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Plants of botanical curiosity found in North-Eastern region of India

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Abstract

Plants of 'Botanical Curiosity' are those which astonish people from both botanical and other community with their unique modifications and adaptations. The world owns many such plants and North-East India is one of the significant regions in the list. The reason for the crumbled occurrence of such plants in certain regions of the world is the prevailing geographical, climatic and vegetation pattern of the area. These plants hold certain peculiarities compared to others which may be in terms of their habitat, mode of nutrition, morphology or unique functional role in the environment. Rare, Endemic and Endangered (RET) status of most of such plants is a major concern for their protection, maintenance, conservation and sustainable utilization. This article briefly enlists some plants (20 nos.) found in North-Eastern region of India along with their peculiarities, the family they belong to, abundance status and a reference picture for each of them. This review paper also provides an insight to the significance of these plants from different perspectives and need of effective conservation strategies.

Keywords: Unique plants, botanical curiosity, North-East India, conservation

Introduction

What is Botanical Curiosity?

The plants have always been a source of astonishment for many reasons. Being the primary source of productivity, they not only provide energy (in the form of food) to the organisms of other trophic levels, but also uniquely showcase the wonders of nature in many ways. Therefore, several plant species are considered as "Botanical Curiosity" because of their special modifications (both structural and functional) and adaptations (to environment and enemy) ^[4]. Such characteristics occur to certain plants for different reasons like vegetation type, climate patterns, genetic criteria, ecological adaptability etc. However, at the end they become one of a kind species on earth.

The reason of significant availability of such plants in North-Eastern Region of India:

Out of the 36 biodiversity hotspots in the world, India has four hotspot areas. Again, the North-Eastern part of India is one of the richest in biological values with more than one-third of the country's total biodiversity (both flora and fauna) ^[1, 2, 3]. In terms of floristic diversity (flora only), the region is the richest one in India ^[1, 2]. Takhtajan (1969) considered North-East India region as the "Cradle of flowering plants" as nearly half of the total flowering plants of India were recorded from this region ^[5]. In fact, it is the geographical "gateway" to much of India's flora as it is the transition zone between the Indian, Indo-Malayan and Indo-Chinese bio-geographic regions and also a meeting place of Himalayan mountains with that of Peninsular India [Rao, 1994]. Along with other geographical benefits on its side, the highly humid tropical climate is the remarkable force for the wealthy and diverse flora in the region.

The unique bio-geographical position thus provides a profusion of habitats for featuring diverse floristic composition with a high level of endemism. ^[1] It also results in the presence of numerous plants with botanical curiosities and botanical rarities ^[1, 2, 3]. Mentionable that, many of such plants are also categorized in the threatened, endangered category of IUCN. Most of these are endemic too ^[4].

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Aim and Objective

The primary aim of this review paper is to specifically record the botanically unique plants of North-East India.

At the same time, the paper is written with the objective of i) enumerating the plants in distinct manner; ii) to highlight different peculiarities of plants to the eye of common readers and iii) to reflect light upon the conservation status and need for such plants.

Materials and Methods

The major portion of this paper is desktop reviewed along with the authors' personal inputs in terms of required

analysis.

Though North-East India politically consists of 8 states viz., Arunachal Pradesh, Assam, Meghalaya, Mizoram, Nagaland, Manipur, Tripura and Sikkim; but in this paper, the other 7 states being considered as the study area excluding the state of Sikkim due to lack of proper data (Picture Map 1).

For the updated names of plants and their families, the online taxonomic websites viz., Plants of the World Online (POWO), International Plant Names Index (IPNI) were cited. For easy reference, pictures are attached for each species from available and trustworthy websites.

