ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 09, pp.56974-56976, September, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

EXPLORATION OF SOME ENDANGERED MEDICINAL PLANTS GROWING IN RAEBARELI, U.P.: AN ECOLOGICAL STUDY

***Singh, B. K.**

Department of Botany, R.H.S.P.G. College Singramau, Jaunpur-222175, U.P.

ARTICLE INFO

Article History:
Received 16th June, 2017
Received in revised form
19th July, 2017
Accepted 23rd August, 2017
Published online 29th September, 2017

Key words:
Ethnomedicinal,
Endangered plants,
Biodiversity,
Raebareli.

ABSTRACT

India has a very rich biodiversity, unique physical and ethnic diversity, and traditional culture. In recent years, the habitat loss due to developmental programmes, overgrazing, animal husbandry and tourism has resulted in the loss of biodiversity. Natural causes such as floods, earthquakes and landslides also add to this tragedy. With this point of view, present work has been conducted which deals with a detailed study of habit and habitat, frequency of occurrence, ecological conditions, floral characters and ethnomedicinal properties of some endangered but medicinally important angiospermic plant species collected from Raebareli (U.P.). The reported plant species have been declared threatened by the Indian Subcontinent Plant Specialist Group. Therefore, there is urgent need to document complete biodiversity, prioritize useful threatened plants, and conserve them *in-situ* and *ex-situ* for sustainable utilization in health care and human welfare.

Citation: Singh, B. K. 2017. "Exploration of Some Endangered Medicinal Plants Growing in Raebareli, U.P.: an ecological study", *International Journal of Current Research*, 9, (09), 56974-56976.

INTRODUCTION

The knowledge of flora and vegetation of any country is essentially required for proper documentation, evaluation of biodiversity's wealth, prioritization of threatened plant species and their conservation for future sustainable utilization in human welfare. Further, in order to monitor and manage the biodiversity, a systemic and thorough knowledge of the structural and functional aspects of various ecosystems is also highly required. The Indian Subcontinent Plant Specialist Group of SSC (Anonymous, 1998) has taken the most urgent action in the conservation of the Indian flora and conducted status surveys to identify the species which need protection by conservation. This Group identified several plant species of medicinal importance for their detailed study and protection. All the plants mentioned in this list were found in Raebareli district of Uttar Pradesh. From this list eight plants grow naturally in Raebareli (U.P.) and have been considered as the samples for this study which are *Abrus precatorius* Linn. (Leguminosae), *Adhatoda vasica* Nees (Acanthaceae), *Calotropis gigantea* Ait. (Asclepiadaceae), *Pongamia pinnata* (Pierre) L. (Fabaceae), *Rauwolfia serpentina* Benth. (Apocynaceae), *Strebles asper* Lour. (Urticaceae), *Tribulus terrestris* Linn. (Zygophyllaceae) and *Withania somnifera* Dunal (Solanaceae).

Corresponding author: **Singh, B. K.**
Department of Botany, R.H.S.P.G. College Singramau, Jaunpur-222175, U.P.

This study has been conducted in the district Raebareli (U.P.) with reference to traditionally used endangered plants by primitive communities for medicinal purposes. Raebareli is a district of Uttar Pradesh situated at the distance 78 kilometers from the Lucknow capital of Uttar Pradesh and at the distance of 160 kilometers from the Allahabad metropolitan city. On the North it is bounded by district Lucknow and district Barabanki, on the east by district Sultanpur and on the south-east by district Pratapgarh. The southern boundary is formed by the Ganga which separates it from the district of Fatehpur. On the west lies the district Unnao. It is situated in the eastern part of Indian subcontinent and has a subtropical climate.

The principal rivers of the district are the Ganges and the Sai which are responsible for geography and vegetations of the district. The district receives a major precipitation which comes in the form of rain fall in average of about 102 cm per anum. The soil of this district is mostly alluvial. Due to the favourable climatic and edaphic conditions a significant biodiversity is met in the district. The rich floral distribution of this district attracted Singh *et al*., (1996) and Khan and Ali, (2003) for the taxonomic and ethnomedicinal studies of weed flora and medicinal plants of this region. Dastur, (1964); Donellan, (1995) and Johari & Johari, (2002) have made relevant studies on endangered medicinal plants and have contributed to important Ayurvedic and Ethno-medicines of India.

The effect of climate, soil conditions, topography and infrastructure on the economics of conservation has been studied by Pearce and Moran (1994) and on the role of taxonomy in the conservation of medicinal.

MATERIALS AND METHODS

This piece of work is survey based. The surveys were made for the exploration of plants mentioned in the list of The Indian Subcontinent Plant Specialist Group of SSC (Anonymous, 1998) from the district and to study their habit and habitat, favourable ecological conditions, common names and ethnomedicinal usage prevalent among the people.

Beside these the taxonomy and floral characters of these plants were studied following Duthie (1960) for their identification. For the sake of illustration and presentation these plants were categorised as endangered and Extinct in wild (EW en) and Critically endangered (CR en) following Anonymous (1994). In the present work the extinct in wild (EW en) plant species were explored and chosen as samples for study.

