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## Talchir Palynoflora from Wardha Valley Coalfield, Central India: Climatic Implications

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### Abstract

The sub-surface sediments encountered in Borehole AK-10 of Wardha valley coalfield, Maharashtra have been palynologically analysed with an object to date the sequence. These sediments are compared with similar deposits in other Gondwana basins of India and other countries like South Africa, Australia and Brazil to understand wide range palaeodepositional conditions. The palynoassemblage recovered has predominance of radial monosaccates, *Parasaccites-Plicatipollenites* along with *Jayantisporites*, *Potonieisporites*, *Tuberisaccites*, *Sahnites* and few algal elements (*Botryococcus*). This assemblage compares closely with palynofloral succession known from the Upper Talchir Formation, Early Permian (Sakamarian) of Satpura basin, Godavari valley coalfield, Mahanadi basin, Damodar valley, South Chattisgarh coalfield and Palar basin *etc.* It also bear resemblance with the palyno-assemblages recorded from Australia, Africa, South America and Brazil. The dominance of radial monosaccates in the assemblage indicates that cold and humid conditions supplemented by glacially influenced depositional environment prevailed. These conditions were conducive for the initiation as well as subsequent proliferation of *Gymnosperms* plant communities particularly of *Cordaitales*, *Lepidophytes*, *Glossopteridae* and *Calamariaceae* plant groups with stagnant, lacustrine swampy conditions having occasional influx of marine incursions at the depositional site.

*Keywords:* Gondwana basin, Talchir palynomorphs, Wardha valley coalfield, Maharashtra