

# *Gemmatripoporollis*, a new pollen genus from Neyveli Lignite Mines and Jayamkondacholapuram Well-12 in Tamil Nadu, India

R. K. Saxena\* & Sanjay Khare\*\*

\* Birbal Sahni Institute of Palaeobotany, Lucknow - 226 007, India

\*\* Directorate of Geology and Mining, Post-Ravigram, Raipur, India

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Key-words—Palynology, angiospermous pollen, *Gemmatripoporollis*, Neyveli lignite, Tamil Nadu (India).

THE lignite deposits of Tamil Nadu, popularly known as Neyveli lignites, constitute the largest lignite reserve of India. The geology and ground water aspects of the lignite bearing area have been published by Krishnan (1949), Balasunder (1968), Subramanyam (1969) and Gowrisankaran *et al.* (1987), etc. The lignite and associated clays are rich in palynofossils including algal and fungal remains, pteridophytic spores and an-

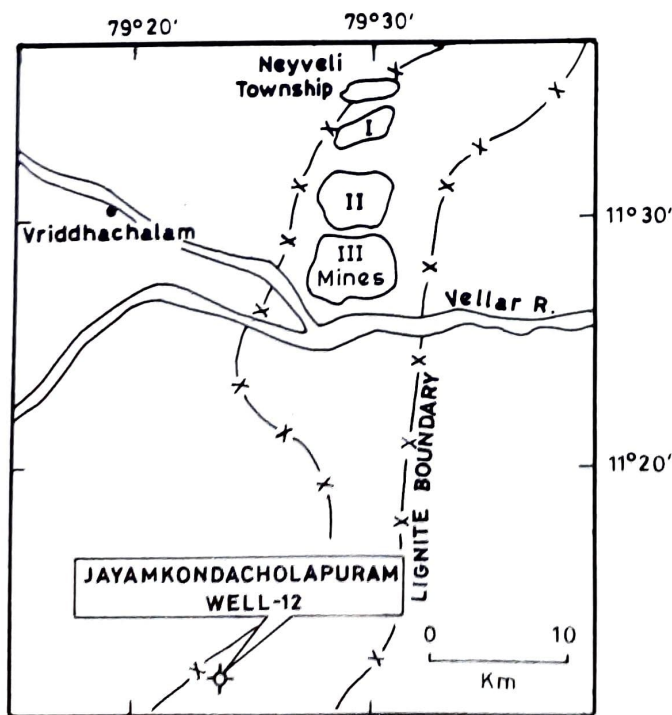
giospermous pollen. A large number of papers have so far been published on the study of spore-pollen assemblages from these beds (Navale 1962; Thiergart & Frantz 1963; Ramanujam 1966, 1967; Deb 1972; Deb *et al.* 1973; Venkatachala 1973; Navale & Mishra 1979; Ambwani *et al.* 1981; Bande & Ambwani 1982; Reddy *et al.* 1984, 1985, 1988; Siddhanta 1986; Sarma & Ramanujam 1988; Singh 1991; Singh & Misra 1991 a, b, c; Saxena *et al.* 1991; Singh *et al.* 1992). During palynological investigation of these beds at Neyveli Lignite Mines I and II in South Arcot District and Jayamkondacholapuram Well-12 (Lat. 11° 11' 27" N : Long. 79° 24' 02" E, about 45 km south of Neyveli), in Tiruchirapalli District, Tamil Nadu (Map 1), the authors recovered a large number of pollen with three, large, equatorial pores and gemmate exine that could not be accommodated under any of the known pollen genera. These pollen are described here under a new genus *Gemmatripoporollis*.

