NIDISTROBUS GEN. NOV., A POLLEN-BEARING FRUCTIFICATION FROM THE LOWER TRIASSIC OF GOPAD RIVER VALLEY, NIDPUR.

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ABSTRACT

Nidistrobus gen. nov. is based on a few pollen-bearing fructifications collected from the Lower Triassic bed of Gopad river valley near Nidpur, Sidhi district, Madhya Pradesh. It comprises "pad-shaped" pollen-bearing organs which are spirally arranged around a broad axis. Each "pad-shaped" organ on its adaxial side has about 7-9 elongated pollen sacs and are perhaps embedded in its substance. Pollen grains are non-striate and bisaccate.

Nidistrobus differs from *Harrisiothecium* in having pad-shaped pollen-bearing organs. In the latter, the spore-capsules are composed of two valves. The pollen grains in *Nidistrobus* are like *Satsangisaccites*.

INTRODUCTION

The Lower Triassic bed, exposed in the Gopad river valley near Nidpur, Sidhi district, Madhya Pradesh, has yielded a flora rich in *Dicroidium*. Three species have already been described by Bose and Srivastava (1971). Along with the Dicroidiums a few other genera have also been described by Srivastava (1969, 1971), Bose and Srivastava (1970, 1971, 1972). Recently, three more specimens have been collected which seem to be the pollen-bearing fructifications of *Dicroidium*. All the specimens belong to one species and their cuticle resemble somewhat the cuticle of *Dicroidium nidpurensis*. Each of these fructifications has spirally arranged "pad-shaped" pollen-bearing organs. A large number of such "pad-shaped" pollen-bearing organs have been collected in dispersed condition as well. Also quite a few have been isolated by bulk maceration. The new genus here described, is based on these specimens.

Nidistrobus gen. nov.

Pl. 1, Figs. 1-5

Diagnosis—Male fructification with a broad axis. Axis bearing spirally arranged, short stalked, 'pad-shaped' pollen-bearing bodies. Each 'pad-shaped' body having a row of 7-9 elongated pollen sacs on its adaxial side and perhaps embedded in its substance. Cuticle of stalk and pad-shaped body thick, amphistomatic. Subsidiary cells unspecialized 5-8 in number (usually 6), arranged in a ring. Encircling cells common. Stomatal pit rectangular or rhomboidal. Guard cells sunken, thinly cutinized, mostly not preserved. Pollen grains numerous in each pollen sac, bisaccate, non-striate; central body rhomboidal or broadly vertically oval; proximally sacci equatorially attached, distally much inclined, closely placed leaving a narrow vertically elongated fusiform sulcus with a median groove extending along entire length.

Type Species—*Nidistrobus harrisiana* gen. et sp. nov.

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Holotype—No. 35046, Birbal Sahni Institute of Palaeobotany, Lucknow.

Derivation of the specific name—After Professor T. M. Harris of the University of Reading, England.

REMARKS

The diagnosis of the type species is same as that given for the new genus. The holotype consists of the part (Pl. 1, Fig. 1) and two counterparts. The pollen grains are visible only on the axis of main part and that too when the cuticle of the pollen sac is removed. In the detached pad-shaped organs the pollen grains are visible on the matrix when the cuticle of the pollen sac is removed. From this it is inferred that the pollen sacs were adaxially placed.

Nidistrobus harrisiana differs from *Harrisiothecium marsilioides* Lundblad (1961)in having spirally arranged "pad-shaped" bodies with adaxially placed pollen sacs. In the latter pollen grains were produced in capsules with two valves. The pollen grain of *N. harrisiana* somewhat resembles the pollen grain of *H. marsilioides* (HARRIS, 1932, pl. 10, figs. 4, 6) in being non-striate bisaccate but in the former pollen grains are larger in size and also they have fusiform sulcus with median groove. The pollen grains of *N. harrisiana* are similar to the bisaccate grains of *Satsangisaccites* Bharadwaj & Srivastava (1969). The cuticle of the 'pad-shaped' bodies resembles the cuticle of *Dicroidium nidpurensis* Bose & Srivastava (1971). In both, stomatal distribution and orientation are similar. Also both have non-papillate epidermal cells. The stomatal apparatus of *N. harrisiana* slightly differs from the stomatal apparatus of *D. nidpurensis* in having usually 6 subsidiary cells which are usually arranged in the form of a ring. In the latter species subsidiary cells are usually 5 in number.