RESULTS

During the survey it was observed that all the plants mentioned in the list of the Indian Subcontinent Plant Specialist Group of SSC grow and flourish in the district. The plants explored during the survey are of two types on the basis of the Categories of Threatened Plants, IUCN, (Anonymous, 1994): (i) Plants which are known to survive only in cultivation and may be Extinct in wild (EW en) and (ii) Plants which are Critically endangered (CR en). Eight plants from the list were found wildly growing in the Raebareli district in a very low frequency of occurrence, facing serious threat of extinction and have been Endangered due to habitat destruction caused by urbanization or by several other factors. General information, Taxonomy, medicinal usage and causes of endangerment of these plants are given in the following table:

DISCUSSION

District Raebareli is undoubtedly rich in plant diversity. All the plants suggested for detailed study and conservation, by the Indian Subcontinent Plant Specialist Group, 1998, grow and flourish in the district. These plant species can be categorized in two categories viz. Extinct in wild (EW en) and Critically endangered (CR en). The Extinct in wild (EW en) plants are those which were found growing uncultivated and were not facing the threat of extinction in the recent past because of the fact that their frequency was higher. However a drastic fall in their frequency was recorded during the study. This fall is only because of habitat destruction due to urbanization and over-exploitation. These plants need their cultivation because it is hard for them to survive in wild habitat and they are facing over exploitation due to less production and higher demand. Other plants of the list prepared by Indian Subcontinent Plant Specialist Group, are found in the district growing conserved either in the form of ornamentals or as the collections in the gardens are considered as Critically Endangered (CR en).

Table 1. Some useful endangered medicinal plants of the district Raebareli

SN	Name of plants	Local name	Family	Cate-gory	Medicinal uses	Cause of Extinction
1	*Abrus precatorius* L.	Ghumchi, Ratti	Fabaceae	EW en	For the treatment of leucorrhoea, rheumatism, sciatica, impotency, as contraceptive	Habitat destruction
2	*Adhatoda vasica* Nees	Arusa	Acanthaceae	EW en	In the treatment of cough, bronchial infection, asthma, malaria, skin eruptions	Over-exploitation
3	*Calotropis gigantea* Ait.	Sivtarak	Asclepiadaceae	EW en	For curing cholera, rheumatism, asthma, corn, skin infection	Habitat destruction
4	*Pongamia pinnata* (Pierre) L.	Karanji, dhithor	Fabaceae	CR en	For the treatment of cough, malarial fever, diabetes, rheumatic pain, skin diseases	Over-exploitation
5	*Rauwolfia serpentina* Benth.	Sarp-gandha	Apocynaceae	EW en	For the treatment of hyper-tension, sleeplessness and hysteria	Habitat destruction
6	*Strebles asper* Lour.	Sinhore	Urticaceae	EW en	For curing toothache and gum problem	Habitat destruction
7	*Tribulus terrestris* L.	Chhota gokharu	Zygophyllaceae	CR en	For the treatment of diabetes, urinary complains, kidney stone, piles, impotency, heart diseases	Habitat destruction
8	*Withania somnifera* (L.) Dunal.	Ashwa-gandha	Solanaceae	EW en	In the treatment of leucorrhoea, rheumatism, painful swellings, weakness	Over-exploitation

These plants need special awareness for their conservation and propagation considering the difficulties of their survival and higher demand. Habitat distruction and overexploitation are the major causes for the extinction of these plants.

Acknowledgement

The author (BKS) gratefully acknowledges the Principal, R.H.S.P.G. College, Singramau, Jaunpur for providing necessary facilities. The author is also thankful to Head of the Botany Department, T.D.P.G. College, Jaunpur for providing experimental facilities.

REFERENCES

Anonymous, 1994. IUCN Red List Catagories. IUCN, Gland, Switzerland.

Anonymous, 1998. Indian Subcontinent Plant Specialist Group, SSC.

Dastur J.F., 1964. Useful plants of India and Pakistan. D.B. Taraporewala Sons & Co. (Pvt.) Ltd. Bombay.

Donellan C., 1995. Endangered Species. Vol. I, Independence, Cambridge.

Duthie J.F., 1960. Flora of Upper Gangetic Plains Vol. I-II. Botanical Survey of India.

Johari S. and Johari R.V., 2002. Indian Medicine, Past and Present: A preliminary survey on herbs. Proc. 89 Ind. Sc. Cong. Part III, Section IV:19.

Khan Z.H. and Ali S.J. 2003. Ethnobotanical Studies on Acanthaceae of Eastern Uttar Pradesh. Jour. Liv. World, (2) 10:24-28.

Pearce D. and Moran D., 1994. The economic value of biodiversity. Earthsca Publication, London.

Singh S.D., Singh S.K., Saini D.C. and Srivastava A.K., 1996. Weed Flora of Crop Fields of Ghazipur District. J. Liv.World, (2):33-35.

****