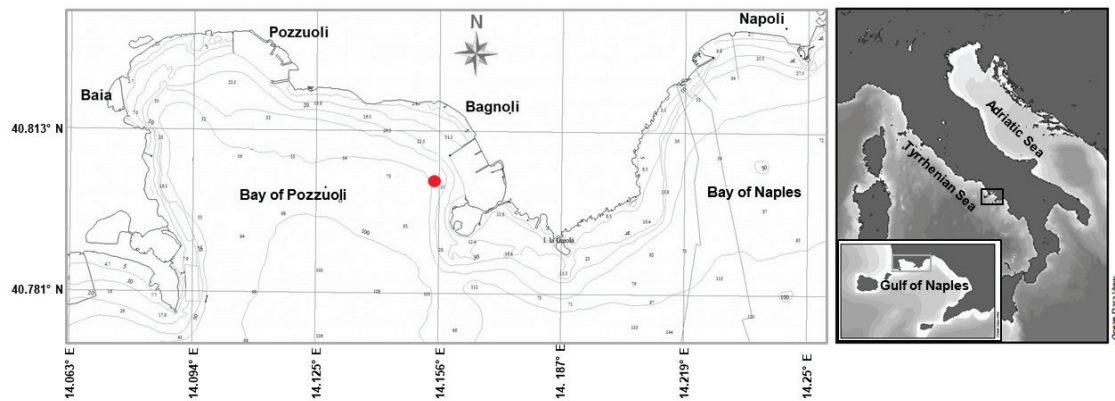


Fig. S1: Map of the Bay of Pozzuoli (Tyrrhenian Sea, Mediterranean Sea) with the location of the site at which core AB1 was collected (red dot).

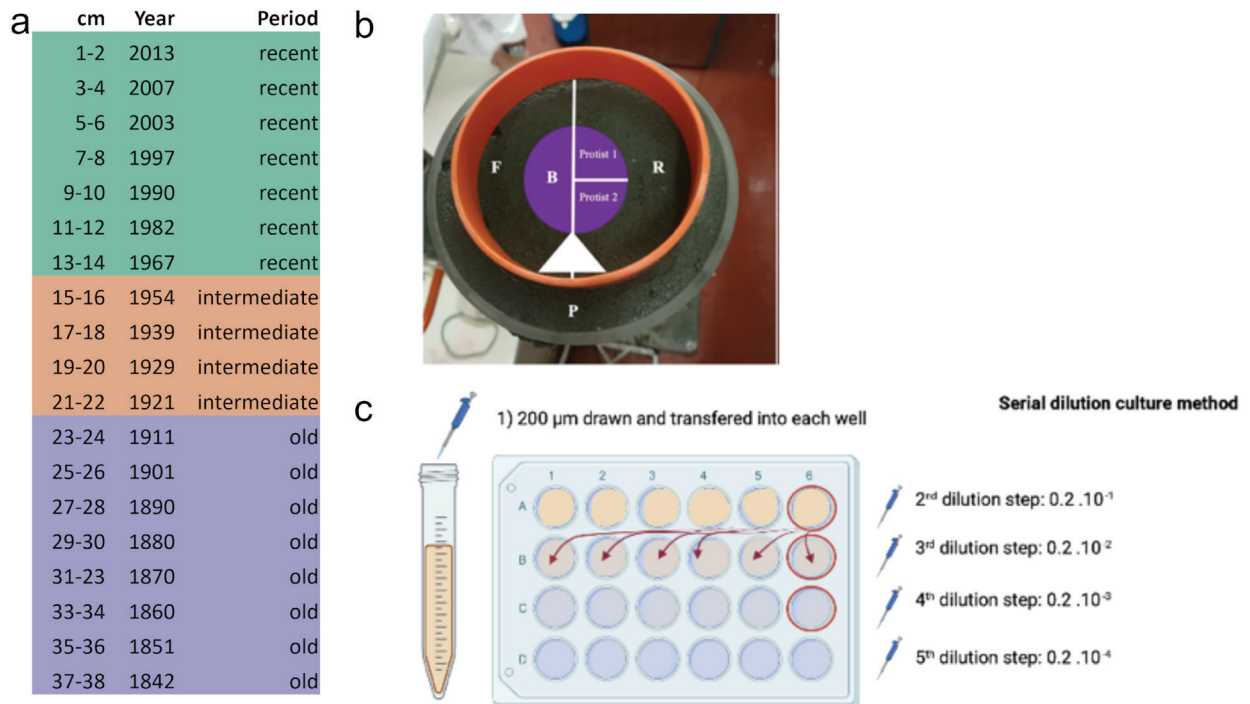


Fig. S2: a) Sediment layers of core AB01 on which sedDNA barcoding analysis was carried out. For each layer are indicated: the year (²¹⁰Pb and ²²⁶Ra dating, see (Barrenechea Angeles *et al.*, 2023) and the three periods identified by Multidimensional Scaling analysis (Fig. 1). b) Partition of the individual 1-cm sediment layers into subsamples for different biological analyses: Protist 1 and Protist 2 for eukaryotic metabarcoding, R for SDC analyses. c) Schematic representation of the Serial Dilution Culture (SDC) setup.

