WORLD JOURNAL OF PHARMACY AND PHARMACEUTICAL SCIENCES
SJIF Impact Factor 7.421
Volume 8, Issue 1, 1237-1241 Research Article ISSN 2278 – 4357

ENDANGERED SPECIES OF ETHNOBOTANICAL IMPORTANT PLANTS, RAJMAHAL BASIN, JHARKHAND, INDIA

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Article Received on
14 November 2018,

Revised on 04 Dec. 2018,
Accepted on 25 Dec. 2018,

DOI: 10.20959/wjpps20191-13002

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ABSTRACT

The present study deals with endangered species of ethnobotanical important plants growing in the vicinity of Rajmahal Open Cast Mine, Rajmahal Basin, Jharkhand. The plants are being affected by open cast mines in the area. Proper management practices are needed to conserve them and to maintain sustainability in the area.

KEYWORDS: Ethnobotanical, Rajmahal Basin, Jharkhand, Sustainability.

INTRODUCTION

Ethnobotany is an interdisciplinary science, where botany meets anthropology in the study of traditional uses of native plants.[1] Since time immemorial, plants served as the first source of medicine to treat ailments. Man learnt about the therapeutic use of plants through trials and errors. This knowledge has been orally passed from generation to generation which led to the development of the traditional health care system, practiced in various countries of the world. Ethnobotanical studies discover plant resources that can be used for targeting novel compounds leading to the development of new medicaments for treating especially complicated and minor diseases [2]. Medicinal plants have played an essential role in the development of human culture. In ancient period when allopathic treatments were not known, in search for rescue for their diseases, the people looked for drugs in nature. Even till now these practices are continue in the form of ayurvedic treatment.[3] Here some ethnobotanical important plants are being discussed with their medicinal values from the Rajmahal Basin, Jharkhand, India.

MATERIALS AND METHODS

The plant materials were surveyed during field excursion to collect the fossils from the Rajmahal Open Cast Mine, Rajmahal Basin, Jharkhand (Fig. 1). The study site lies 24º01´12´´ to 25º01´15´´ North latitude and 87º24´52´´ to 87º25´00´´ East longitudes. The plants were identified on the basis of relevant literatures.[4-5]

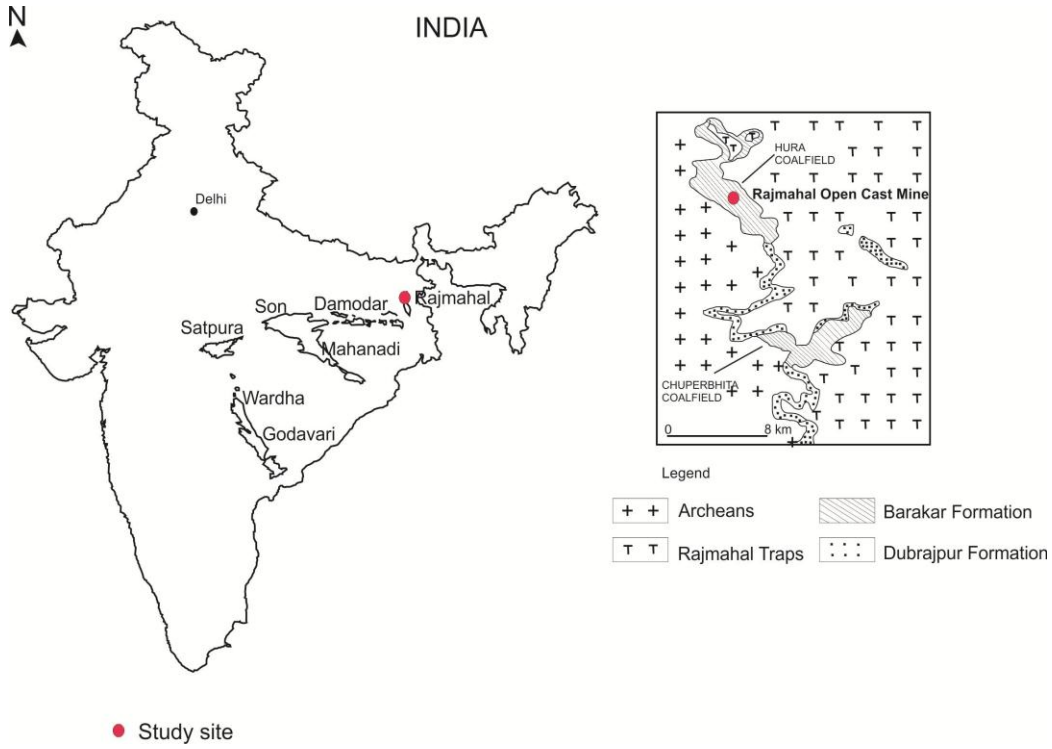

Fig. 1: Location map of the study site.

RESULTS AND DISCUSSION

On the basis of study the following species of flora having medicinal value are found in the area which are endangered and are in dire need of conservation

1. ***Costus speciosus*** (Costaceae) – The trade name is Keu or Kemua. Traditional use as purgative, expectorant and tonic. It is a medicinal plant – beneficial in asthma, anemia, bronchitis, leprosy, flatulence, constipation, fever, skin diseases and inflammation. The modern use of plant in carcinogenic tumors. The normal height of the plant is 2-3 m. It is succulent perennial herb with long leafy spirally twisted stems. The root is rich in starch. Rhizome juice is given traditionally with sugar to treat leprosy and for headache relief.

