Variations of richness and abundance of bathyal marine ostracods from the Campos Basin (Brazil) in response to climatic changes of the late Pleistocene

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Benthic marine ostracods are important paleoenvironmental indicators due to their sensitivity to ecological parameters, which are particularly useful in palaeoclimatic and paleoceanographic reconstructions during the Quaternary. The preliminary study of ostracods from 61 samples of a piston core collected from 1503m depth on the continental margin of southeastern Brazil (Campos Basin) showed the existence of a rich but irregularly distributed ostracod fauna. The levels of abundance, here named as events, were numbered from 1 to 6 (E1-E6) and calibrated according to the zones of planktonic foraminifera (W, X, Y). These events that distinguish different associations of planktonic foraminifera are considered as indicative of water temperature fluctuations (from cold to hot), and/or as variation of the sediment content (from marl to carbonate mud). These events show a positive correlation with the isotopic signals of δ18O and δ13C. E1 and E5 events are controlled by lithology, E2-E4 by the temperature surface water, and finally, E-6 is subject to both, lithology and climate. In the intervals of greatest marine ostracod abundance, variations in the degree of calcification and evidence of predation were observed. The taxonomic studies have identified 128 species belonging to 40 genera, mostly recorded in glacial stages. Australoecia atlantica Maddocks, Henryhowella melobesioides (Brady), Poseidonamicus pintoi Benson, Argilloecia spp., Krithe spp. and Bythocypris spp. are the most abundant taxa.

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