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## DISTRIBUTION OF NEOMARIOPTERIS MAITHY IN THE KAMTHI FLORA OF MAHARASHTRA AND A NOTE ON THE HABIT OF THE PLANT

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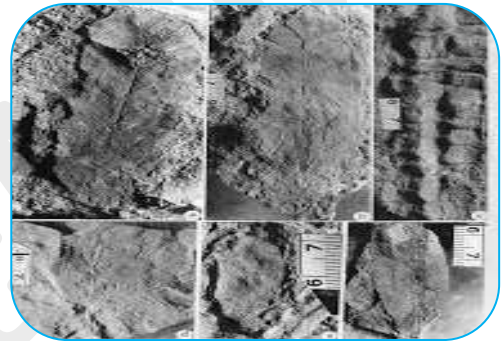
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### ABSTRACT:

From the Lower Gondwana flora of India, several fern plants are known. Genus – *Neomariopteris* Maithy is one of them and show wider distribution. It is known by six species. Present paper gives more data about its distribution in India. Its presence in Kamthi flora of Maharashtra is discussed along with its size and habit.

**KEYWORDS:** *Neomariopteris hugesii* Maithy, Tree fern, Kamthi Formation of Maharashtra.



### INTRODUCTION :

Maithy (1974) revised the nomenclature of the genus *Sphenopteris* reported from Lower Gondwana rocks of India. He instituted *Neomariopteris* for fern plants described under *Sphenopteris*. The plants are characterized by sphenopteroid venation, decurrent pinnules and winged rachis. *Neomariopteris* is known by six species from different parts of India they are:-

- 1) *N. polymorpha* (Feistm) Maithy
- 2) *N. hugesii* (zeiller) Maithy
- 3) *N. lobifolia* (Morris) Maithy
- 4) *N. talchirensis* Maithy
- 5) *N. khanii* Maithy
- 6) *N. barakarensis* Srivastava

Recently Singh and Chandra (1999) collected several impressions and casts of *N. hugesii* from Barakar formation of Orissa. On the basis of the material they have given a reconstruction of the fern *N. hugesii*. It gives the information about the size and form of the plant.

Authors suggest that *N. hugesii* is a prostrate fern resembling a small tree fern like plant. The reconstruction is useful in understanding the habit of *N. hugesii* in Lower Gondwana flora of India.

Authors have further given a detailed account of six species of *Neomariopteris*, from India. It includes name of species, their author(s), geological formation, their age and locality. The genus

ranges from Lower Permian to Lower Triassic. *Neomariopteris* shows wider distribution in India and reported from Bihar, West Bengal, Madhya Pradesh, Orissa and Maharashtra. (See Table1, pp 236-237 given by Singh and Chandra (1999)).

### MATERIAL AND LOCALITY:

Recently we have collected several plant impressions from Mangli in Chandrapur district of Maharashtra. The locality belongs to Kamthi Formation having several plant impressions of *Glossopteris* flora. Along with other members of the flora a specimen of *Neomariopteris hugesii* was collected in 2011 from the locality.

**DESCRIPTIVE:**

PTERIDOPHYTA

Order - FILICALES

Genus – NEOMARIOPTERIS (Feistmantel) Maithy

*N. hughesii* (zeiller) Maithy (Plate :1- Fig -1, Fig-II )Fig-I. *N. hughesii* (Zeiller) Maithy - Fossil showing rachis & pinnules.Fig-II. *N. hughesii* (Zeiller) Maithy Magnified - Pinnule showing lobed margin with acute apex & venation pattern.

The specimen is a single pinna measuring 2.2 cm. long and 0.8 cm. broad. Rachis is 1 mm. thick. The pinna shows seven pinnules and arranged alternately. Pinnules are oblong and apex is acute. The margins are lobed. From the basal part of pinnule three to four veins arise and divide, reaching the margin.

**IDENTIFICATION:**

The specimen agrees with the characters of *N. hughesii* given by Maithy (1974) and hence identified as such.

