

**INTERNATIONAL JOURNAL OF UNIVERSAL
PHARMACY AND BIO SCIENCES****IMPACT FACTOR 4.018*******ICV 6.16*******Pharmaceutical Sciences****Review Article.....!!!****STUDIES ON THREATENED PLANTS OF BEER RESERVE FOREST AREA
TARANAGAR, DISTRICT CHURU, RAJASTHAN**Solanki Deependra*, Khan JB¹ and Kapoor BBS²¹P.G. Department of Botany, Govt. Lohia P.G. College, Churu-331001, India²P.G. Department of Botany, Govt. Dungar College, Bikaner-334003, India**ABSTRACT****KEYWORDS:**

Threatened plants, Beer Reserve Forest Area Taranagar, Churu District, Rajasthan.

FOR CORRESPONDENCE:**Solanki Deependra*****ADDRESS:**

P.G. Department of Botany, Govt. Lohia P.G. College, Churu-331001, India

Beer Reserve Forest Area Taranagar is situated in Churu district of Rajasthan and rich in plant wealth. The plants of this region are utilized for food, fodder, gums, resins, essential oils, dyes, fatty oils, condiments, spices, medicines etc. The present research study was carried out by ethno-botanical survey of this area. This area has a very rich herbal diversity, many of which have been used by tribal communities in folk and herbal remedies since long. The rich resource is disappearing at an alarming rate as a result of over-exploitation. Threatened status of plant species is created by species constraints which are caused by habitat loss, Invasive species, Loss of pollinators and dispersers, Climate change, Loss of ecological connectivity and other intrinsic factors. Therefore, the management of plant resources has become a matter of urgency. Total twenty five threatened plant species have been reported from study area. For *in situ* and *ex situ* conservation of germplasm and standardization of propagation techniques of key species which are extensively exploited from their wild population is required. At large scale, germplasm conservation can also be done through genetic manipulation and biotechnological approaches like tissue culture techniques.

INTRODUCTION:

The vast land of Rajasthan together with its rich phytodiversity has a variety of medicinal plants growing in different habitats. Beer Reserve Forest Area Taranagar is situated in Churu district of Rajasthan and rich in plant wealth. The plants of this region are utilized for food, fodder, gums, resins, essential oils, dyes, fatty oils, condiments, spices, medicines etc. However, over all developmental activities, mechanization of life and over exploitation of natural resources and change in environment during last few decades has brought about a substantial depletion in the forests of the state in general and the medicinal plants in particular. As a result of which well known ethnobotanical plants due to over exploitation have now become endangered and rare.

The International Union for Conservation of Nature (IUCN) decides the parameters for plant and animal species and classifies them into Extinct, Threatened and Lower Risk species. According to IUCN Threatened Species consists of three types of categories Vulnerable, Endangered and Critically Endangered Species, which are arranged in increasing risk of extinction [1].

Threatened Species can be explained as “Any plant or animal species which is expected to become an Extinct Species in future if not protected or preserved carefully”. A lot of plant species has been categorized in the list of threatened and rare plants. Threatened status of plant species is created by species constraints which are caused by habitat loss, Invasive species, Loss of pollinators and dispersers, Climate change, Loss of ecological connectivity and other intrinsic factors.

The only notable contributions towards the building up of a comprehensive flora of the state of Rajasthan are those of [2-6]. The Ethno-medicinal plants of Rajasthan have been studied for their medicinal uses in herbal and folk remedies by many workers like [7-14]. Threatened plant species of Rajasthan have been studied by workers [15-21].

STUDY AREA

Beer Reserve Forest Area Taranagar lies in Churu district, which is also called as Bhutiya Beer. The area of this site is 225.3971 hectare. It is situated from 28°66'N Latitude and 75°03'E Longitude to 28°64'N Latitude and 75°06'E Longitude. It is flanked by Taranagar to Alayala village road and Taranagar to Mahatma Village road. The area between these roads has been protected by Forest Department, Churu. Two water reservoirs have been prepared in the vicinity of the forest area to supply water in Taranagar city and surrounding village. Each water reservoir has a perimeter of approximate 2 kilometer. The presence of these reservoirs is increasing the density of plant population in Taranagar beer reserve forest area. Any kind of destructive human interference is not allowed in this area so a variety of plants and animals are found here. The phytodiversity of this site is least studied. So

this site has been selected for research purpose to explore the richness of phytodiversity especially medicinal plant diversity.

