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A UNILOCULAR FRUIT (*UNILOCULOCARPON CENTRALES SP. NOV.*) FROM DECCAN INTERTRAPPEAN BEDS OF MOHGAONKALAN, (M.P.), INDIA.

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ABSTRACT

In central India there are many well known fossiliferous localities of Deccan Intertrappean series like Mohgaonkalan. The plant fossils of Mohgaonkalan were wonderfully preserved and are of varied nature. Present paper describes in details angiospermic monocotyledonous unilocular drupe type of fruit collected from the exposures of Mohgaonkalan, M.P., India. It is elliptical in shape, size 1.6 mm in length and 1.4 mm in breadth, epicarp thin, smooth, sarcocarp about 240 - 259 μ with radial plates of hard tissue, dividing it into 23-24 longitudinal segments. Fruit with slits at apex and base, seed poorly preserved. Many monocotyledonous drupaceous fruit are reported from these beds. But the present fossil fruit found to vary from known fossil monocotyledonous fruits. It is named as Uniloculocarpon centrales sp. Nov.

KEYWORDS: *Fossil, Intertrappean, Mohgaonkalan, Angiosperm, Monocot, fruit drupe.*

INTRODUCTION

Intertrappean exposures at Mohgaonkalan (Lat. 22^0, 10" N: Long.79^o11, 18" E) in the Deccan are very rich in fossil flora. The present fossil fruit is collected from this locality. On cutting the black brown chert the fossil specimen exposed in longitudinal plane.

Number of fossil vegetative or reproductive remains have been reported from the Deccan Intertrappean beds of central India. Among these few capsular fruits have been reported such *Enigmocarpon parijai* (Sahni, 1943), *Indocarpa intertrappea* **(**Jain, 1964), *Harrisocarpon sahnii* (Chitaley and Nambudiri, 1973), *Sahniocarpon harrisii* (Chitaley and Patil, 1973), *Daberocarpon gerhardii* (Chitaley and Sheikh, 1973), *Deccanocarpon arnoldii* (Paradkar, 1975), *Enigmocarpon sahnii* (Chitaley and Kate, 1977), *Centrospermocarpon chitaleyi* (Sheikh and Khubalkar, 1979), *Euphorbiocarpon drypeteoides* (Mehrotra *et al*., 1983), *Grewia mohgaonse* (Paradkar and Dixit, 1984), *Oleaceocarpon nagpurensis* (Sheikh *et al*., 1986), *Duabangocarpon deccanii* **(**Kadoo and Kolhe, 2002) Pentalocolocarpon mohgaonse (Ramteke 2017).

Present fossil fruit describe here are monocotyledonous drupe type. Monocotyledonous drupaceous fruits reported from these beds earlier are *Borasseocarpon mohgaonse* (Wazalwar, 1990), *Pantocarpon deccanii* (Juneja, 1993), *Palmocarpon intertrappea* (Karanjekar, 1982), *Palmocarpon takliensis* (Sahni,1934), *Tricoccites trigonum* (Sahni & Rode 1937), *Areca intertrappea* (Senad, 1983). So this is the addition of new species from the Deccan Intertrappean beds of Mohgaonkalan.

MATERIAL AND METHOD

The present specimen is preserved in big black brown chert. On cutting the chert, the fossil fruit exposed in longitudinal plane. The material was studied by peel method. After breaking the chert the specimen was exposed transverse plane. After etching with hydrofluoric acid and washing with water, serial peel sections were taken by peel technique. The peels were mounted on DPX mountant. Thus the fruit revealed details of morphology and anatomy through examination of fractured surface, serial sectioning and successive peels.

Description

The petrified fruit is monocotyledonous, unilocular drupaceous, seed is ill preserved, though it is unilocular in transverse section. It is elliptical to oval in shape, broad at base and narrow towards apex, showing two slits, one at apex and other at base. It is exposed in longitudinal plane, and is about 1.6 mm in length and 1.4 mm in breadth. Apex is acute. (Text. Fig. I, Pl. Fig. 1). The pericarp or fruit wall is 370 μ thick, It is

differentiated into epicarp, sarcocarp and endocarp (Text. Figs. 1, 2, Pl. Figs. 1, 2, 3).

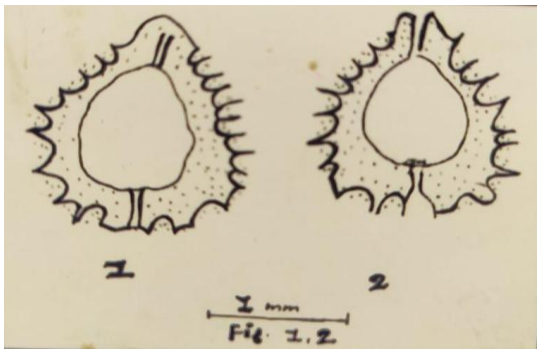
Epicarp is outermost zone of fruit. It is thin, smooth. Inner to epicarp is sarcocarp. It is the broadest zone of fruit wall. It measures about 240-259 μ, with radial plates of hard tissue, dividing it in about 23 to 24 longitudinal segments, of which central tissue is not well preserved. At many places shows, preservation of thin walled parenchymatous tissue. (Pl.figs. 1, 2, 3).