**Type** - MNG/15/2011**Locality**- Mangli, District – Chandrapur, Maharashtra state, India.**Horizon** – Kamthi Formation (Lower Triassic)**DISCUSSION:-**

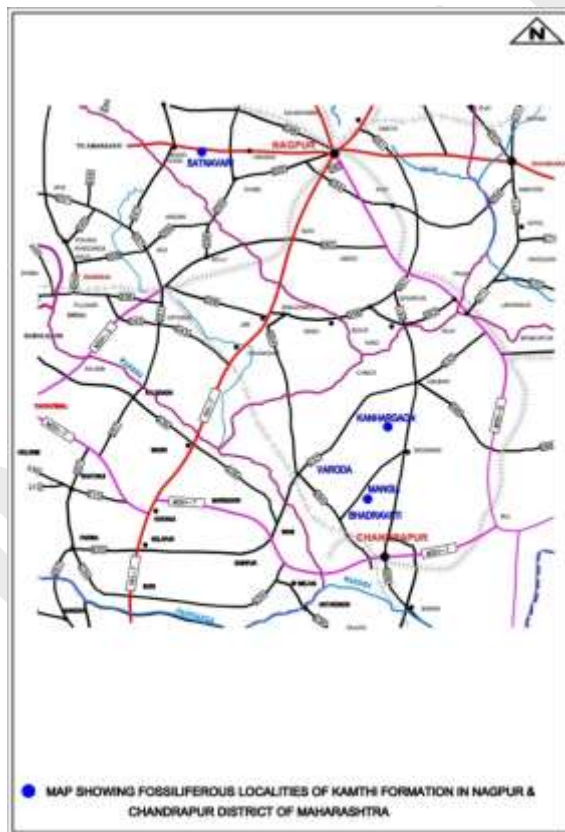
The table given by Sing & Chandra (1999) includes distribution of 54 reports by various authors. Among these only two reports are known from Kamthi Formation of Maharashtra. Present report is a new addition and indicates that there are three reports of *Neomariopteris* from Kamthis of Maharashtra namely;-

- 1) *N. hughesii* (Zeiller) Maithy by Chandra and Prasad (1981) from Kanhargaon, District Chandrapur, Maharashtra.
- 2) *N. polymorpha* (Feistmantel) Maithy by Chitins and Vagyani (1979) from Satnavari quarry, District Nagpur, Maharashtra.
- 3) *N.hughesii* (Zeiller) Maithy by present authors from Mangli, District Chandrapur, Maharashtra.

From the above discussion it appears that *N. hughesii* (Zeiller) Maithy has wider distribution in India. Further it is moderately present in Kamthis of Maharashtra. Present report adds more information about its distribution in India, particularly in Maharashtra. About habit and form we agree with the suggestion of Singh and Chandra (1999).

#### REFERENCES:

- Maithy P.K. 1974. A revision of the Lower Gondwana Sphenopteris from India. *Palaeobotanist* 21(1):9670-80.
- Singh K.I. & Chandra S.1999. The plant of *Neomariopteris hughesii* (Zeiller) Maithy. *Palaeobotanist* 48(3):225-238.



**TABLE - : Showing Comparative Anatomical Characters of different species of *Australoxylon***

Sr. No	Name of the Genus & species	Xylem rays	Xylem par-enchyma	Tangential pits	Annual rings	Border pitting on radial walls	Crossfield pits	Horizon and Locality
1	<i>Australoxylon teixeire</i> Margurier (1973)	1-2 seriate 1-36 cells high. Average height 2-16 cells.	-	-	-	1-3 seriate, mixed type pits in groups of 3,4 & 5.	1-10(mostly 4-6) lumen, large elliptical, oblique.	Karoo Formation Mozambique
2	<i>A. natalense</i> Margurier (1973)	1-2 seriate, 1-40 cells high. Average height 2-15 cells.	-	-	-	1-3 seriate with bars of sanio	1-7(mostly 3-4) circular elliptic	Ecca Formation Natal
3	<i>A. kanhargaoense</i> Prasad & Chandra (1978)	1-2 seriate 1-30 cells high.Average height 9-10 cells.	-	1-3 seriate present	-	1-3 seriate, mixed type-contiguous, pits in groups of 3,4 & 5.	1-7(mostly 4)bordered, circular,oval	Kamthi Formation Khahargaon
4	<i>A. longicellularis</i> Prasad & Chandra (1978)	1-2 seriate, 1-64 cells high. Average height 6-7 cells.	-	1-3 seriate present	-	1-3 seriate, mixed type, pits in groups of 3,4 & 5.	3-7(mostly 4) circular & bordered	Kamthi Formation Khahargaon
5	<i>A. bengalense</i> Margurier (1973)	1 seriate, 1-20 cells high.	-	-	-	1-4 seriate, mixed type, pits in groups of 2- 5.	2-7	Barakar Stage, Jharia, coalfield Bihar
6	<i>A.vagyaniansis</i>	1-2 seriate, 1-64cells high. Average height 6-7 cells.	present	-	present	1-3 seriate, mixed type separate-contiguous. pits in groups of 2,3 & 4.	2-4 circular to oval	Kamthi Formation Dhanoli

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