2. ***Siphonodon celastrineus*** (Celastraceae) – The trade name is Ivory wood. Large trees about 15-30 m high. Bole markedly fluted (30-50 cm in diameter), crooked or straight (bole 15-25 m long) buttresses rarely present up to 1.5 m high or absent, spines absent,

aerial roots absent, stilt roots absent. Extensively used for wooden craft work. Its root is used for the treatment of inflammation, abscess, skin diseases and as a bone tonic. Recently, the ethanoic extract of its leaves act against breast cancer [6].

3. ***Entada pursaetha*** (Fabaceae) – It is known as hanging lobster, a perennial plant (climber). It climbs on nearby trees to grow upward. It is very poisonous as it contains saponin toxicants. It is a medicinal plant use to cure ulcers, inflammations and its extract used as antioxidant. The seeds act as a good income source for tribals who sell them to the soap industry.[7]

4. ***Ficus rumphii*** (Moraceae) –It is a deciduous tree that can grow to a height of 20 meters. The plant often begins life as an epiphyte, growing in the branch of another tree; as it grows older it sends down aerial roots which, when they reach the ground quickly form roots and become much thicker and more vigorous. They supply nutrients to the fig, allowing it to grow faster than the host tree. The aerial roots gradually encircle the host tree, preventing its main trunk from expanding, whilst at the same time the foliage smothers the foliage of the host. Eventually the host dies, leaving the fig to carry on growing without competition. The plant is harvested from the wild for local use as food and medicine. The tree is often cultivated as an ornamental and shade tree along avenues. The plants used in taboos and totems, food, canoe-making, fibre, wrapping material or plates, timber and fuel, art and craft. The latex and fruits are emetic and anthelmintic. The latex is given internally as a vermifuge and for the relief of asthma [2].

5. ***Tacca leontopetaloides*** (Taccaceae) – It is known as Indian arrowroot. It is perennial herb and cultivated for it edible root yielding Otaheite arrowroot starch. The plants are used in traditional medicine to relieve pains of the body and stomach, as an antidote for food poisoning as well as for their analgesic, antipyretic and anti-inflammatory activities.

6. ***Atlantia monophylla*** (Rutaceae) – It is an aromatic herb used in cosmetics. The plant starts flowering in 80 days and then bears fruits for a month and a half. The oil extracted from the berries of *Atalantia monophylla* is used externally in chronic rheumatism and paralysis. The oil extracted from the leaves and from the berries is antibacterial and antifungal. A kilo of muskdana seeds (there are about 120 seeds in a fruit and 1,000 seeds weigh 14 gm) could fetch up to 5,000. Thus it is highly beneficial for strengthening the rural economy.

7. ***Rauwolfia serpentina*** (Apocynaceae) – It is known as Indian Snakeroot (Sarpagandha). The root of this plant was popular from ancient times as an antidote to the stings of insects and bytes of poisonous reptiles. It has been extensively used as an anti pyretic, an oxytocic, a sedative and a palliative psychiatry.

These plants have significant role in the livelihood of inhabitants in the area. Certain practices are being used by Eastern Coalfields Limited for the conservation of these species. However, the status of these species are at risk thus proper channelized mechanism or management is required to conserve their status in which local population can lead. Dumping of waste from coalmines should be properly monitored and done; Pollution status timely check by the concern authorities; Plantation regulatory mechanism must be done etc. All these practices must work simultaneously to conserve this wealth to maintain sustainability in the area. Seeing the present scenario sustainability must at prime.[8]

ACKNOWLEDGEMENT

The author is thankful to Science and Engineering Research Board (Department of Science and Technology), Government of India for providing financial assistance under Young Scientist Scheme (NPDF/2016/001701); to Mr. S. A. Yadav, CM (P)/ APM, Rajmahal Area, Eastern Coalfields Limited for granting permission to visit the colliery and for providing necessary help during field trip; to Principal S.G.R.R. (P.G.) College Dehradun for his kind cooperation to carry out this research work.

REFERENCES

1. Prance GT. Ethnobotany and the future of Conservation. Biologist (London), 2000; 47(2): 65-68.
2. Qureshi R, Ghazanfar SA, Obied H, Vasileva V, Tariq MA. Ethnobotany: A living science for Alleviating Human sufferings. Evidence-based Complementary and Alternative Medicine, 2016; 2016: doi: [10.1155/2016/9641692].
3. Sharma P, Joshi A. Some important medicinal plants of Dehradun Zoo, Uttarakhand. World Journal of Pharmacy and Pharmaceutical Sciences, 2018; 7(10): 1099-1103.
4. Byung JW. The Flowering Plants Handbook: A practical guide to families and genera of the world. Plant Gateway Ltd., Hertford, UK: 2014 (e Book available from: www. plantgateway.com).

5. Gupta R, Bajpai KG, Johri S, Saxena AM. An overview of Indian Novel Traditional Medicinal plants with Anti-Diabetic Potentials. African Journal of Traditional, Complementary and Alternative Medicines: AJTCAM, 2008, 5(1): 1-17.
6. Niampoka C, Suttisri R, Bavovada R, Takayama H, Aimi N. Potentially Cytotoxic Triterpenoids from the Root Bark of *Siphonodon celastrineus* Griff. Archives of Pharmacal Research, 2005; 28(5): 546-549.
7. Sai Vishnu PK, Srinivasa Rao JV. Exploration of Tribal Knowledge of *Entada pursaetha* DC: An Endangered Gigantic Medicinal Legume in Eastern Ghats. Ethnobotanical Leaflets, 2008; 12: 36-43
8. Julia R. Sustainability: A Green Culture. Nature, 2017; 546: 565-567: doi: 10.1038/nj7659-565a.