

## **The matter of preservation: A comparison of recent organic-walled dinoflagellate cyst assemblages in sediment trap and core top sediments off Cape Blanc (NW Africa)**

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During the last decades, organic-walled dinoflagellate cysts (dinocysts) have become a valuable tool for paleoenvironmental reconstructions. It is known that the sedimentary record depends on several factors like initial cyst production and preservation. Therefore it is necessary to know, to what extent the assemblage in the sediment reflects the primary signal produced in the water column.

In this study, we compare undisturbed core top sediments with sediment trap data covering the same time intervals. Both, core and trap, were retrieved at a similar location off Cape Blanc (NW Africa) where high productivity of organic material takes place due to costal upwelling. The samples of trap CBI analyzed for dinocysts were collected over 5 years (2003-2008) and compared to assemblages found in 2 mm interval sections of core GeoB 14103-7. <sup>210</sup>Pb dating revealed an age of 2.5 years per core sample, leading to a comparison of the upper 6 mm with CBI 1-5. The dinocyst species composition in core and trap sediments is similar. Both assemblages are dominated by heterotrophic species. However, while the most common species in the trap, *Brigantidium* spp., makes up over 50% of each sample, it is less abundant in the core where it forms only 13% of the assemblage. Core samples are dominated by *Protoperidinium monospinum* with an average of 28%. This species is underrepresented in CBI with 3% abundance. Over time the proportions of the individual species show minor variations both in core and trap samples. We therefore assume that the strong differences in association composition are due to post-depositional processes altering the assemblages in the sediments like degradation or bioturbation rather than to changes in initial cyst production or differences in source areas of trap and sediment core.