Available online at www.scholarsresearchlibrary.com

Scholars Research Library

J. Nat. Prod. Plant Resour., 2015, 5 (1):1-5
(http://scholarsresearchlibrary.com/archive.html)

ISSN : 2231 – 3184
CODEN (USA): JNPPB7

Diversity, indigenous use and conservation of ethno-medicinal wealth of Gondia District of Maharashtra, India

Kalpana P. Ghoshal

Department of Botany, M.B. Patel College of Arts, Commerce and Science, Deori

---

ABSTRACT

Traditional medical practice has been recognized by the World Health Organization as a building block of primary health care. Gondia district has a rich traditional knowledge of folk medicine practices. But rapid fragmentation of natural habitat and unrestricted exploitations coupled with limited cultivation and insufficient attempt for its replacement has decreased this now day by day. As a result these wild stocks of medicinal plants are depleted with an increasing risk of loosing their genetic diversity and quality of these plants remains unknown. Many species are extinct or on the verge of extinction before they are known for their scientific uses. The present study was carried with an aim to document the ethno-medicinal diversity, of Gondia district with some of the threatened plant species and their conservational needs.

Key words: Conservation, Ethno-medicinal, Gondia district, Threatened

---

INTRODUCTION

Ethno-medicine means the medical practices for the treatment of ethnic or aborigine people for their health care needs. Indigenous traditional knowledge is an integral part of the culture and history of a local community. It is evolved through years of regular experimentation on the day to day life and available resources surrounded by the community. Gondia district is a tribal district comprising of 5,431sq.km of area and 08 talukas surrounded by 54,456 sq.km of forest area. People residing near forest areas still practices folk lore practices for treating various diseases. The folk culture is still vital in this region [1]. The tribes like Gond, Halbe, Dhiver still largely depend on their traditional system of medicines. They obtain raw material (plant parts or plant species)from the forest but with time the situation has reversed due to deforestation and uprooting the plants for fulfilling the requirements and craze for herbal globalization, the medicinal plants are under threat with the increased risk of loosing genetic diversity [2 and 3]. This could result in eradicating indigenous and traditional knowledge about methods of curing diseases from a particular plant species.

About study area

Geographically Maharashtra is located in the centre of North and South of India and is the third largest state with a geographical area of 307690 sq.kms and lies between $16^{o}56'$ to $80^{o}09'$E longitude.

Gondia district is situated in extreme eastern side of Maharashtra state, covering an area of about 5,431km square lying between North latitude of 20.39 and 21.38 and East longitudes of 89.27 to 82.42. Gondia district is a region to

the south of Godavari river and the region is inhibited by arborigines. This region was ruled by Gond King and the rich dense forest reflects the culture of Gond people. The tribes used to collect lak (sealing wax) and gum from the forest. Gondia district is divided into two subdivisions Gondia and Deori. Almost half of the district has good forest cover with mountainous terrain, different grades of soil extreme climatic condition on one side and many rivers and rich biodiversity on the other side. Navegaonband National park and Nagzira wild life sanctuary adds beauty to the district. The district has 8 talukas with temperature variations of very hot summers (48^oC) and cold winters (10^oC) with relative humidity of 62%, annual rainfall of about1200 mm/year. The study area is Deori subdivision surrounded by rich forest wealth. Deori taluka covers a total geographical area of 1,21,355 hectares amongst which 5445 hectares is forest area and 45,694 hectare area is reserved forest. People residing here still practices folk remedies for treating various ailments.

MATERIALS AND METHODS

The traditional knowledge about the plants for treating the common diseases was collected from peoples, especially traditional healers and village medicine-men from June 2012 to January2014. Monthly visit and interviews of local and tribal peoples of villages were carried out to assess the information about the wild medicinal plants and some of the threatened plants used for ethno-medicinal purpose and documentation was done to preserve their knowledge for future generation. The collected plants were identified taxonomically using literature [4] and the status of ethno-medicinal plants were compared with Red data book and other literature

RESULTS

The present study records about 55 ethno-medicinal plant species representing 30 families. According to the traditional healers some of the plant species which were threatened were compared with the Red Data Book and the other literature [5 and 6] and the threatened plant list are enlisted below in table no 2. The other ethno-medicinal plants and their indigenous use along with their local name, family, plant part used is also enlisted in table no 1.

DISCUSSION

The ethno-medicinal plants are under threat due to deforestation, overgrazing and their neckless utilization. It indicates the urgent need of their conservation for sustainable development [3 and 7]. Due to commercial harvesting deforestation, uncontrolled grazing the medicinal plant diversity is being largely threatened and many species have come under critically endangered category. We are loosing many species due to alarming rate of extinction. It's very difficult to develop a measure of extinction rate of entire flora and fauna due to the little knowledge of species pool before the impact. Due to the loss of valuable genetic recourses there is a need to stimulate new program for the conservation of plant genetic resources. Several central and the state government organizations are involved in conserving threatened plant species. Government of India have established Department of Medicine and Homeopathy (ISM&H) under the ministry of health and family welfare in 1995, with an objective of rendering simple and effective herbal remedies to the people living particularly in remote areas for maintaining healthy life style [8]. Efforts have also been made to assay the threat faced by the medicinal plants. Further ecological surveys have to be intensified so that a list of threat facing plants can be prepared and a proper conservation strategy could be followed to conserve all those threatened plant species.