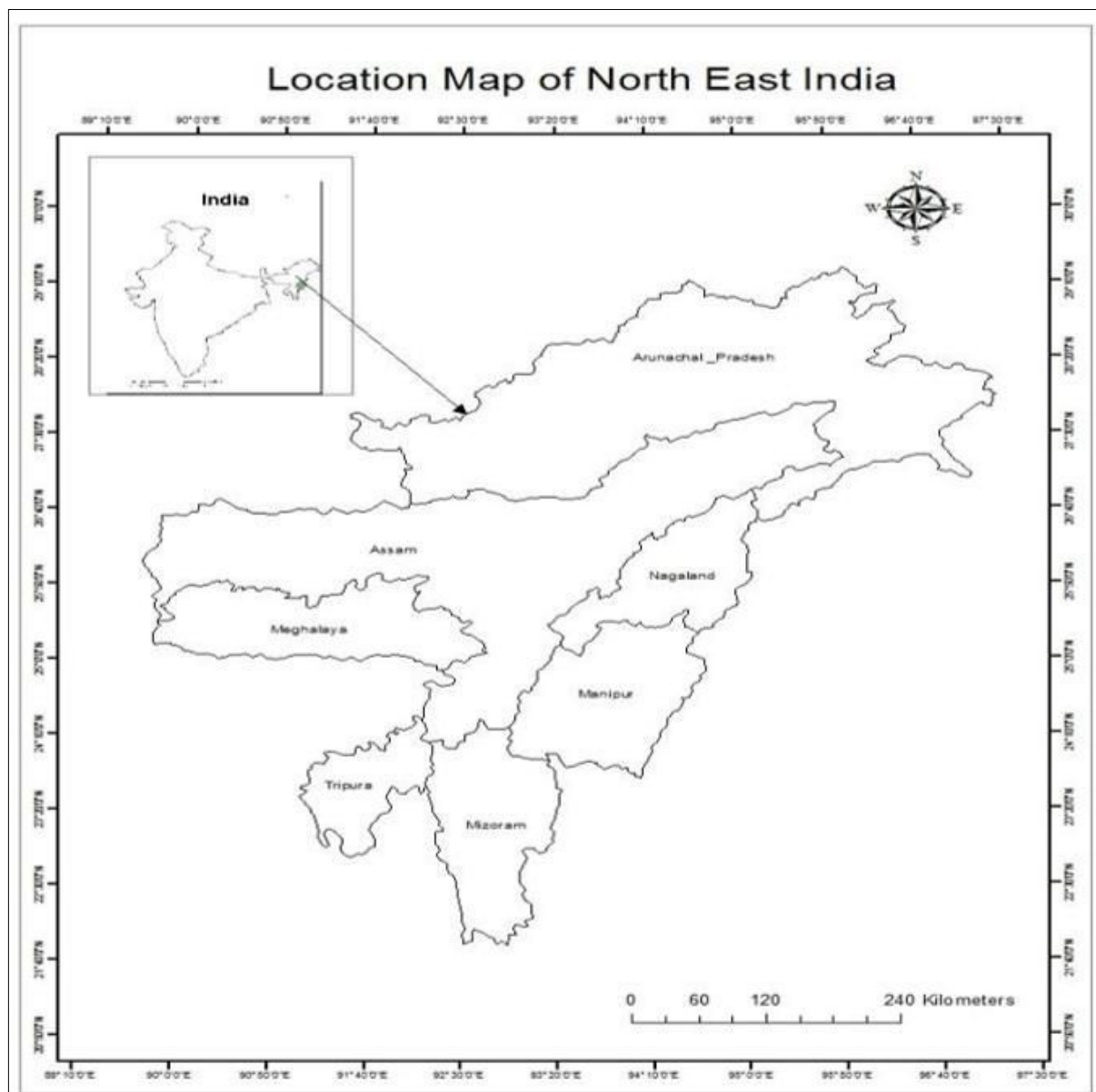


Fig 1: Picture Map 1 (source: <https://www.researchgate.net>)

The plants of Botanical Curiosity

Handique in 2000 has enumerated 16 plants of botanical curiosities from N-E India with peculiarities and their status of abundance ^[4]. This article is however an extension of that

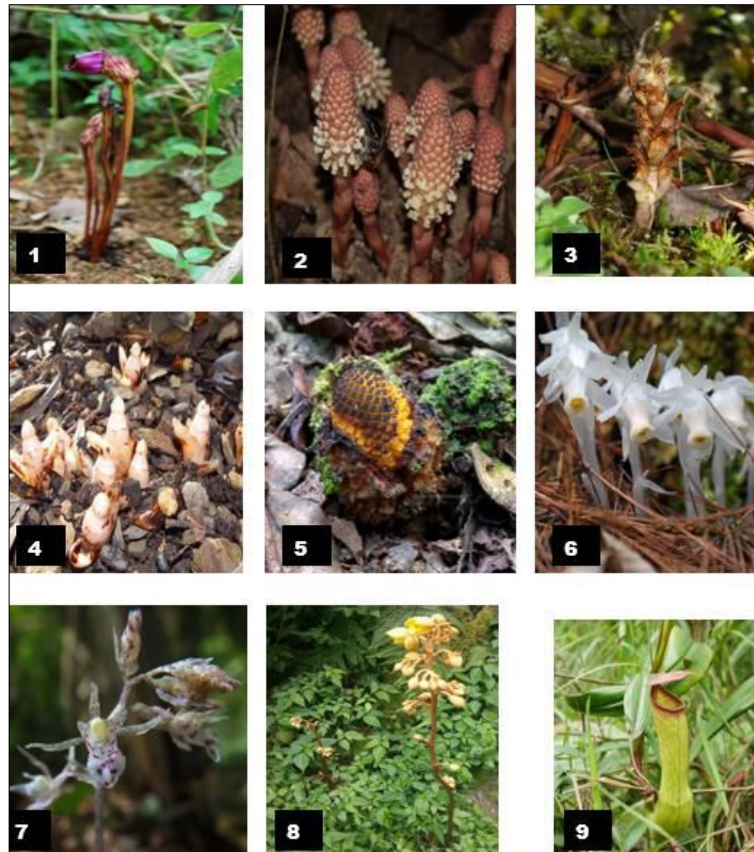
enumerated list with 20 such plant species incorporating the plants with updated names, their families and a picture for reference [Table No. 1, 2 & Photo-plate 1, 2, 3].

