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Palynology of Sub-Saharan Karoo Basins: Key to Early Mesozoic palaeoclimate reconstruction

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Palynological data of Permian-Triassic formations of the Sub-Saharan Karoo basins play a crucial role in the study and for the understanding of Gondwana's climate history and biodiversity in this time of major global changes in terrestrial and marine ecosystems. The palynological record reflects changes in land plant communities and vegetational patterns related to climate change and thus provides significant data for high-resolution palaeoclimate reconstructions in deep time. Recent palynological investigations of Triassic successions of South Africa, Mozambique and Tanzania document major changes in palaeoclimate. The spore/pollen ratios are used as a proxy for humidity changes. Stratal variations in the composition of the pollen group indicate warming and cooling phases. Variations in the amount and in the type, size and shape of phytoclasts reflect short-term changes in transport and weathering. The detected palaeoclimate signals are used for high-resolution correlation on basin-wide, intercontinental and intra-Gondwanic scales.