CONCLUSION

Extinction of some plant species not only leads towards lose of biodiversity but also results in eradicating traditional knowledge and old methods of curing diseases from those extinct species. Conservation of such threatened and extinct species needs urgent attention to conserve them so as to preserve the indigenous knowledge associated with them which could be beneficial for our future generations to come. Further studies are required to exploit the medicinal importance of these plants, and for that ethno-medicinal information could serves as a base for new compounds with their active principles for phytochemical, pharmacognostical, pharmacological and clinical research [9].

Table 1: List of Ethno-medicinal plants with their Indigenous uses

Sr. No.	Botanical Name with Family	Local Name	Parts Used	Name of the Disease/Uses
1	*Adhtoda vasica* Acanthaceae	Adulsa	Leaves, Roots, Flowers and Stem bark	Cough and Cold
2	*Mangifera indica* Anacardiaceae	Amba	Leaves, Barks, Fruits and Seeds	Diarrhea, Dysentery
3	*Phyllanthus emblica* Phyllanthaceae	Awala	Leaves, Fruits and Seeds	Vitamin deficiency
4	*Tamarindus indica* Caesalpinioideae	Chinch	Fruits, Seeds and Roots	Scorpion bites
5	*Curcuma longa* Zingiberaceae	Haldi	Rhizomes	Anti-bacterial, Wound healing
6	*Sapindus emarginatus* Sapindaceae	Ritha	Bark, Fruits and Roots	Healthy hair, Antibacterial
7	*Cassia tora* Fabaceae	Tarota	Leaves	Diabetes
8	*Euphorbia geniculata* Euphorbiaceae	Dudhi	Aerial parts	Jaundice
9	*Tinospora cordifolia* Menispermaceae	Gulvel	Aerial parts	Urinary problems, Anemia, Jaundice, Flue
10	*Aegle marmelos* Rutaceae	Bel	Leaves, Root and Fruits	Anti-dysentery, Diabetes
11	*Punica granatum* Punicaceae	Darimb	Fruits and Bark	Anti-dysentery, Anemia
12	*Semecarpus anacardium* Anacardiaceae	Biba	Fruits	Piles, Worms, Rheumatism
13	*Madhuca indica* Sapotaceae	Moha	Bark, Heart-wood, Fruits and Seeds	Wounds, Diabetes
14	*Tectona grandis* Verbenaceae	Sagwan	Leaves and Barks	Snake bite
15	*Butea monosperma* Fabaceae	Palas	Barks, Leaves, Fruits, Seeds and Gums	Diabetes
16	*Ficus benghalensis* Moraceae	Vad	Bark, Leaves, Fruits, Seeds and Latex	Anti-diabetic, wound
17	*Mimosa pudica* Mimosoideae	Lajalu	Whole plant	Stimulant
18	*Ficus religiosa* Moraceae	Pipal	Bark, Leaves, Fruits, Seeds and Latex	Treating skin disease
19	*Azadirachta indica* Meliaceae	Kadunimb	Bark, Leaves, Flowers and Seeds	Antibacterial
20	*Zizyphus jujaba* Rhamnaceae	Bor	Fruits	Vitamine-B
21	*Psidium guajava* Myrtaceae	Jam	Leaves, Fruits and Root	Anti-diarrhea
22	*Terminalia arjuna* Combretaceae	Arjun	Bark	Diuretic, Cardio tonic
23	*Ricinus communis* Euphorbiaceae	Yerandi	Leaves and Seeds	Anti-swelling
24	*Centella asiatica* Apiaceae	Bramhi	Whole plant	Memory stimulant
25	*Syzygium cumini* Myrtaceae	Jambul	Bark, Leaves and Fruits	Diabetes, Acidity
26	*Murraya koenigii* Rutaceae	Godnimb	Leaves	Stimulant, Digestive
27	*Acacia nilotica* Fabaceae	Babul	Pods, Leaves, Bark and Gums	Dental use
28	*Ficus racemosa* Moraceae	Umbar	Fruits	Anti-helmentic
29	*Annona squamosa* Annonaceae	Shitafal	Leaves, Roots, Fruits and Seeds	Reducing weight
30	*Pongamia pinnata* Fabaceae	Karanj	Leaves, Flowers, Seeds and Bark	Wound healing
31	*Cynodon dactylon.* Poaceae	Harari	Leaves	Astringent