MATERIAL AND METHODS

The twenty five selected ethno-botanical plant species growing in Beer Reserve Forest Area, Taranagar and their voucher plant specimens have been collected, identified and maintained in the herbarium, P.G. Department of Botany, Govt, P.G. Lohia College, Churu.

Information regarding their utility has been gathered from local people, tribal communities, herbal practitioners and experts of Ayurvedic field etc.

OBSERVATIONS AND DISCUSSION

Threatened status of plant species is created by species constraints which are caused by habitat loss, Invasive species, Loss of pollinators and dispersers, Climate change, Loss of ecological connectivity and other intrinsic factors. Some important following causes of over exploitation may lead to their threatened status.

1. Use for traditional folk and herbal medicines by tribal communities
2. Use for Ayurvedic, Unani and Naturopathic herbal drugs
3. Use for fodder for livestock like goat, sheep, cattle, camel
4. Use for fuel
5. Use for gum, resin, tannin
6. Use for timber
7. Use for making huts
8. Use for fencing
9. Use for food

The Twenty five selected threatened plant species growing in Beer Reserve Forest Area, Taranagar of Churu district are given in the Table-1.

TABLE: 1. LIST OF THREATENED PLANTS

S.No.	Botanical Name	Local Name	Family
1	<i>Acacia jacquemontii</i>	<i>Bu-banvali</i>	Fabaceae
2	<i>Acacia senegal</i>	Kumat	Fabaceae
3	<i>Aerva psuedotomentosa</i>	Bui	Amaranthaceae
4	<i>Ailanthus excelsa</i>	Ardu	Simaroubaceae
5	<i>Barleria prionitis</i>	Vajradanti	Acanthaceae
6	<i>Boerhavia erecta</i>	Satha, Punarnava	Nyctaginaceae

7	<i>Calligonum polygonoides</i>	Phog	Polygonaceae
8	<i>Calotropis gigantea</i>	Moto Aak	Asclepiadaceae
9	<i>Ceropegia bulbosa</i>	Khadula	Asclepiadaceae
10	<i>Citrullus colocynthis</i>	Tumba	Cucurbitaceae
11	<i>Clerodendrum phlomidis</i>	Arni	Lamiaceae
12	<i>Commiphora wightii</i>	Guggul	Burseraceae
13	<i>Ephedra foliata</i>	Andho Khimp	Ephedraceae
14	<i>Lasiurus indicus</i>	Sewan Ghas	Poaceae
15	<i>Leptadenia reticulata</i>	Kheemp	Asclepiadaceae
16	<i>Monsonia heliotropioides</i>	Mayur Shikha	Geraniaceae
17	<i>Oligochaeta ramosa</i>	Unt- kantilo	Asteraceae
18	<i>Peganum harmala</i>	Harmal	Zygophyllaceae
19	<i>Pergularia daemia</i>	Utaran	Asclepiadaceae
20	<i>Salvadora persica</i>	Khara jaal	Salvadoraceae
21	<i>Senna italica</i>	Senna	Fabaceae
22	<i>Tamarix aphylla</i>	Farash	Tamaricaceae
23	<i>Tecomella undulata</i>	Rohida	Bignoniaceae
24	<i>Tephrosia falciformis</i>	Sarpunkha	Fabaceae
25	<i>Tribulus terrestris</i>	Chhota Gokhru	Zygophyllaceae

All reported twenty five threatened plant species are disappearing at an alarming rate as a result of over-exploitation, which may be threatened with course of time. Therefore, there is need to encourage multiplication and cultivation of these plants. For *in situ* and *ex situ* conservation of germplasm and standardization of propagation techniques of key species which are extensively exploited from their wild population is required. At large scale, germplasm conservation can also be done through genetic manipulation and biotechnological approaches like tissue culture techniques. The conservation, cultivation and proper utilization of these plants is necessary for economic as well as sustainable development of the country.

There is an urgent need to create greater awareness amongst the population as a whole particularly the farmers about the medicinal and economic values of these plants, so that is heritage may be wisely used and exploited and at the same time conserved and perpetuated through judicious management for future generation.

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