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On Some Monosaccate Pollen from Borehole Jhang, Pakistan

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Abstract: The present paper deals with some mono saccate pollen grains isolated from core samples obtained from "Borehole" near Jhang, Pakistan. Most of the grains have been recorded by Balme (1970) Twenty Two mono saccate pollen were isolated and described. Most Probably these grains belong to permian era.

Key words: Mono saccate, Pollen, Borehole, Jhang Punjab

Palaeozoic micro flora from Pakistan is very fragmentary. The 1st record of bisaccate pollen from Khathwai, central salt range Punjab was made by Chinna-Virkki (1937) and Masood (1983) described a no of monosaccate pollen grains from Gondwana of Salt Range, Pakistan, Monosaccate Pollen grains are not available in any published form except Jain and Sah (1969) who described a few monosaccate grains from Jurassic of Nammal Gorge, Salt Range, Pakistan. Thus the information regarding the microflora of palaeozoic, in particular concerning Pakistan, is very meagre. Geological Survey of Pakistan provided the material which tempted the writer to investigate its Palynologically.

The geological formation of Pakistan have wholly or partially been formulated Palaeontologically. Some have authentic reports and some deposits are still to be explored in the right direction. Khan (1996) and Khurshid (1995) has described mono-Saccate pollen grains from permian era obtained from 'Borehole' near Jhang, Punjab, Pakistan. Geological survey of Pakistan make a Borehole at Jhang upto the Depth of 2368 ft. The core samples were provided to the writer for investigation. The Samples were treated with 40 percent hydrofluoric acid at room temp. upto 3 weeks, a small quantity of HCl was also added. The residue was Oxidized in fuming nitric acid for 24 hours. It was washed and heavy liquid separation was given to float off the organic material as recommended by Riley (1974) Terminology was borrowed from Hart (1964).

Systematic Description

Anteturma: Pollenites H. (Potonic and Sah, 1960)
Turma: Saccites (Erdtmann, 1947)
Subturma: Mono Saccites (Cbitaley) (Potonic and Kremp, 1954)
Infraturma: Tribtisuccites (Leschik, 1956)
Genus: StrimonoSaccites (Bharadwaj, 1962) emended (Hart, 1964)

Strimonosaccites punjabensis sp. Nov.

Diagnosis: Miospore, monosaccate, *diapolesaccites oval* in appearance, central body oval to subtriangular, Dearing number of spherical bodies of unknown nature. Each of the body is granulated. They are packed to form a network on the body as well as on the saccus. Germinal aperture

absent. Saccus overlapping clearly define saccus uniformly spread (Fig. 1).

Description: Miospore, monosaccate, oval, central body will distinct bearing a number of spherical bodies which are granulated. They form network both on body as well as on the saccus.

Dimension:

Specimen counted: 22, Equatorial diameter 108.9 (135.5) 167.3 um.

Strimonosaccites ovatus Bharadwaj (1962) in Hart (1964) Fig. 226, p.96 except the peculiar spherical network present on the proximal surface of the species. This feature is not given in the diagnosis for the genus. However, 22 species of this kind was isolated and has been assigned to *Strimonosaccites punjabensis* sp. nov.

These specimen are found at the depth of 2318 ft.

Genus: *Cannanorapollis* (Potonic and Sah, 1960)

Type species: *Cannoropolis janalcil* (Potonic and Sah, 1960)
Cannoropolis obscurus (Lele) (Bose and Maheshwari, 1968)

1964: *Parasaccites* sp. of (Bharadwaj and Tiwari, 1964) P1. 1, Fig. 2

1964: *Virikkipollenites obscurus*, Lele, p. 160-161, P1.2, Fig. 17-18

1964: *Parasaccites distinctus* (Tiwari, 1964) p.163, P1.4, Fig. 76-77

1968: *Cannaropollis obscurus* (Lele) (Bose and Maheshwari, 1968) p. 32, P 1.5, Fig. 2

Holotype: *Cannoropollis obscurus* (Lele) (Bose and Maheshwari, 1968) P1.5, Fig. 2

Description: Pollen grain, monosaccate, trilete marking ill defined, amb circular to broadly oval, central body circular to oval Laesurae simple, covers 1/2 of the central body, exoexine of the C.B. Infrareticulate. Thin with number of exinal folds. Saccus attachment equatorial on proximal surface, subequatorial on distal surface. Saccus 1-2 um thick, exoexine of saccus. Infrareticulate brochi 0.5-1.0 um in diameter, margin of the saccus undulating.

Dimension: Specimen counted: 3, Equatorial diameter: 112.2 (112.1) 115.5 um.

Comparison: This palynomorph resembles closely with *Cannanorpollis obscurus* (Lele) Bose and Maheshwari (1968), P1.5, Fig. 2 in morphological details and size range. These specimens are found at the depth of 2327 ft. and belong to the Permian era.

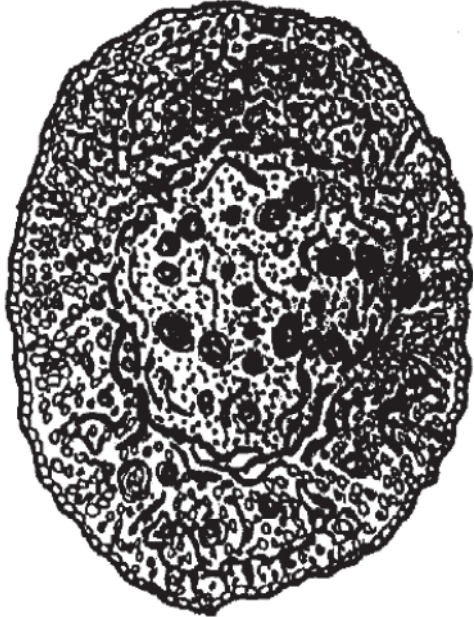


Fig. 1: *Stlionionosaccate ovatus*

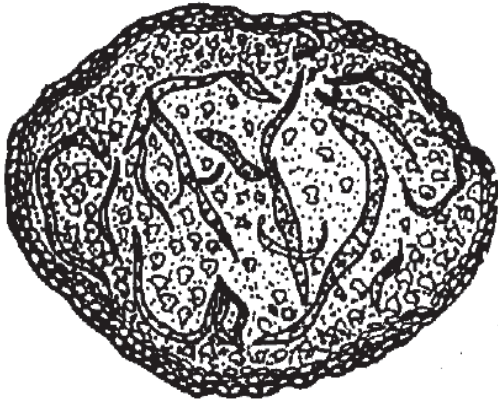


Fig. 2: *Cannanorpollis obscurus*

Many monosaccate pollen grains have been described. Most of these grains have easily been assignable to well established genera like *Cannanorpollis*, *Striomonosaccites*, *Plicatipollenites*. It is interesting to note that Bose and Maheshwari (1968) have regarded *Virkipollenites* as a junior synonym of *Cannanorpollis*. Hart (1969) has regarded *Virkipollenites* and *Cannanorpollis* as the junior synonyms of *Cordaitina*.

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