Triassic flora of India—a transition

Shyam C. Srivastava & S. R. Manik

Srivastava SC & Manik SR 1992. Triassic flora of India—a transition. *Palaeobotanist* **40** : 244.

Extensive floral modifications occurred from Late Palaeozoic to Triassic (Early Mesozoic) Period. Differentiation of Permian and Triassic strata in the Indian subcontinent has been done mostly on lithological, palaeontological and palaeobotanical grounds, but recent investigations on Triassic succession in the Damodar Basin (Panchet Formation), South Rewa Basin (Tiki and Parsora formations), Satpura Basin (Mahadeva Formation) and Pranhita-Godavari Basin (Maleri Formation) have demonstrated gradual changes in palaeofloristics from Early Triassic to Late Triassic. The concept that there was a sudden change in the composition of megaflora from the Late Palaeozoic to Early Triassic reflecting a floral break is modified in the light of palaeofloral data accumulated from various Triassic formations.

In Peninsular India, the megaflora of Late Permian Period is usually dominated by glossopterids and their representative taxon *Glossopteris* continued further in Permo-Triassic contact associated with some newly emerged forms like the genus *Dicroidium*, which dominated the vegetation and thrived for nearly 30 million years. In the early part of Triassic, *Dicroidium* appeared in a very low frequency in association of *Lepidopteris* but towards the mid-part of Triassic it exhibited overwhelming dominance and superseded the Glossopteris flora. As a result the seed-bearing plants possessing pinnate leaves appeared on the floristic scene and lasted throughout the Triassic time. They started declining in the Late Triassic giving way to the cycadean and coniferous forms which later constituted a considerable part of plant community during Jurassic-Cretaceous period. *Dicroidium*, its associates, and the seed taxon *Savitrispermum*, which were prolifically represented in the Gondwana continents during Triassic, vanished out. *Pterophyllum, Pagiophyllum* and *Elatocladus* were represented in abundance during Late Triassic, whereas the pteridospermous forms registered a decline. The presence of zamoid seed cones and archegoniate seeds became most distinguishing feature for the Late Triassic floral deposits. Gymnosperms were the main components of the flora associated with some lower plant groups. Seed plant groups attained potential value in defining the floral regions of this period. Thus, the Early Mesozoic flora contained new taxa, as well as those continuing from the Palaeozoic times. Systematic analysis has now shown that the transition from Permian-Early Triassic-Late Triassic was a gradual one.

Key-words—Evolution, Triassic flora, Palaeoecology.

Shyam C. Srivastava & S. R. Manik, Birbal Sahni Institute of Palaeobotany, 53 University Road, Lucknow 226 007, India.

सारांश

भारत का त्रिसंधी वनस्पतिजात—एक परिवर्तन

श्याम चन्द्र श्रीवास्तव एवं सुरेन्द्र राघोबा माणिक

अनंतिम पुराजीवी से त्रिसंधी कल्प तक अत्याधिक वनस्पतिजातीय परिवर्तन हुए हैं। भारतीय उपमहाद्वीप में परमी एवं त्रिसंधी स्तरों में विभिन्नता शैलिकीय, पुरातात्विक एवं पुरावनस्पतिक आँकड़ों के आधार पर प्रदर्शित की गई है। प्रायद्वीपीय भारत में अनंतिम परमी कल्प का गुरुवनस्पतिजात **ग्लॉसॉप्टेरिस** से प्रभावी है तथा परमी-त्रिसंधी कल्प में **डाइक्रोइडियम** प्रजाति से सहयुक्त है। **डाइक्रोइडियम्** प्रजाति की लगभग 300 करोड़ वर्ष तक अपने समय के वनस्पतिजात में बाहुल्यता रही।

अनंतिम त्रिसंधी कल्प में **टेरोफ़िल्लम्, पेजियोफ़िल्लम** एवं **इलेटोक्लेडस** नामक वर्गक प्रभावी थे जबकि टेरिडोस्पर्मी प्ररूपों का निरंतर ह्रास होता चला गया। इस कल्प में अन्य अवयवों के साथ-साथ अनावृतबीजी पौधे वनस्पतिजात के मुख्य अवयव थे। अध्ययन से पता चला है कि उक्त परिवर्तन परमी-प्रारम्भिक त्रिसंधी से अनंतिम त्रिसंधी तक शनैः शनैः होता रहा है।

Four Decades of Indian Palaeobotany
Editors : B. S. Venkatachala & H. P. Singh
Publisher : Birbal Sahni Institute of Palaeobotany, Lucknow