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**ON THE OCCURENCE OF *BOLBITIS PRESLINA* (FEE) CHING. IN HIRANYKESHI HILLS, AMBOLI, SAHYADRI HILLS, WESTERN GHATS, MAHARSHTRA STATE, INDIA****V. N. Rathod<sup>1</sup> and Govind H. Balde<sup>2</sup>**<sup>1</sup>P.G. Dept. of Botany, Z.B.Patil College, Deopur, Dhule, (M.S.).<sup>2</sup>P. G. Dept. of Zoology, G.T. Patil College, Nandurbar, (M.S.).

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**ABSTRACT :**

The auther are engaged in the study of fern of the Sahyadri hills in weastern ghats of Maharashtra state, India. During studies on ferns of the weastern ghats Maharashtra. A *Bolbitis* species with dimorphic fronds was recorded as a new record for Maharashtra. It was collected from origin of Hiranyakeshi hills, Amboli and identified as *Bolbitis preslina* (Fee) Ching.

**KEYWORDS :** *Bolbitis*, dimorphic fern, Sahyadri hills, Weastern ghats, India**INTRODUCTION**

The fern genus *Bolbitis* is characterized by dimorphic fronds, forked, free or anastomosing venation and compressed fertile fronds. Various species of *Bolbitis* are common in the Western Ghats of South India (Anamalais and Kerala Ghats, Ponmudi hills, Munnar hills, Sabarimalai, rare on the Tirunelveli Hills) (Beddome 1863, Manickam & Irudayaraj 1992, Nayar & Geevarghese 1993, Chandra 2000, (Neel et al, 2018). Fern flora of Maharashtra have not been botanically explored at all or very cursorily explored as can be judged from the works of Dalzell and Gibson (1861), Blatter and Almeida (1922), Mahabale and Kamble (1981), Manickam and Irudayaraj (1992) Rathod et al. (2009) Pardeshi (2009), Rathod and Pardeshi (2010), Neel et al, (2018) etc.

The present authors are engaged in studies of the fern diversity of the Sahyadri Hills of the Western Ghats further north in Maharashtra State. During the course of botanical exploration in the Sahyadri Hills, Kolhapur District, a few specimens of *Bolbitis* were collected.

Checking the morphology and taxonomy of the specimens revealed that they belong to the species in *Bolbitis preslina* (Fee) Ching. the present communication is intended to place on already recorded in the occurrence of *Bolbitis preslina* (Fee) Ching. By (Sachin Patil et al. 2012 & Neel et al, 2018) in the Hiranyakeshi river, Sahyadri Hills of Western Ghats in Maharashtra state.

Hiranyakeshi is situated in Amboli hills in Sahyadri ranges. The Hiranyakeshi River is a originating in the Amboli, Western Ghats in the Sindhudurg district of Maharashtra.

Sindhudurg district is situated between latitudes 15.37 and 16.40 North and longitudes 73.19 and 74.18 East. It is bordered by the Arabian Sea on the west and Sahyadri hill ranges to the east with a total area of 5,207 sq.km. Sindhudurg is part of the Konkan region of Maharashtra located on the west coast of Indian Peninsula. The district has been endowed with great natural beauty with its long beautiful seashore, picturesque mountains and lush green forests. The minimum and maximum temperature ranges from 16.3-33.8°C. On an average it receives an annual rainfall of 3287mm.

Amboli lies in the Sahyadri Hills of Western India, one of the world's "Eco Hot-Spots" and it abounds in unusual flora and fauna. However, as in the other parts of the Sahyadri Hills, denudation of the forest cover and unregulated government-assisted development are gradually ruining a once-pristine environment. The highest fern species collected from Amboli area. The major localities in Amboli area that shows high diversity of ferns are Hiranyakeshi, Mahadev point, Kawle sad, Amboli ghats. Major fern species in *Osmunda*, *Bolbitis*, *Lygodium*, *Pityrogramma*, *Pteris*, *Cheilanthes*, *Adiantum*, *Adiantum*, *Pteridium*, *Lindsaea*, *Athyrium*, *Athyrium*, *Tectaria*, *Asplenium*, *Asplenium*, *Blechnum*, *Stengogramma*, *Pyrrosia*, *Microsorium* etc. are present in Amboli. Comparatively many fern species are collected from Amboli area. It is observed during exploration that- diversity of fern species goes on decreasing as we go from lower side of hills to the top or at high altitudes.

