A new inaperturate pollen genus from the Late Miocene sediments of Site 218 of DSDP Leg 22 in the Central Bengal Fan, Indian Ocean

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Saxena RK, Kumar M & Chandra A 1998. A new inaperturate pollen genus from the Late Miocene sediments of Site 218 of DSDP Leg 22 in the Central Bengal Fan, Indian Ocean. *Palaeobotanist* 47 : 134-137.

A new pollen genus *Varisculptinaperturites* has been described from the Late Miocene sediments of Site 218 of DSDP Leg 22 in the Central Bengal Fan, Indian Ocean. The genus accommodates inaperturate pollen ornamented with two types of sculpture, smaller spines and gemmae and larger clavae/baculae.

Key-words—Angiosperm pollen, *Varisculptinaperturites*, Late Miocene, Central Bengal Fan (Indian Ocean).

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सारांश

हिन्द महासागर में केन्द्रीय बंगाल फैन में स्थित डी.एस.डी.पी. चरण 22 के स्थल 218 के अंतिम मायोसीन कालीन अवसादों से प्राप्त एक नयी छिद्र विहीन परागकण प्रजाति

रमेश कुमार सक्सेना, माधव कुमार एवं अनिल चन्द्रा

हिन्द महासागर में केन्द्रीय बंगाल फैन में एक स्थान से अनंतिम मायोसीनकालीन अवसादों से छिद्र विहीन एक नई परागकण प्रजाति *वेरिस्कल्पटिनापर्चुराइटिस* का इस शोध–पत्र में वर्णन किया गया है। इस प्रजाति में दो प्रकार के अलंकरण, छोटे कंटक एवं जेमी तथा बड़े क्लेवी/बेक्युली से युक्त परागकण के लक्षणों का समावेश किया गया है।

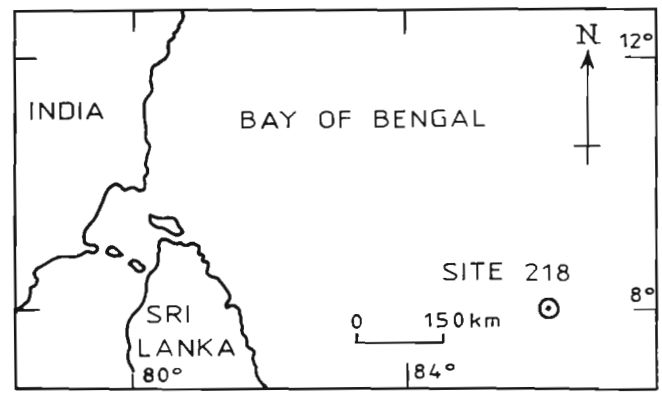
SITE 218 of DSDP Leg 22 is situated in the Central Bengal Fan, Indian Ocean (Lat. 08° 00.42' N : Long. 86° 16.97' E; Text-figure 1). A 773 m deep borehole, piercing through turbidite sequence, was drilled at this site. Chandra and Kumar (1997) carried out a palynological study of cores 27 to 12 of this borehole sequence and recorded a palynofossil assemblage containing fungal remains, bryophytic and pteridophytic spores and gymnospermous and angiospermous pollen. This assemblage includes a peculiar pollen (Pollen Type A in Chandra & Kumar 1997, p. 17, pl. 2, fig. 8) occurring in Core 16 of the borehole (Text-figure 2). This pollen type is inaperturate having two types of sculpture and could not be accommodated under any known pollen genera, hence has been proposed here as a new genus, viz., *Varisculptinaperturites* (vari = varying, sculpti = sculpture, inaperturites = inaperturate).