Table 1: Plants of Botanical Curiosity found in North-East India

Sl. No.	Botanical Name	Family	Peculiarity	Abundance Status	Picture Reference
1	<i>Aeginetia indica</i> L.	Orobanchaceae (Broomrape family)	Holoparasite, foot parasite on grass	Extremely rare	Pic 1 Source: POWO
2	<i>Balanophora dioica</i> R.Br. ex Royle.	Balanophoraceae	Root parasite	Endangered	Pic 2 Source: POWO
3	<i>Xylanche himalaica</i> (Hook.f & Thomson) Beck	Orobanchaceae	Root parasite on Rhododendron	Endangered	Pic 3 Source: POWO
4	<i>Mitrastemon yamamotoi</i> (Makino) Makino	Mitrastemonaceae	Root parasite on Rhododendron	Polyendemic	Pic 4 Source: POWO
5	<i>Rhopalocnemis phalloides</i> Jungh.	Balanophoraceae	Root parasite on Rhododendron	Endangered	Pic 5 Source: iNaturalist.org
6	<i>Monotropastrum humile</i> (D.Don) H. Hara	Ericaceae	Saprophyte	Rare	Pic 6 Source: iNaturalist.org
7	<i>Epipogium roseum</i> (D. Don) Lindl.	Orchidaceae	Saprophyte	Rare	Pic 7 Source: India Biodiversity Portal
8	<i>Cryptosia falconeri</i> (Hook.f.) Aver.	Orchidaceae	Tallest saprophytic orchid	Extremely rare	Pic 8 Source: eFlora of India
9	<i>Nepenthes khasiana</i> Hook.f.	Nepenthaceae	Insectivorous	Endemic and rare	Pic 9 Source: India Biodiversity Portal
10	<i>Drosera peltata</i> Thunb.	Droseraceae	Insectivorous	Rare	Pic 10 Source: International Carnivorous Plant Society
11	<i>D. burmannii</i> Vahl	Droseraceae	Insectivorous	Rare	Pic 11 Source: POWO
12	<i>Thylacospermum</i> sp.	Caryophyllaceae	Cushion forming	Rare	Pic 12 Source: POWO
13	<i>Saussurea gossiphora</i> D. Don	Asteraceae	Snow ball like appearance	Rare	Pic 13 Source: eFlora of India
14	<i>S. graminifolia</i> Wall ex. DC.	Asteraceae	Snow ball like appearance	Rare	Pic 14 Source: eFlora of India
15	<i>S. obvallata</i> (DC.) Sch.Bip.	Asteraceae	Hot house, sheltering inflorescence by bracts	Rare	Pic 15 Source: Flowers of India
16	<i>Rheum nobile</i> Hook.f & Thomson.	Polygonaceae	Hot house, sheltering inflorescence by bracts	Rare	Pic 16 Source: POWO
17	<i>Amentotaxus assamica</i> D.K.Ferguson	Taxaceae (Gymnosperm)	Important pharmacological potential (Source of chemotherapy drug 'Taxol')	Endangered	Pic 17 Source: iNaturalist.org
18	<i>Lilium mackliniae</i> Sealy	Liliaceae	Bulbous geophyte	Endemic and extremely rare	Pic 18 Source: POWO
19	<i>Sapria himalayana</i> Griff.	Rafflesiaceae	One of the largest root parasite	Rare	Pic 19 Source: POWO
20	<i>Paphiopedilum</i> spp.	Orchidaceae	Striking slipper shaped morphology of lip or labellum of the flower & long lasting flower.	Threatened, Endangered	Pic 20 A to 20F Source: POWO

