



Ethno-medicinal study of Threatened plants from Raigad district, M.S., India.

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ABSTRACT

Raigad district is endowed with is a rich wealth of medicinal plants and it has a rich traditional knowledge of medicinal practices. Tribal people provide traditional uses of few plants species in curing disease in human as well as livestock by the tribal community residing in and around study area. Majority of the recipes are prepared in the form of decoction from freshly collected medicinal plant parts. Mostly a single species was used and mainly taken orally to cure disease. Many species are on the verge of extinction before they are known for their scientific uses. The present paper deals with Ethno medicinal study of Threatened plants from study area for the documentation of ethno-medicinal importance of such threatened plants species. During the field surveyed, it observed that the vegetation of the area was generally threatened due to deforestation, urbanisation, and industrialisation; over grazing and unscientific extraction of Vegetation etc. therefore the conservation of plant resources is urgently needed.

Keywords: Ethno-medicinal, threatened, Conservation

INTRODUCTION

Ethno-botanical knowledge is very ancient in India. Most tribal people communities still largely depend on their traditional system of medicine. Tribal community has long association with nature from ancient time for their day-to-day needs (Kulkarni, 1968). Ethno-medicinal plant are easily accessible source of treatment. Earlier medicinal plants were obtained from forests in abundance. But now, the situation has reversed due to deforestation, uprooting of plants for fulfilling of the requirements and the craze for herbal globalization (Kamble and Kulkarni, 2011; Khyade *et al.*, 2010; Kothari and Moorthy,1996). So the medicinal plants have become threatened with increased risk of losing genetic diversity. India has 47 tribal communities residing in hilly & remote area e.g. Gond, Warli, Gamit, Kokana, Thakur, Katkari, Bhil etc. (Arjariya and Chaurasia, 2009; Bhosle *et al.*, 2009; Bhogaonkar and Devarkar, 2002). Percentage of scheduled tribe was 9.35 % of total percentage of population of Maharashtra.

Tribal developed unique system of traditional knowledge regarding utilization of plants by trial and error methods to control disease. Age-old people gave oral traditional knowledge to their younger generation. Ethno-medicinal practices are more effective, safe, easily accessible, easy to prepare, administer, and are less expensive (Khyade *et al.*, 2010; Kothari and Rao, 1999). In India, about 15,000 higher weed plants used by tribal or poor people and his domesticated animals for their requirements. The first basic utility of plants is by animal and later by human being (Chopda and Mahajan, 2009; Deokule and Madgum, 1992). It leads to our recognized foods and medicines etc. Age-old people gave oral traditional knowledge to their younger generation. Ethno-medicinal practices are more effective, safe, easily accessible, easy to prepare, administer, and are less expensive. Due to the transportation difficulties, local people are not aware about these treatments and facilities therefore they depend on their local herbal remedies (District statistical abstract of Raigad District, 2011; Jain, 1991).

MATERIAL AND METHOD

The study area were surveyed randomly during the year 2018-19. The exploratory, laboratory and consolidated methods was adopted. The ethno medico botanical plants information was collected from age-old people, headmen, traditional healers and the person having a knowledge of medicinal practices (Jain, 1991; Jain and Tarafdar, 1963). About 21 plants of the commonly occurring plants in the forests of study area were listed and cross checked and confirmed with the help of local specialised people. The information gathered from one place was confirmed by different local or tribal people, Village people and ethnic groups in different places of investigation. The plant specimen were collected and identified by referring standard local flora.

Awareness program among the tribal communities:

At present, major exploitation of plant material used in traditional medicine for commercial purposes and destructive harvesting practices by gatherers without knowing stage, season for sustainable harvesting practices. This leads to threat for medicinal plant resources. The awareness will nurture and sustain biodiversity to enhance livelihoods of tribal people, which are depending on medicinal plant biodiversity