### TAXONOMICAL ACCOUNT

***Bolbitis perslina*** (Fee.) Ching in C.Chr., Index Fil. Suppl. III: 49, 1934; Nayar & Kaur, Bull. Nat., Bot. Gdn. Lucknow 88: 53, 1964 *pro-parte*; Dixit Census 162, 1984; Irudaya-raj & Bir, Indian Fern. J. 14: 114, 1997; Chandra S., Fl. 235, 2000. *Heteroneuron preslianum* Fee, Hist. Acrost. 92 t. 39f-1 1845. *Paecilopteris preslina* (Fee) Bedd., Fl. t. 269, 1868. *Gymnopteris preslina* (Fee) J.Sm. in Bedd., Handb. 439, 1883 *pro-parte*. Plant creeping, ca 20-47 cm tall. Rhizome creeping, scaly, scales dark brown, ovate-lanceolate, 4 x 1 mm, entire, acute. Fronds bipinnately compound, tufted; stipes sterile stramineous to grey, rounded abaxially, adaxially grooved, ca 14-24 cm, sparsely scaly, 3x1 mm long; rachis sterile dark grey, narrowly winged, ca 10-25 cm, less scaly than the stipe; sterile leaflet opposite, shortly stalked, 9-10 pairs, oblong-lanceolate, acuminate both sides, 2-6.2 x 0.2-0.8 cm, glabrous on both the surfaces, apex acute, base cuneate, margin entire, venation anastomosing at the right angles, two pairs of opposite veinlets which meet at an acute angle from which proceed a veinlets which is either free or joined to the veins above marginal veins free terminating in a dot within the margin. Fertile frond ca 26-48 cm; stipe stramineous to grey, adaxially grooved, ca 18-28 cm, pinnae opposite, sessile, 8-9 pairs, 2.5 x 0.5 cm, apex rounded, margin entire, lower surface is distributed sori, upper surface is glabrous. Sori naked; sporangia 103.4 x 51.7 μ.

### DISTRIBUTION AND OUR SPACIAL COLLECTIONS NOTE:

Very rare, deep forest River shore or bank, small house flies like insects are always associated with this plant. Strictly lithophytic, Hiranyakeshi is situated at 16°11'N latitude and 74°40'E longitude, Amboli, Sindhudurg district of Maharashtra state, India.

**Exsiccata**-V.N. Rathod-Hiranyakeshi, 320.

### REFERENCES

- Blatter, E. and J.F.R.d'Almeida (1922) 'The ferns of Bombay'. DB Taraporevala Sons and Co., Bombay.
- Dalzell A. and A. Gibson (1861) 'The Bombay Flora, Bombay'. In "Ferns of Bombay" Blatter and Almeida (1922).
- Mahabale T.S. and S.Y. Kamble (1981). Proc. Indian Nat. Sci. Acad. 47(2):
- 260.
- Manickam V.S. and V. Irudayaraj (1992). Pteridophytic flora of the western ghats South India B.I. Publication pvt. Limited.
- Pardeshi, V.N. (2009). The Manual of Ferns of India. (Treatise on Beddome's ferns of British India). Saraswati publication house, Aurangabad.
- Neel R.S., V.N. Pardeshi and A.S. Bhuktar (2018) Fern Flora of Maharashtra, Bioinfolet 15 (2): 114-122.
- Rajagopal, P. K. and K. G. Bhat. (1998). Pteridophytic flora of Karnataka state, India. Indian Fern Journal 15: 1-28.
- Rathod V.N., Deshmukh R.R. and V.N. Pardeshi (2009). The occurrence of *Bolbitis subcrenatooides* Fras.-Jenk. in the Sahyadri hills of the western ghats, Maharashtra. Indian Fern J. 26: 60-64

10. Rathod V. N., and V.N.Pardeshi ( 2010). Occurrence of *Bolbitis appendiculata* (Willd.) Iwats. In Sahyadri hills of western ghats, Maharashtra. Bioinfolet. S7(1) 54-56.