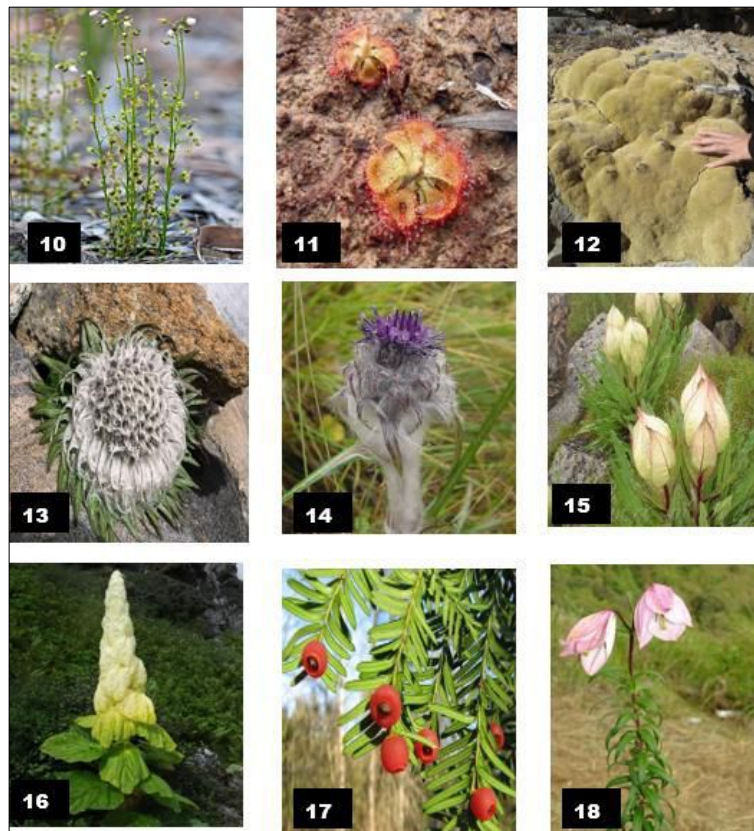
Table 2: Different species of *Paphiopedilum* spp. (Lady's slipper orchid) with their native state

Sl. No.	Botanical Name	Native state	Picture Reference
1	<i>Paphiopedilum fairrieanum</i> (Lindl.) Stein	Arunachal Pradesh	Pic: 20 A
2	<i>P. insigne</i> (Wall. Ex Lindl.) Pfitzer	Meghalaya	Pic: 20 B
3	<i>P. villosum</i> (Lindl.) Stein	Mizoram	Pic: 20 C
4	<i>P. spicerianum</i> (Rchb.f.) Pfitzer	Assam	Pic: 20 D
5	<i>P. hirsutissimum</i> (Lindl. Ex. Hook.) Stein	Meghalaya, Mizoram, Nagaland	Pic: 20 E
6	<i>P. venustum</i> (Wall. Ex Sims.) Pfitzer	Meghalaya	Pic: 20 F



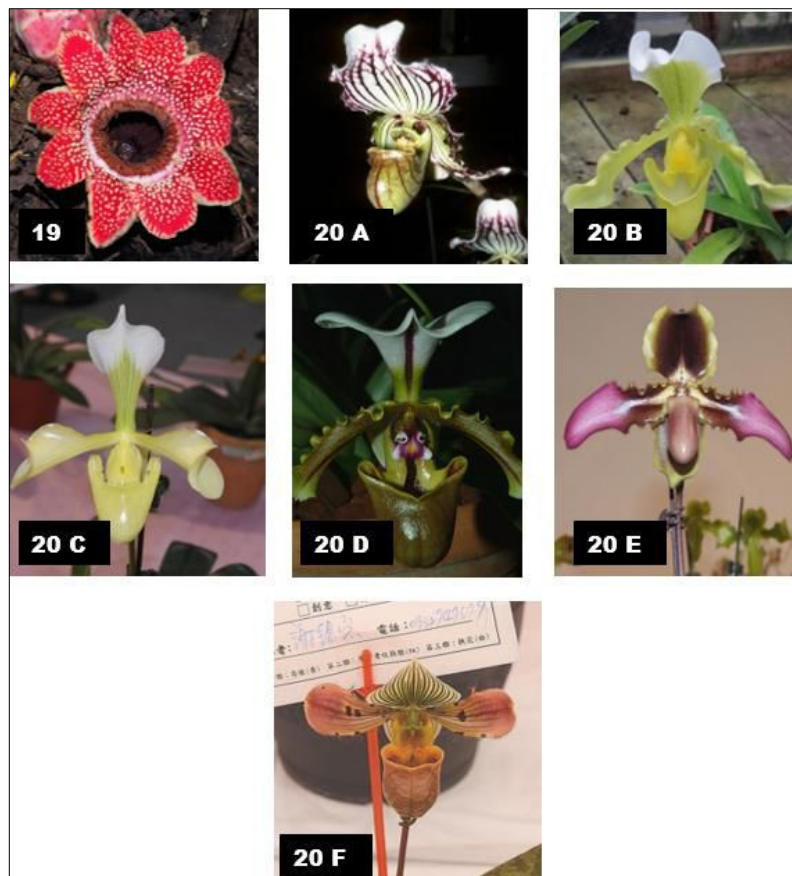
Pic: 1 *Aeginetia indica* | 2 *Balanophora dioica* | 3 *Xylanche himalaica* | 4 *Mitrastemon yamamotoi* | 5 *Rhopalocnemis phalloides* | 6 *Monotropastrum humile* | 7 *Epipogium roseum* | 8 *Crytosia falconeri* | 9 *Nepenthes khasiana*