in the study area (Janardhanan, 1963; Johnsy *et al.*, 2013). The goal of the awareness programme is to protect the medicinal plant heritage of the study area and reduce the damage due to over exploitation. It can be possible by making medicinal plants available at outside the forest environment and to augment the production of medicinal plants in the region by extending cultivation practices among small farmers or local tribal people (Kamble and Kulkarni, 2010 b). Promotion of ethno-medical education at primary and secondary school level will help in awareness among students at an early stage. Objectives are decided for awareness programme are i) Promoting conservation activity at local and rural tribal ii) Setting conservation priorities. iii) Facilitating effective collaboration and coordination through school level and among local or tribal people. The purpose of conservation is based on: 1) Use of medicinal plants in preventive, promotion and curative stage. 2) Due to over harvesting, several medicinal plants are decreasing at faster rate. 3) Demand of medicinal plants is increasing; their survival in natural state is under threat. According to the survey of ethno-medicinal plants the following plants which are found rare or threatened in decreasing mode. The plants are-*Tinospora sinensis L.*, *Gmelina arborea Roxb.*, *Gloriosa superba L.*, *Aristolochia bracteolata L.*, *Euphorbia tirucali L.*, *Acacia concinna (wild) DC.*, *Piper longum L.*, *Gardenia resinifera L.*, *Acorus calamus L.*, *Jatropha curcas L.*

RESULTS AND DISCUSSIONS

The present records 21 species of ethno-medicinal plants representing 14 families. According to the traditional healers and local people, 10 plants used for ethno-medicinal preparation were threatened. But when data's were compared with Red data book other literatures only 05 species of them were found to be threatened. Tribal used most dominants plants parts resources such as Roots- 11 and then it is followed by leaves- 08 Bark- 06 rhizome latex- 04 flower -02 tuber -02 and, Bud -01 seed- 01. Ethno-medicinal data like Family name, Botanical name, Local name, Locality, parts used. The following is the list of such ethno-medicinal plants found in Raigad district with their Family name, Botanical Name, Habitat, parts used, and medicinal uses and its status. Tribal people used 21 plants resources to cure diseases in human disease Sr.no, Family, Botanical Name, Local Name, Parts Used and Uses.

1. Family – Annonaceae

Botanical Name: *Annona squamosa* L.

Local Name Sitaphal

Parts used: bark juice, Leaves, seed powder

Uses: The bark juice is given as an antidotes for snakebite. Leaves are used in maturation of boil and ring worm. The seed powder is used for etching sensation to control skin diseases. The two-five gm. leaves are taken orally with milk daily in the morning to treat diabetes.

2. Family- Apocynacea

Botanical Name: *Nerium indicum* L

Local Name: Kanher

Parts used: Root, leaves, Flower.

Uses: The roots paste made with water is locally applied to ringworm, piles and other skin diseases.

Uses: The paste of flowers, roots and leaves is used to cure snake bites. A root decoction is useful as a wash for reducing inflammatory swellings. The Root paste is applied on prickly heat and skin diseases

3. Family: Araceae

Botanical Name: *Colocasia esculenta* (L.) Schott

Local Name: Alu

Parts used: Rhizome (paste) extract.

Uses: Rhizome is crushed and applied externally to cure scorpion and honeybee bite. A rhizome is crushed and applied externally as an antitode on the stings of scorpion, honeybee etc. The leaf, Jaggary and bulb of *Allium cepa* are crushed properly to make into paste are applied on wound healing purpose.

4. Family: Aristolochiaceae

Botanical Name : *Aristolochia bracteolate* Lam.

Local Name: Kidamari

Parts used: Root (powder).

Uses: A Pinch of root powder with water given orally for snake bite and leaf powdered paste is applied on the bitten part of areas immediately after bite (Cobra). Juice of leaves is used to cure pus in the ear.

5. Family: Asclepiadaceae

Botanical Name: *Hemidesmus indicus* (L) R Br.

Local Name: Annatmul

Parts used: latex , Root (paste).

Uses: The latex is applied on abscise twice a day for one week. The root powder given along with honey once a day to cure jaundice disease. The root paste is made with garlic and it is applied on infected part to cure snake bite.

6. Family: Asclepiadaceae

Botanical Name: *Calotropis gigantea* R.Br.

Local Name: Rui

Parts used: Root bark, latex extract.

Uses: One or two tea drops of latex dropped in nostrils to treat headache. The latex is used to remove the thorn from the foot or other part of the body. The latex is applied externally on wounds, muscular and swollen part of the skin. The root bark ground into paste and made into pills and three pills are given three times in a day for snake bite and latex is applied on the bitten part to cure snakebite

7. Family: Fabaceae

Botanical Name: *Clitoria ternatea* L.

Local Name: Gokarrn

Parts used: Leaf

Uses: It is used in treatment of snake bite. Leaf juice is given orally twice a day for 6 days to cure scabies.

8 .Family: Liliaceae

Botanical Name: *Gloriosa superba* L.

Local Name: Nagin

Parts used: Tuber and root paste.