Endocarp is the innermost zone of fruit wall showing thin walled cells. The fruit is unilocular; size of locule is 666-740 μ. Further preservation of embryo and seed are not seen or poorly preserved (Text fig. 1, Pl. Figs 2, 3).

DISCUSSION AND COMPARISON

The petrified fruit is 1.6 mm in length and 1.4 mm in breadth, unilocular drupe, without seed. The pericarp is differentiated into thin, smooth epicarp, sarcocarp with radial plates of hard tissue dividing it into 23, to 24 longitudinal segments. Such a fruit is compared with reported a fossil fruit which shows the following important characters and are considered for identification of present specimen.

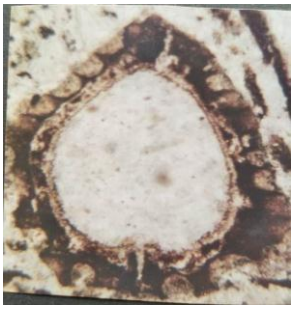
- The fruit is drupe
- Pericarp is differentiated into thin, smooth epicarp, middle sarcocarp with radial plates of hard tissue, dividing it into 23 to 24 longitudinal segments.
- Endocarp with thin walled cells.



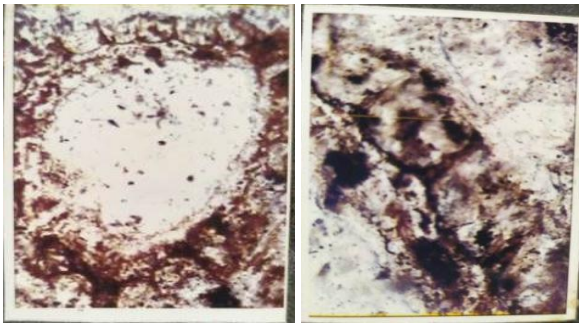
EXPLANATION OF TEXT FIGURES 1-2

1. **T. S. of entire fruit.**
2. **T.S. of fruit showing epicarp, sarcocarp with radial plates & endocarp.**

EXPLANATION OF PLATE FIGURES 1- 3



1. T.S. of fruit X 40



1 2

1. **T.S. of fruit showing epicarp, sarcocarp, and endocarp. X 40**
2. **Part of fruit magnified to show, Sarcocarp with radial plates of hard tissue X 100**

After studying above important characters, of fossil drupaceous fruit. It is compared with fossil monocot drupaceous fruits reported from Deccan localities. On comparison, it is a drupaceous fruit, it is rounded triangular, unilocular, with single seed in the locule in transverse section. Epicarp is thin smooth, sarcocarp with radial plates of hard tissue dividing it into 20 longitudinal segments, endocarp with thin walled cells. Whereas present fossil fruit is exposed in longitudinal plane, it is elliptical in shape, unilocular without seed; epicarp is thin, smooth, sarcocarp with radial plates of hard tissue dividing it in about 23 to 24 longitudinal segments. Endocarp with thin walled cells. The size of unilocular fruit is larger. But the present fossil fruit differs from other reported fruits, in having smaller in size, split at apex and base, is unilocular without seed.

Hence, from the above comparison between present fossil fruit & earlier reported fossil fruit, it comes to the conclusion that, the above fossil fruit is placed under a type genus *Uniloculocarpon* and the species *centrales sp. Nov.* is created.

Diagnosis

Uniloculocarpon gen. Nov.

The petrified fruit is 1.6 mm in length and 1.4 mm in breadth, unilocular drupe, without seed. The pericarp is differentiated into thin, smooth epicarp, sarcocarp with radial plates of hard tissue dividing it into 23, to 24 longitudinal segments.

Uniloculocarpon centrales sp. Nov.

Fruit petrified drupe, monocotyledonous, unilocular, without seed. It is elliptical in shape, size 1.6 mm in length and 1.4 mm in breadth, epicarp thin, smooth, sarcocarp about 240 - 259 μ with radial plates of hard tissue, dividing it into 23-24 longitudinal segments. Fruit with slits at apex and base, seed not preserved.

Holotype	–	MOH/MBB/FRUIT Deptt of Botany, S.S. College, Akola.
Locality	–	Mohgaonkalan, M.P., India.

Horizon – Deccan Intertrappean series of India.
Age – Latest Cretaceous.

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