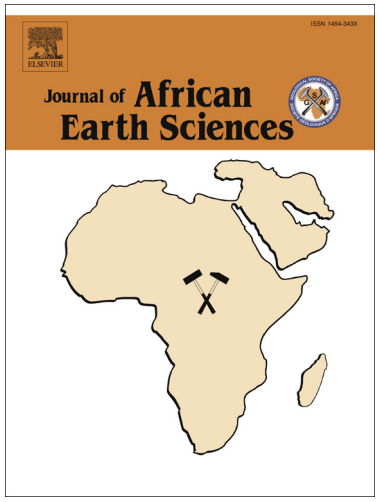

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Palynology of an Early Permian coal seam from the Karoo Supergroup of Botswana

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Abstract

Two borehole cores from the south-east area of the Mmamantswe coalfield (Mmamabula area) Botswana, provided 124 samples for palynological analysis. The assemblage is dominated by trilete and alete spores, indicating a parent flora of mostly lower order lycopods, sphenophytes and ferns. Distinctive taxa at Mmamantswe include *Brevitriletes levis*, *Cannanoropollis densus*, *Gondisporites raniganjensis*, *Platysaccus radialis*, *Scheuringipollenites ovatus*, and *Verrucosisporites naumovae*. Saccate pollen is less common, suggesting the assemblage reflects the local vegetation of the coal swamp. The Mmamantswe microflora has been sub-divided into two assemblage zones, with the lower Assemblage Zone 1 correlating with Assemblage Zone 1 of Anderson (northern Karoo Basin, South Africa), Biozone B of the Waterberg (South Africa) and the Milorgfjella assemblage (Dronning Maud Land, Antarctica). The upper Assemblage Zone 2 of Mmamantswe is correlated with Assemblage Zone 2 of Anderson (northern Karoo Basin, South Africa), Biozone C of the Waterberg (South Africa), and the No. 2 Seam assemblage (Witbank coalfield, South Africa). On the basis of these correlations the Mmamantswe microfloral assemblage is assigned to the Asselian, Sakmarian and Early Artinskian periods.

Keywords

Palynology; coal; Karoo; Botswana; Permian; Gondwana