Uses: Tuber and Root Paste applied on external stung and bite part of scorpion and snake bite till gets relief. It is also used in nervous weakness, relives hypertension and hypotension, ulcers, chronic ulcers, leprosy, inflammation, piles, abdominal pain and itching

9. Family; Moraceae

Botanical Name; *Ficus bengalensis* L.

Local Name: Wad

Parts used: Bark and root., Leaves ,buds Latex

Uses: The infusion of bark is to cure dysentery, diarrhoea and diabetes. Leaves are good for allergic problem of skin and burning sensation. The buds are used in diarrhoea and dysentery. The bark and roots are used to cure against snake bite. Latex of plants is used in rheumatism, pains, toothache, crack, and inflamed soles.

10. Family: Moraceae

Botanical Name: *Ficus religiosa* L.

Local Name: Pimpal.

Parts used: stem Bark,

Uses: The bark is used in snake bite and scabies. Bark juice used for toothache and strengthen the gums. The stem poultice is applied externally till to cure skin

diseases, Asthma, Whooping cough, Urinary troubles, expectorant and Skin diseases.

11. Family: Plumbaginaceae

Botanical Name: *Plumbago zeylanica* L

Local name: Pandara chitra

Parts used: Roots

Uses: It is used in Appetizer, skin diseases, snake bite, cough, eczema, and diarrhoea. Roots of the plant along with curd used to cure pile.

12. Family: Menispermaceae

Botanical Name: *Tinospora sinensis* Merr.

Local name: Amarvel

Parts used: Roots

Uses: Root are treat to Skin diseases and fever.

13. Family: Verbenaceae

Botanical Name: *Gmelina arborea* Roxb.

Local name: Shivan Tree

Parts used: Leaves.:To cure bloat or gas.

14. Family: Liliaceae

Botanical Name: *Gloriosa superba* L.

Local name: Nagin, kallavi, Shrub

Parts used: Tuber, Root.

Uses: Tuber and Root Paste applied on external stung and bite part of scorpion and snake bite till gets relief. It is also used in nervous weakness, relieves hypertension and hypotension, ulcers, chronic ulcers, leprosy, inflammation, piles, abdominal pain and itching.

15. Family: Aristolochiaceae

Botanical Name: *Aristolochia bracteolata* Lam.

Local name: Kidamari Herb / Twiner,

Parts used: root, leaf.

Uses: A Pinch of root powder with water given orally for snake bite and leaf powdered paste is applied on the bitten part of areas immediately after bite (Cobra). Juice of leaves is used to cure pus in the ear.

16. Family: Euphorbiaceae

Botanical Name: *Euphorbia tirucalli* Linn.

Local name: Sher, Herb

Parts used: Latex.

The juice is used to control asthma, jaundice, whooping cough, tumour and stone in bladder and also in rheumatism. The milk is useful in abdominal troubles.

17. Family: Mimosaceae

Botanical Name : *Acacia catechu* L.f. Willd.

Local name: Shikekhai, Shrub

Parts used: Bark

Uses: Bark is used for digestive troubles and cough.

18. Family: Rubiaceae

Botanical Name : *Gardenia resinifera* Roth.

Local name: Dikemali

Parts used: Bark

Uses: In worms, it is used in toothache due to denotation.

19. Family: Araceae

Botanical Name: *Acorus calamus* L.

Local name: Ekhand, Herb

Parts used: rhizome, root

Uses: A 50 gm. rhizome powder along with 150 ml water is given as antidote for snakebite. 200 gm. root powder is mixed with 200 ml water & rubbed on cattle body for removing ticks.

20. Family: Euphorbiaceae

Botanical Name: *Jatropha curcas* Linn.

Local name: Errand, Shrub

Parts used: leaf juice

Uses: The juice is used to control asthma, jaundice, whooping cough, tumour and stone in bladder and also in rheumatism. The milk is useful in abdominal troubles.

21. Family : Piperaceae

Botanical Name : *Piper longum* L.

Local Name : Lendi pipli, Climber.

Parts used: Piper powder

Uses: Take One tablespoon of piper powder mixed with, cup of milk daily after meals for 2 days to purifies lungs to promote breathing and to reduce body weight, indigestion, and stress relief.

CONCLUSIONS

The extinction of some important plants not only leads to lot of biodiversity but it also eradicating knowledge of regarding old traditional methods of curing disease from threatened species. The conservation of such threatened species plants needs urgent attention in order to conserve traditional knowledge associated with them.

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