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Characterizing diatoms and their correlation with the distribution of macrophytes and parasitic Fungi using sedimentary genetic records from lake Constance, Germany

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Algae and macrophytes are two of the main primary producers that interact with higher trophic levels by providing food and habitat. Their distribution thereby affect the physical and chemical characteristics of the ecosystem and hence act as its bioindicators. The use of multiple molecular markers to capture DNA signals in sediments allow for the reconstruction of their historical communities. We here use metabarcoding of different primers to illustrate the trophic history and the interactions between diatoms, macrophytes and microbial eukaryotes and their response to anthropogenic impacts. Sediment samples were taken from a large deep lake representing different regions of different chemical and physical characteristics. Preliminary data suggest a congruent trophic history using each of the molecular markers and an interaction between the presence of fungal parasites and the prevalence of diatoms.