DESCRIPTION

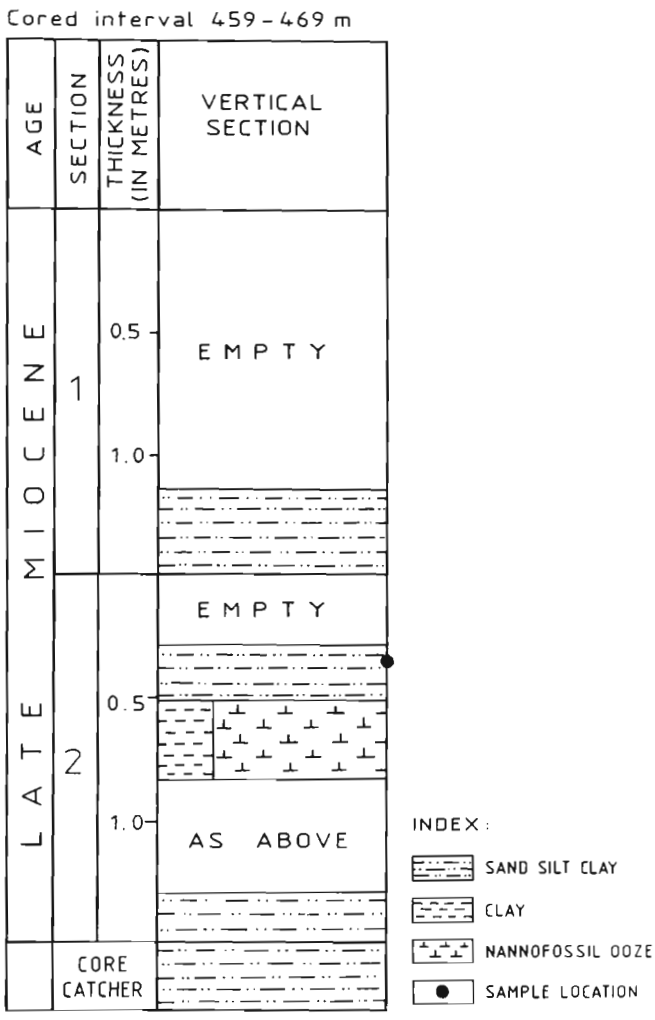
Genus—*Varisculptinaperturites* gen. nov.

Type species—*Varisculptinaperturites sphericus* gen. et sp. nov.

Generic diagnosis—Pollen spherical-subspherical, medium sized, inaperturate, exine ornamented with two types of sculptural elements-



Text-figure 1—Location of DSDP Site 218 in the Bengal Fan.



Text-figure 2—Core 16 of DSDP Site 218 showing location of sample.

smaller sculpture represented by spines and gemmae and larger ones represented by clavae/baculae of varying size.

Comparison—The present genus is comparable to *Verrualetes* Singh & Saxena 1984 in shape, size and inaperturate condition but the latter can be distinguished by its verrucate/gemmate exine. *Assamiapollenites* Singh 1975 emend. Singh & Saxena (1984) is also comparable in being inaperturate and having clavate/baculate exine. However, in *Assamiapollenites* sculptural elements are much smaller and are of uniform shape and size. *Eximispora* Salujha *et al.* 1972 can be distinguished by its tuberculate exine and trisyncolporate aperture. *Incrotonipollis* Jansonius & Hills 1981 differs in having exine with croton pattern. *Grimsdalia* Germeraad *et al.* 1968 is distinctly different for being finely granulate and coarsely clavate.

Varisculptinaperturites sphericus sp. nov.

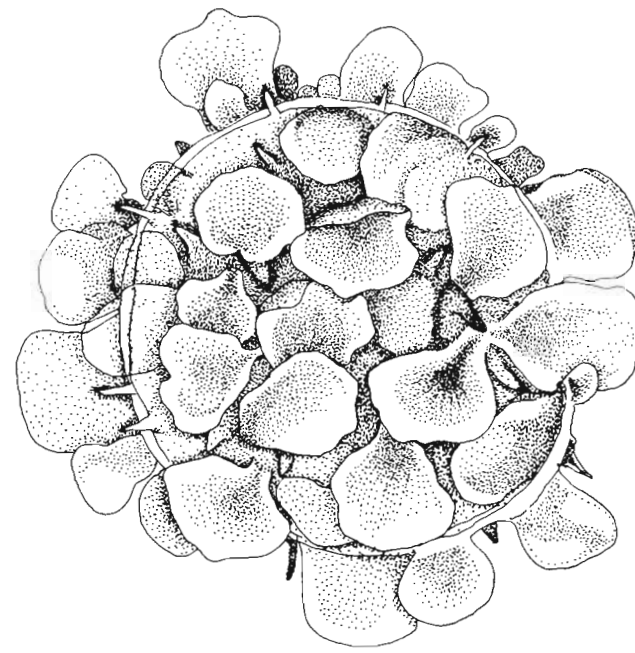
Figures 1-3; Text-figure 3

Synonym—Pollen Type 1 in Chandra & Kumar 1997, p. 17, pl. 2, fig. 8.

