

Research Article

A NEW DISTRIBUTION RECORD OF *BALANOPHORA DIOICA* R. BR. EX ROYLE- A TOTAL ROOT PARASITE FROM ZONGAW RESERVE FOREST, MIZORAM, INDIA

***HR Bora and Hans Raj**

Advanced Research Centre for Bamboo and Rattan, Bethlehem Vengthlang Aizawl-796001, Mizoram

**Author for Corresponding*

ABSTRACT

The Northeastern Region (NER) comprising the states of Arunachal Pradesh, Assam, Mizoram, Manipur, Meghalaya, Nagaland, Tripura and Sikkim is one of the richest biological zones in the world. A large number of primitive flowering plants are found in the region. In extensive survey in Zongaw reserve forest of Mamit district, Mizoram an interesting achlorophyllous plant was explored and identified as *Balanophora dioica*, a total root parasite. The distribution of the species was first time recorded in the Zongaw reserve forest of Mizoram.

Keywords: *Northeastern Region, Mizoram, Balanophora Dioica, Root Parasite*

INTRODUCTION

The Northeastern Region (NER) comprising the states of Arunachal Pradesh, Assam, Mizoram, Manipur, Meghalaya, Nagaland, Tripura and Sikkim is situated in the transition zone between Indian, Indo-Malayan and Indo-Chinese bio-geographical regions and one of the richest biological diversity zones in the world.

The region (NER) is a part of Indo-Burma and Eastern Himalayas hotspots of the 25 hotspots identified on the earth (Myers *et al.*, 2001). Due to presence of a large number of primitive flowering plants, the region of India is considered as the cradle of ancient angiosperms (Takhtajan, 1969). The rich biological diversity and traditional knowledge of the region is able to draw worldwide attention for conservation its flora and fauna.

Mizoram is one of the forest rich states in the Northeast India and situated between 21° 58' to 24° 35' north and 91° 15' to 93° 29' east and covering an area of 21,081 sq km. The entire territory is mostly mountainous and hilly culminating into several streams and rivers. The average height of the hills is about 920 meters. The dominant forest type of the state is Cachar Tropical Semi-Evergreen Forest (2B/C2) (Champion & Seth, 1968).

MATERIALS AND METHODS

Extensive field survey was carried out in Zongaw Reserves Forest, Mamit district, Mizoram to explore rattan resources during December, 2016 and an interesting achlorophyllous, small plant with 2.5-5.5cm height was found in N 23° 50' 20.3" and E 92° 29'.10" and identified as *Balanophora dioica* R. Br. ex Royle, a total root parasite. The plant was recorded in association of *Artocarpus chaplasha*, *Castanopsis indica*, *Cinnamomum obtusifolium*, *Morinda angustifolia*, *Pinanga gracilis*, *Schima wallichii*, *Trema orientalis*, etc at elevation 1030 m asl. Photograph of the specimens was taken and measurement of both vegetative and reproductive part was documented.

RESULTS AND DISCUSSION

Result

Balanophora dioica R. Br. ex Royle, Ill. Bot. Himal. Mts. 1: 330, 18362: t. 70. 1839; Hook. f. Fl. Brit. Ind. 5: 237. 1885; Kanjilal *et al.*, Fl. Assam 4: 132. (1940).

Erect, achlorophyllous, dioecious; rhizome/ tuber single or sometimes a few together in a mass. Scapes pale yellow to brown or reddish purple, cylindric, 2.5-4.5 cm. Male inflorescence broadly ovate to ovate-

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oblong, apex obtuse to emarginate. Male flowers numerous, actinomorphic, each subtended by a single truncate bract. Pedicel 4-9 mm, perianth lobes 4 or 5 ovate, reflexed. Female inflorescence ellipsoid to narrowly ovoid, 2.5-5.5 cm. Female flowers on basal stipe of spadices and highly reduced in size and structure.

Flowering : September to December

Plate



1. Associated Plants-*Trema Orientalis*, *Pinang Gracilis*; 2-4. Reproductive Parts of *Balanophora Dioica*

Discussion

Balanophora dioica is an endemic to the Eastern Himalayas. The species is extreme rare occurrence and of botanical interest (Jain & Sastry, 1980) and listed in the App. II of the CITES (Convention on International Trade in Endangered Species of wild flora and fauna) is prohibited for export from India. The species had been reported from Khasi & Jaintia Hills (Kanjilal *et al.*, 1940), Arunachal Pradesh (Hajra *et al.*, 1996; Chowdhery, 1997), Sikkim (Singh & Chauhan, 1997) from Karbi-Anglong, Assam (Bora *et al.*, 2010). The species from Koubru Hill Range of Senapati district, Manipur was reported by Kipgen and Singh (2010). Sinha *et al.*, (2012) had reported the species from Hnathial, Lunglei district, Mizoram. Flowers and inflorescences are used for remedy of cough by the Ao and Sangtam tribes of Nagaland (Zasa *et al.*, 2015)

Conclusion

The species is first time reported from Zongaw reserve forest, Mamit district, Mizoram. The species (*Balanophora dioica*) is under severe threats in the area. Forest fire, degradation, deforestation etc are major threats to the species.

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