

An Overview of Upper Gondwana Rajmahal Flora and Its Significance



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Abstract The flora of the Rajmahal Formation is typically known as ‘Rajmahal Flora’. It is Early Cretaceous (Barremian to Aptian) in age and is one of the most interesting Mesozoic floral succession characterized by prolific and diversified floral entities. Distinctive amalgamation of volcanic and sedimentary sequences (intercalations of basaltic lava flows and intertrappean sediments) is a unique feature of this formation which had led to the excellent preservation of plant body remains along with anatomical details and it is one of the national geological monuments of India. A number of floral elements of Rajmahal Flora have been under continuous taxonomic reassessment, particularly enigmatic macroremains of angiosperms, though definite pollen records of angiospermid affinity are known from this formation. The present paper provides an updated synthesis and analysis of the palaeofloritics of the Rajmahal Formation and underlying Dubrajpur Formation and its relevance in tracing the angiosperm evolution.

Keywords Dubrajpur Formation · Rajmahal Flora · Ptilophyllum Flora · Upper Gondwana · Mesozoic

1 Introduction

Rajmahal Flora is the most enthralling and intriguing among all the Gondwana floras known from India. This flora is also known as ‘Ptilophyllum Flora’ and is characterized by prolific and diversified plant fossil assemblage of Mesozoic period. Peculiar volcano-sedimentary nature of sediments of Rajmahal Basin makes it distinct from the lithoarchitecture of other Gondwana basins. This unique amalgamation of sediments of non-marine origin followed by the deposition of periodic lava flows during the Cretaceous had resulted in the excellent store-house of Mesozoic plant assemblages. Stratigraphically, the sedimentary succession in the Rajmahal Basin begins with the deposition of Lower Permian strata belonging to Talchir and Barakar

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