



3rd Palaeontological Virtual Congress

Book of Abstracts

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Book of Abstracts

Palaeontology in the virtual era

From an original idea of Vicente D. Crespo

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EOCENE SOUTHERN ATLANTIC OCEAN DINOFLLAGELLATE CYSTS: REGIONAL CORRELATION AND PALAEOENVIRONMENTS

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The Eocene was a time of regional tectonic events and climatological changes, related to the opening of the Drake Passage that separated South America from Antarctica. Knowledge of the timing of the Drake rifting can help us understand the new oceanographic regime and its consequences. In this sense, dinoflagellate cysts (dinocysts) are useful tools for biostratigraphy and palaeoceanographic reconstructions. For this purpose, we analyzed dinocyst assemblages from lithostratigraphic units adjacent to the Drake Passage, including the Man Aike (MA), the Upper Member of the Río Turbio (umRT) and Leticia (Le) formations, outcropping in the Austral-Magallanes Basin, southern Patagonia, and the La Meseta Formation (LM), from the James Ross Basin, Antarctica. Our quantitative information of the dinocyst assemblages of the aforementioned units together with recently published radiometric data were taken into account to update the biostratigraphic scheme for the Austral-Magallanes Basin, adjusting the ages of the dinocyst biozones and bioevents proposed for the umRT. The statistical compositional analysis of the quantitative dinocyst assemblages performed in this work allowed us to confirm the correlation of the formations, showing a high equivalence between the middle Eocene (Bartonian, 41 – 37 Ma) assemblages (lower part of the umRT, MA, Le and LM), distinguishing them from the upper Eocene (< 36 Ma) ones (upper part of the umRT). In addition, the statistical results revealed different palaeoenvironments. Whereas the Bartonian assemblages represent relatively warm waters in inland shelf environments, those of the Priabonian indicate coastal areas with cold, nutrient-rich surface waters.