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EXPLANATION OF PLATES

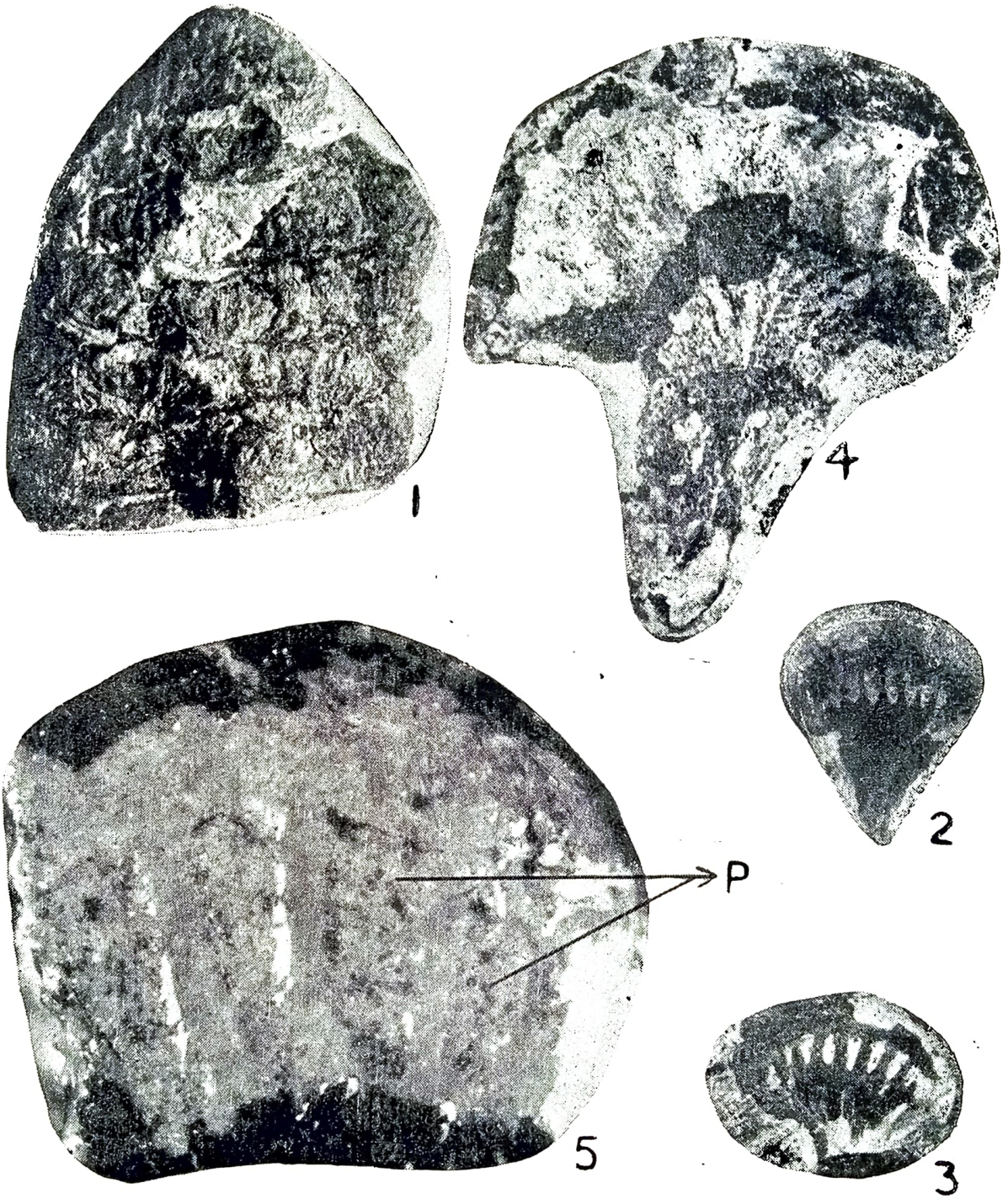
PLATE 1

1. Holotype (B. S. I. P. no. 35046), showing spirally arranged pad-shaped pollen-bearing organs. × nat. size.

2–3. Two detached "pad-shaped" bodies, showing empty chambers. B. S. I. P. nos. 35047 and 35048 × 2.

4. A "pad-shaped" organ magnified to show the stalk. B. S. I. P. no. 35049 × 5.

5. A few pollen sacs, showing the masses of pollen grains (P). B. S. I. P. no. 35050 × 14.


1
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P
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