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Important Medicinal Plants in Sandstone Areas of Eastern Rajasthan

Meena Girraj Singh[1] and Fatmi Amjad[2*]

[1]Department of Botany | [2]Department of Zoology, Government College, Dholpur
*Corresponding author Email – meena68g@gmail.com

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ABSTRACT

India is one of the high biodiversity countries of the world. India is a huge source of medicinal, aromatic and dye herbs, trees and shrubs. Medicinal plants used in Indian system of medicine from Rajasthan state have been surveyed and categorized systematically. The present study has been done on important medicinal plants in Dholpur district of eastern Rajasthan. The Chambal ravines and the sandstone areas of the region have very diversified flora which can be used as important traditional application for the cure of various ailments.

Keywords: Sandstone, medicinal plants, Chambal ravines, eastern Rajasthan

INTRODUCTION

Throughout the world, there are approximately 30,000 species of medicinal plants which include about 5000 genera and more than 1000 families. India has about 4700 of different medicinal plant species (Sharma *et al*. 1993). Recent estimates suggest that over 9000 plants have known medicinal applications in various cultures and countries, and this is without having conducted comprehensive research amongst several indigenous and other communities (Farnsworth and Soejarto 1991). According to World Health Organization about 4.3 billion people rely upon such traditional plant – based systems of medicine to provide them with primary health care (Bannerman *et al*. 1983). Thus demand for medicinal plants is increasing in the world due to growing recogni-tion of the natural products having no side effects, easy availability at affordable prices. Rajasthan has rich biodiversity consisting of a large number of plants, some of which are used for their medicinal value. Although flora of Rajasthan has been compiled by Bhandari (1990) and Sharma (1993) but detailed information about their medicinal proper-ties are lacking. The area under present study is known for sandstones and Chambal ravines of Dholpur district. This district is bounded in the north by state of Uttar Pradesh, east to south by state of Madhya Pradesh and in the west by Karauli and Bharatpur district. It stretches between 26° 20' 21.53" to 26^0 58' 01.23" north latitude and 77^0 13' 29.68'' to 78^0 16' 27.33'' east

longitude covering area of 3,040.3 sq km. The local communities are having indigenous knowledge which can be broadly defined as the knowledge that local community accumulates over generations of living in a particular environment. This knowledge is found stored in practices of the medicine men or herbal practitioners. It has been argued that traditional knowledge is an important source of health security, food security and livelihood security for the poor (Yadav and Sharma, 2018).

MATERIAL AND METHODS

The present study has been done on the basis of available literature, survey and experiences of the local inhabitants of the area. The data about medicinal plants collected from Chambal ravines and sandstone regions of Dholpur district. The plants were identified by using standard monographs and flora (Bhandari, 1990; Sharma, 1993). Ethno medicinal information about the plants was collected on the basis of interviews with local residents of the area.

RESULTS AND DISCUSSION

The data on ethno medicinal plants such as the botanical name, local name, family and traditional methods of drugs administration in different ailments are presented. These medicinal plants are distributed in habitat of ravines, wasteland, forests, fallows and agricultural crop fields. Different parts of plants are used for medicinal purpose like leaves, roots, twigs, bark, fruits, seeds, gum and latex which have medicinal value (Gilani *et al*. 1999; Deenanath *et al*. 2009). The people of this region believe in traditional ways for treatment of various ailments by using medicinal plants. Extract or paste is applied externally on boils, wounds, cuts, swellings, burns, eczema and ringworm etc. Some plants are taken orally or chewed in case of mouth ulcers sore throat, toothache etc (Sood *et al*. 2005). The present study on the medicinal plants will help in developing strategies for the conservation and cultivation of traditional medicines and welfare of rural population.

Table 1: Showing medicinal plants of Eastern Rajasthan particularly ravines and sandstone areas of district Dholpur and their uses

S. No.	Botanical name/local name	Family	Medicinal uses
1.	*Abrus precatorius* (Ratti)	Fabaceae	Traditionally used to treat tetanus, and to prevent rabies. The leaves are used to cure fever, cough and cold.
2.	*Achyranthes aspera* (Aapamarga)	Acacia nilotica (Babul)	Used in treatment of asthma, bleeding, bronchitis, cold, cough, dog bite snake bite scorpion bite, leukoderma, pneumonia and skin diseases.
3.	*Acacia nilotic (Babul)*	Fabaceae	Used for treatment of human immuno deficiency virus, hepatitis C, venereal diseases, stomach ache and diarrhea.
4.	*Acacia nilotica* (Babul)	Rutaceae	It is rich source of vitamins, minerals, calcium, potassium and iron. Used in treatment of tuberculosis, hepatitis, ulcer and digestive problems
5.	*Abutilon indicum* (Kanghi)	Malvaceae	Used in gout, tuberculosis, ulcers, bleeding disorders and worms. Used as digestive laxative, expectorant, diuretic, astringent, analgesic etc.
6.	*Adhatoda zylonica* (Adusa)	Acanthaceae	Used for treatment of bronchitis, tuberculosis, cough and cold etc.
7.	*Ammannia baccifera* (Jangali Mehadi)	Lythraceae	Used for treating bad digestion, stomach pain, constipation, the leaves are beneficial for removing phlegm from the lungs and trachea.
8.	*Amarantus viridis* (Chaulai)	Amaranthaceae	Used as antipyretic agent, treatment of inflammation, ulcer, diabetic, asthma and hyperlipidemia.
9.	*Anisomeles indica* (Kala Bhangra)	Lamiaceae	Traditionally used as an analgesic, anti-inflammatory and in skin problems. Used as anti-oxidant, antimicrobial, anti HIV, anti-cancer and in chronic rheumatism.
10.	*Asparagus racemosus* (Satavar)	Asparagaceae	Used for treatment of gastric ulcers, dyspepsia, galactogogue and hormonal balancing and immunity booster etc. (Goyal and Singh 2003)
11.	*Azadirachta indica* (Neem)	Meliaceae	Oil and extract of leaves and bark have been therapeutically used as folk medicine to control leprosy, intestinal helminthiasis, respiratory disorders and constipation. Oil is used to control various skin infections. Bark, leaf, root, flower and fruit together cure blood morbidity, biliary afflictions, itching and skin ulcers.