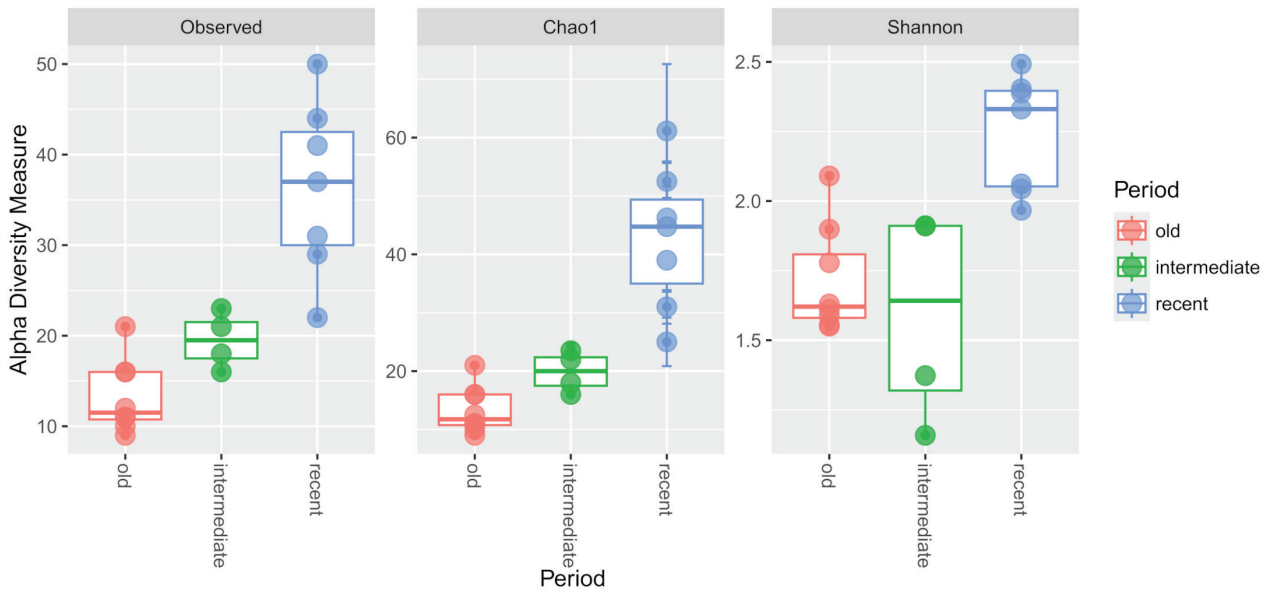


Fig. S3: Estimates of alpha diversity: Richness (Observed ASVs), Chao1 and Shannon index.

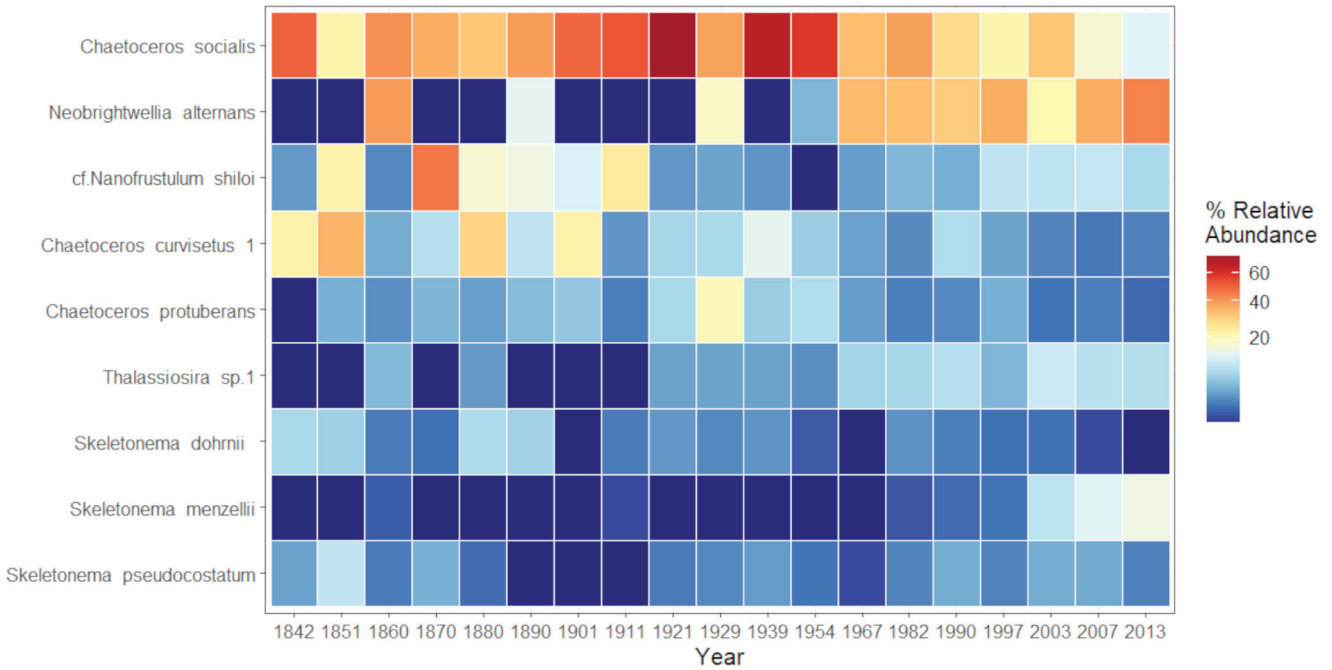


Fig. S4: Heat-map illustrating relative abundance of the most abundant diatom ASVs assigned to the species level.