Photo 1: Pictures of the enlisted plants



Pic: 10 *Drosera peltata* | 11 *D. burmannii* | 12 *Thylacospermum* sp. | 13 *Saussurea gossipiphora* | 14 *S. graminifolia* | 15 *S. obvallata* | 16 *Rheum nobile* | 17 *Amentotaxus assamicus* | 18 *Lilium mackliniae* |

Photo 2: Pictures of the enlisted plants



Pic: 19 *Sapria himalayana* | 20A *Paphiopedilum fairrieianum* | 20B *P. insigne* | 20C *P. villosum* | 20D *P. spicerianum* | 20E *P. hirsutissimum* | 20F *P. venustum*

Photo 3: Pictures of the enlisted plants

Conclusion and significance of the study

The flora of a country is one of the major economic assets. In case of India as a developing country, plant resources have enormous economic potential along with other aspects. For that matter, North-Eastern region is the primary centre of attention. While, covering 7.98% of the nation's land area, the region accounts for 21.08% of the total forest and tree cover of the country [Forest Survey of India (FSI) Report, 2023]. According to the same report, total forest cover of NE Region is 1,74,394.70 Km² which accounts for 67% of geographical area of the region. It is much more than national level i.e., 25.17%.

Apparently, all the mixed types of flora are equally important. However, as per the plants of botanical curiosity is concerned, these plants are not only significant to the botanical community but also for different stakeholders of the country. Inventorization and popularization of such plants could be a purpose of botanical tourism. At the same time, it will also lead to their effective protection, maintenance, conservation and sustainable utilization [4]. Major chunk of the north-eastern population depends on the utilization of plant resources, thus it is important to make sure that plants of botanical curiosity are not pushed into extinction because most of these are endangered and endemic. The irreplaceable nature of endemism again signifies the uniqueness of such flora. Thus, these plants could also be the flagship species for different environmental programmes. With respect to conservation aspect, participatory forest management practices indulging

the local communities are definitively a sustainable approach.

Despite the fact that NE Region has a huge pool of floristic diversity, it is not fully explored till date. Characterization and estimation of these floras into fuller extent is need of the hour and for that a well-designed collaboration among concerned stakeholders is must. Here, only planned strategies would play the key role. Needless to say that, due to strategic location of these North-Eastern states in India: the largest democratic country; positive approach from governance structures is instrumental in bringing out the desired result.

References

1. Chakravarty S, Suresh CP, Puri A, Shukla G. North-east India, the geographical gateway of India's phytodiversity. *Indian Forester*. 2012;138(8):702.
2. Chatterjee S, Saikia A, Dutta P, Ghosh D, Pangging G, Goswami AK. Biodiversity significance of North east India. WWF-India, New Delhi; c2006. p. 1-71.
3. Das J, Khosla M. Exploring the rich Flora and Fauna of North East India. In: *North East India: the Untapped Tourism Industry*; c2021. p. 77-84.
4. Handliques PJ. Biodiversity in North East India: Vegetation and Plant Species Diversity. *Journal of the Assam Science Society*. 2000;41(4):336-351.
5. Rao AS. The vegetation and phytogeography of Assam-Burma. In: *Ecology and biogeography in India*. Dordrecht: Springer Netherlands; c1974. p. 204-246.