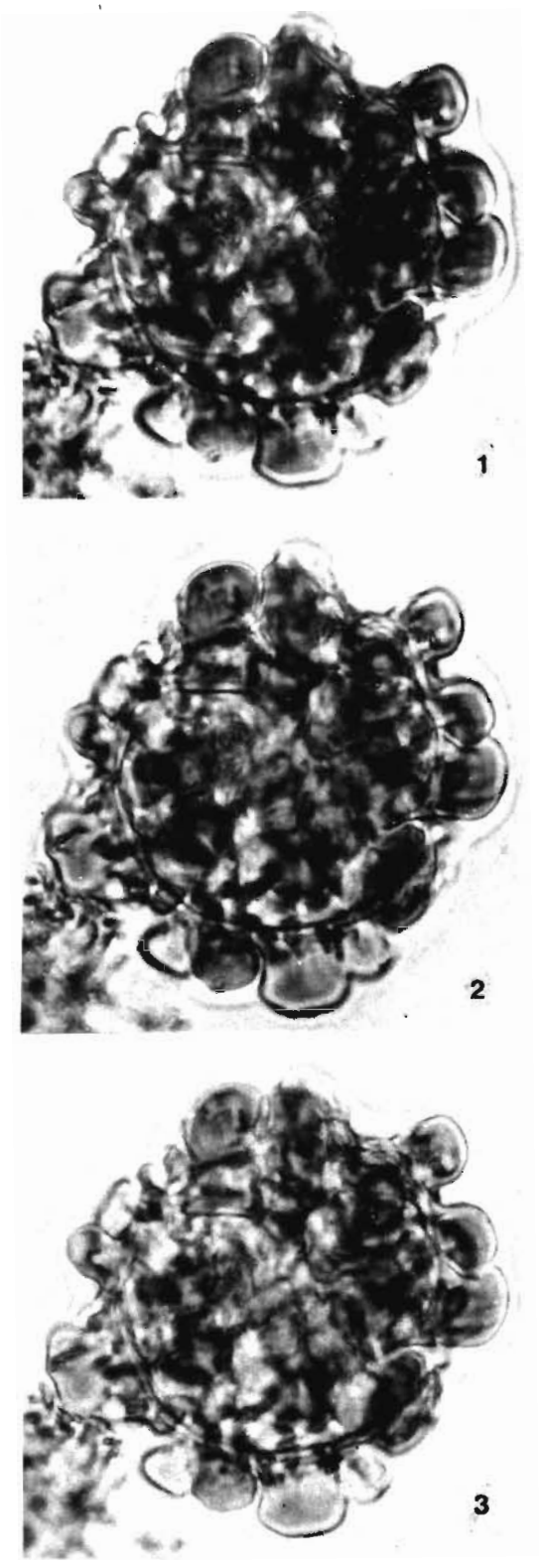
Diagnosis—Pollen spherical-subspherical, isopolar. Size 66x65 μm (including sculpture). Inaperturate. Exine 2-3 μm thick (excluding sculpture), sexine much thicker than nexine. Sculptural elements are of two types; smaller ones are only a few spines and gemmae, spines 3-5 μm long and 1.5-2.5 μm wide at base tapering towards the ends, gemmae up to 3.5 μm in diameter whereas the larger ones are clavae, 12-20 μm long with constricted proximal portion and large caput (8-12 μm).

Holotype—Figures 1-3, Text-figure 3, slide no. BSIP 11104/11, Birbal Sahni Institute of Palaeobotany, Lucknow, India.

Type locality—DSDP Leg 22, Site 218 (Core 16, Section 2), Bengal Fan (Lat. 08° 00.42' N : Long. 86° 16.97' E).



Text-figure 3—*Varisculptinaperturites sphericus* gen. et sp. nov. (Holotype).



EXPLANATION OF FIGURES

1-3. *Varisculptinaperturites sphericus* gen. et sp. nov. (Holotype), Slide no. BSIP 11104/ 11, x 1000.

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