32	*Dendrocalamus strictus* Poaceae	Bambu	Culms	T.B, Cough
33	*Michelia champaca* Magnoliaceae	Chamapa	Leaves and Flowers	Expectorant, Purgative
34	*Alstonia scholaris* Apocynaceae	Saptparni	Leaves	Snake bite
35	*Pithecellobium dulce* Fabaceae	Vilayati chinch	Fruits	Anti-oxidant
36	*Vitex negundo* Verbenaceae	Nirgudi	Flowers and Roots	Anti-inflammatory, Bone fracture
37	*Bauhinia racemosa* Caesalpiniaceae	Apta	Leaves	Wound healer
38	*Tridax procumbems* Asteraceae	Kambarmodi	Leaves	Kraking foot
39	*Feronia limonia* Rutaceae	Kawath	Leaves and Fruits	Shwetprader
40	*Nyctanthes arbor-tristis* Oleaceae	Parijat	Leaves, Flowers and Seeds	Rheumatism
41	*Vinca rosea* Apocynaceae	Sadafuli	Leaves and Flowers	Leukemia
42	*Calotropis procera* Asclepidaceae	Rui	Whole plant	Cough
43	*Hibiscus cannabinus* Malvaceae	Ambadi	Leaves and Fruits	Sun stroke
44	*Allium sativum* Liliaceae	Lasun	Bulbs	Cough
45	*Cymbopogon citratus* Poaceae	Gawtichaha	Whole plant	Cough and Cold
46	*Ocimum sanctum* Lamiaceae	Tulas	Whole plant	Fever
47	*Terminalia bellirica* Combretaceae	Behada	Bark and Fruits	Vomiting, Skin diseases
48	*Trapa natans* Trapaceae	Singada	Fruits	Diarrhea, Dysentery, Fatigue
49	*Momordica charantia* Cucurbitaceae	Karella	Fruits and Seeds	Diabetes, Blood purifier and Anti-helminthic
50	*Aloe vera* Liliaceae	Korphad	Leaves	Abortifacient
51	*Andrographis paniculata* Acanthaceae	Kalmegh	Leaves and Whole plant	For digestion, Liver function, Whooping cough and Leprosy
53	*Boerhavia diffusa* Nyctaginaceae	Punarnova	Whole plant	As blood purifier, in Jaundice and Leucorrhoea.
54	*Bacopa monnieri* Scrophulariaceae	Brahmi	Root, Leaf (whole plant)	Cataract, Epilepsia, Astringent
55	*Commelina erecta* Commelinaceae	Kanseera	Leaf	Rheumatic, Burn, Swellings, Injuries

Table 2: List of Threatened plants

Sr.No	Botanical name with family	Local name	Habit	Parts used	Uses	Status
1	*Artocarpus lakoocha* Moraceae	Bohot	Tree	Leaves, Barks, Fruits	Used to treat Piles, Stomach ache Diarrhea and Malaria	Endangered
2	*Piper longum* Piperaceae	Pipoli	Climber	Fruits	To treat Asthma, Cough and Cold.	Endangered
3	*Citrus assamensis* Rutaceae	Bornimbu	Small tree	Leaves, Flowers, and Fruits.	For treating Dysentery, Indigestion, Pimples and Intestinal worms.	Endemic
4	*Acalypha australis* Euphorbiaceae	Kachugam	Herb	Leaves.	For healing wounds, Leprosy, Rheumatism.	Rare
5	*Acorus calamus* Acoraceae	Buch	Herb.	Rhizome.	Diarrhoea, Tuberculosis, Cough and Cold.	Vulnerable.
6	*Rauwolfia serpentina* Apocynaceae	Sarpgandha.	Herb.	Flowers, Roots, Leaves.	For treating high blood pressure, Malaria, Antidote for Snake bites.	Endangered
7	*Tinospora cordifolia* Menispermaceae.	Guduchi	Climber.	Leaves.	For Urinary troubles, Cough, Anemia, Jaundice.	Rare.

REFERENCES

[1] Hiremath V. T and Jaranath J.C, *The Journal of Ethnobiology & Traditional Medicine*, **2013**, 118:222-227.
[2] Singh M, *Indian Journal of Life science*, **2012**, 1 (2):61-65.
[3] Kunwar, R.M. and Dawadee, N.P, *Journal of Science*, **2013**, 1: 25-30.
[4] Borkar, S.U. and Theng, P.A, *The Botanique*, **2010**, 14(2): 9-13.
[5] Rendle, A.B. Classification of flowering plants. Cambridge University Press. **1986**, Vol I and Vol II
[6] Ugemuge, N. R. Flora of Nagpur District, Nagpur, India. Shree Prakshan, Nagpur, **1986**.
[7] Kanwar, P., Sharma N. and Rekha, A, *Indian Journal of Traditional Knowledge*, **2006**, 5(3).
[8] WHO, General guideline for methodologies on Research and Evaluation of Traditional Medicine Geneva, Switzerland WHO/EDM/TRM, **2000** pp 1-80.
[9] Chaterjee A and Pakrashi S.C, The treatise on the Indian medicinal plants Vol I. Council of Scientific and Industrial Research, New Delhi. **1991**, 10-103.