

OCCURRENCE OF MEGASPORES IN KAMTHI FORMATION, GODAVARI VALLEY COALFIELDS, ANDHRA PRADESH

The studies on dispersed megaspores in Gondwana sediments of India were initiated by SITHOLEY (1943) from the Triassic of Salt Range, now in Pakistan. Later on, GHOSH AND SEN (1948) from Raniganj Coalfield, TRIVEDI (1950) from Lower Gondwana deposits of Singrauli Coalfield, PANT (1950) from Talcher Coalfield, TRIPATHI (1952) from Umaria Coalfield and GOSWAMI (1956) from South Rewa Gondwana Basin reported the occurrence of megaspores and gave preliminary descriptions without circumscribing them into a taxon.

TRIVEDI (1953) described eleven species (nine species of the genus *Triletes* under the section *Aphanozonati* Schopf, and two under the genus *Cystosporites*), out of which 9 were reported to be new. A significant attempt to segregate the species on the basis of morphographical characters of the megaspores was done by SURANGE, SINGH AND SRIVASTAVA (1953) from West Bokaro Coalfield. Later on, SRIVASTAVA (1954), and POTONIÉ (1956) reviewed this study of megaspores from the same area.

These studies were mainly based upon external morphology of the transparent specimens. In India the structural studies on Lower Gondwana megaspores from Talcher Coalfield were firstly done by PANT AND SRIVASTAVA (1961). LELE AND CHANDRA (1967) briefly reported Talchir megaspores from Barachada locality, Birsinghpur Pali of South Rewa Basin. This was the first report of megaspores from Talchir Formation. Later on, the same authors in 1974 described megaspores from Talchir Formation in Johilla Coalfield. KAR (1968) described 4 genera (3 new) and 6 species of megaspores from Katri Nala of Jharia Coalfield (Barren Measure Stage). However, BHARADWAJ AND TIWARI (1970) made a comprehensive study of Lower Gondwana megaspores in dry condition under reflected light as well as in wet condition under transmitted light.

Recently, LELE AND SRIVASTAVA (1983) studied some Barakar megaspores and described a new genus—*Barakarella* Lele and Srivastava.

Thus, these studies on megaspores from Lower Gondwana of India are confined to Talchir, Karaharbari, Barakar, Barren Measures and Raniganj formations. This is the first report on the occurrence of megaspores in Kamthi Formation. The megaspores were found in association with a number of wood fragments, cuticles and miospores.

Genus—**Singhisporites** Potonié emend. Bharadwaj & Tiwari, 1970

Type species—*Singhisporites surangei* (Singh) Potonié, 1956

Singhisporites radialis Bharadwaj & Tiwari, 1970

Pl. 1, Figs. 1—5.

Holotype—Bharadwaj & Tiwari, 1970; Pl. 12, Figs. 1, 2

Description—Subcircular to circular megaspores with a distinct trilete mark, rays being \pm straight. Exoexine very thick, without any sharp line of inner margin. Processes sparse, 2.5-17.5 μ m apart, straight or curved, simple or furcated at tips (Pl. 1, Figs. 2-5), arranged \pm radially on the surface, being translucent and

dark brown in incident light attached to broad bases from where they usually break off leaving stumps. Inner body circular and folded but without cushions.

Dimensions (in wet condition)

Megaspores — 450—580 μm diameter

Processes — 17—42.5 μm long
2.5—20 μm wide (in middle)

Geological occurrence—Bore hole GJ-3 (Sample No. 1, 87.50 m) and Bore hole GJK-27 (Sample No. 30 & 32, 792 m & 841 m), Kamthi Formation, Godavari Valley Coalfields, India. Slide No. 5874.

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EXPLANATION OF PLATE 1

Figs. 1-5. *Singhisporites radialis*.

1—Complete megaspore showing trilete mark ($\times 100$).

2, 3, 4 & 5—A portion of megaspore showing variation in

ornamentational processes (2, 3 & 5— $\times 500$; 4— $\times 250$).

