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A Review of Modern Pollen-rain/Vegetation Relationship from Eastern Madhya Pradesh, Central India

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Abstract

The modern pollen-rain/vegetation relationship studies carried out from tropical deciduous sal (*Shorea robusta* Gaertn. f.) dominating forests distributed in eastern Madhya Pradesh, India are reviewed in the present paper. The study has demonstrated that *Shorea robusta* (sal), despite being an enormous pollen producer (about 60,000 pollen grains/flower, 61,020 pollen grains/flower and up to 94,600 pollen grains/flower) and dominant forest constituent (60 to 90% of total forest constituents), is encountered mostly in low frequencies, which could be inferred to its low pollen dispersal efficiency and poor (pollen) preservation in sediments. *Madhuca indica*, a common associate of sal in the said forest, has shown mostly higher values in total pollen rain, which could be attributed to its local abundance around the provenance of samples, coupled with high pollen dispersal efficiency as well as good preservation of its pollen in the sediments. However, the other usual and typical associates of tropical deciduous sal forests, despite their frequent presence in the forests, are under-represented, sporadically represented or not represented at all, which could be ascribed to their low pollen productivity because of entomophily. In this review article, the factors affecting the pollen deposition pattern of different components of the tropical deciduous forests dominated by sal were discussed so that they all may be considered while interpreting the pollen diagram for the accurate explanation of the vegetation-based reconstruction of past climate during the Late Quaternary.

Keywords: Pollen rain, Tropical deciduous sal (Shorea robusta) forests, Vegetation and Climate, Eastern Madhya Pradesh, Central India.