## Genus-*Gemmatripoporollis* gen. nov.

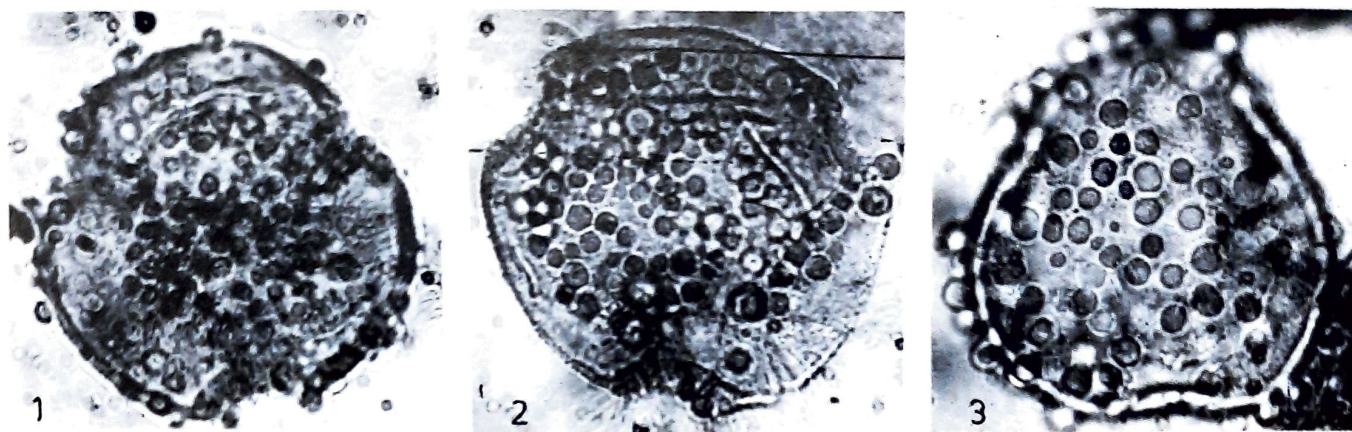
Type species - *Gemmatripoporollis triangulus* gen. et sp. nov.

*Generic Diagnosis*- Pollen grains isopolar, subtriangular to subcircular in shape. Triporate, pores subcircular, large and equatorially placed. Exine gemmate, intergemmate area granulate or finely baculate/ conate to microreticulate.

*Comparison*- *Verrutriporites* Muller (1968) and *Echitriporites* van der Hammen ex von Hoeken Klinken-



Map 1. Locality map.



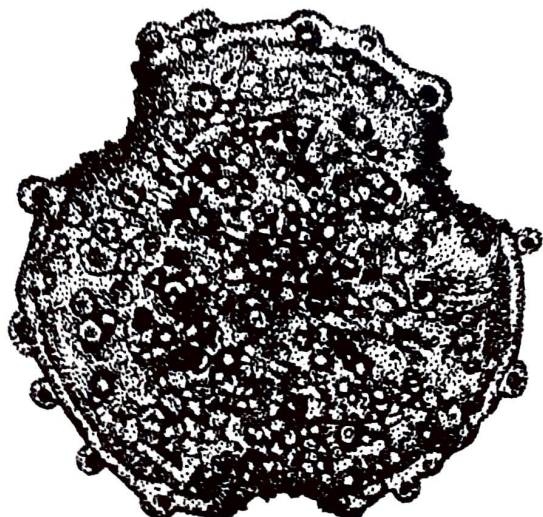
Figs 1-3. *Gemmatriporepollis triangulus* gen. et sp. nov. 1. Slide no. 10385, coordinates 96.3 x 62.7 (Holotype); 2. Slide no. 10385, coordinates 96.8 x 71.3; 3. Slide no. 10385, coordinates 100.4 x 39.9 (All figures are magnified X 1000. Coordinates refer to the stage of Leitz Laborlux microscope no. 512794/067034)

berg (1964) compare with the present genus in having three, equatorial pores but differ in having verrucate and echinate exine respectively. *Gemmastephanoporites* Gonzalez Guzman (1967) is closely comparable to the present genus in having gemmate exine but differs by being stephanoporate. *Acanthotricolpites* Kar emend. Singh & Misra (1991c) resembles the present genus in being triporate but differs in having spinose ornamentation. *Trilatiporites* Ramanujam ex Potonie' (1970) differs in being heteropolar and in having granulate to microreticulate exine. *Thomsonipollis* Krutzsch emend. Elsik (1968) is distinguished by its psilate to granulate exine.

#### *Gemmatriporepollis triangulus* sp. nov.

Figs 1-3, Text-fig.1

*Holotype*- Fig. 1, Text-fig. 1, slide no. BSIP 10385, Coordinates 96.3x62.7.



Text-fig 1. *Gemmatriporepollis triangulus* gen. et sp. nov. (Holotype) x 1300.

*Repository*- Birbal Sahni Institute of Palaeobotany, Lucknow.

*Type Locality*- Jayamkondacholapuram Well-12, (depth 119.0 m from ground level), Tiruchirapalli District, Tamil Nadu, India.

*Diagnosis*- Pollen grains isopolar, subtriangular to subcircular. Size 44-49 x 42-48  $\mu$ m. Triporate, pores distinct, subcircular in shape, 8-12  $\mu$ m in diameter. Exine (excluding gemmae) 2-3  $\mu$ m thick, gemmate, gemmae large sized, 3-5  $\mu$ m in height, uniformly distributed, intergemmate area granulate, finely baculate/conate, finely pitted in the apocolpial region.

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