Table 1: Continued…

S. No.	Botanical name/local name	Family	Medicinal uses
12.	*Anogeissus latifolia* (Dhau, Dhaora)	Combretaceae	Used in cardiac disorder, UTI infections, skin diseases, lever complaints, fever, epileptic fits etc.
13.	*Argimon maxicana* (Satyanashi)	Papaveraceae	Used for treatment of tumors, warts, skin diseases, inflammations, rheumatism, jaundice, leprosy and malaria.
14.	*Bacopa monnieri* (Brahmi)	Plantaginaceae	Traditionally used for treatment of epilepsy and asthma, used as a memory learner enhancer
15.	*Balanites aegyptiaca* (Ingudi)	Zogophyllaceae	Used as treatment of jaundice, intestinal infection, wounds, malaria, syphilis, dysentery, constipation, diarrhea, etc. (Khare, 2007)
16.	*Boerhaavia diffusa* (Punarnava)	Nyctaginaceae	Traditionally used for its anti-diabetic and diuretic properties. Used for pain relief, anti-inflammation and treatment of indigestion.
17.	*Bombax ceib* (Semal)	Malvaceae	Bark and leaves are used to treat diarrhea.
18.	*Butea monosperma* (Palas)	Fabaceae	Used as anti-diarrheal, anthelmintic, anti-diabetic, anti- stress, hepatoprotective, antifungal, astringent, aphrodisiac, laxative, anti-inflammatory and antioxidant
19.	*Capparis deciduas* (Kair*)*	Capparaceae	Used to cure toothache, arthritis, asthma, Cough, inflammation, malaria, rheumatism and swelling.
20.	*Chenopodium album* (Bathua)	Amaranthaceae	Traditionally used as cardiotonic, anthelmintic, carminative, digestive, diuretic and laxative; sperm immobilizing activity (shrabanti *et al*. 2007)
21.	*Citrus aurantifolia* (Nimboo)	Rutaceae	Used to treat cough, tonsillitis, dysentery, malaria, constipation, shortness of breath, flu and fever.
22.	*Cyperus rotundus* (Motha)	Cyperaceae	Traditionally used to treat diarrhea, diabetes, pyresis, inflammation, malaria, and stomach disorder.
23	*Datura innoxia* (Dhatura)	Solanaceae	Used for alleviating pain, treating fever, enhancing heart functions, improving fertility etc.
24.	*Eclipta prostrata* (Bhangara,Bhrangraj)	Asteraceae	Used as treatment of skin disease, jaundice, indigestion, asthma, fever and spleen enlargement etc.
25.	*Euphorbia hirta* (Badi Dudhi*)*	Euphorbiaceae	Used in treatment of diarrhea, dysentery, intestinal parasitosis, asthma, bronchitis and fever etc.
26.	*Ficus glomerata* (Goolar)	Moraceae	Used as hepatoprotective, gastroprotective, hypoglycemic, anti-microbial and anti-ulcer activities.
27.	*Hemidesmus indicus* (Anantmool)	Asclepiadaceae	Used to treat stomach problems, cure rashes, ease the mind, quell the symptoms of syphilis, induce trance state (Pole, 2006)
28.	*Moringa oleifera* (Sehjana)	Moringaceae	Used in protecting the liver from damage, oxidation and toxicity.
29.	*Ocimum gratissimum* (Magad)	Lamiaceae	Used as treatment of diabetes, cancer, inflammation, anaemia, diarrhea and microbial infection.
30.	*Ocimum sanctum* (Tulsi)	Lamiaceae	Traditionally used for the treatment of bronchitis, malaria, diarrhea, dysentery, skin diseases etc. This herb is also used as antimicrobial, mosquito repellent, anti inflammatory and chemo preventive.
31.	*Phyllanthus emblica* (Amla)	Phyllanthaceae	Used as anti-diabetic, hypolipedemic, anti-microbial, anti-inflamatory, anti-oxidant, hepatoprotective and anti-emetic etc.
32.	*Ricinus communis* (Arand)	Euphorbiaceae	Traditionally used in abdominal disorder, arthritis, backache, muscle aches, constipation, menstrual cramps etc.
33.	*Salvadora persica* (Peelu)	Salvadoraceae	Useful to produce antiplaque, analgesic, antibacterial, antimycotic, cytotoxic, deobstruent, carminative, diuretic, astringent etc.
34.	*Solanum virginianum* (Chhoti Kateri)	Solanaceae	Roots are used to treat cough, asthma, chest pain and catarrhal fever. Stem, flowers and fruits are carminative; paste of leaves is applied on joints to relieve pains.

Table 1: Continued…

S. No.	Botanical name/local name	Family	Medicinal uses
35.	*Tinospora cordifolia* (Giloy)	Manispermaceae	Traditionally used to building up the immune system and treatment of fever, jaundice, chronic diarrhea, cancer and skin disease etc.
36.	*Tribulus terrestris* (Gokharu)	Zygophyllaceae	Used as treatment of skin irritation, itchy eyes, urinary tract and reproductive tract problems (Bensky and Gamble, 1986; Kapoor, 1990). Used as a dietary supplement to improve sexual functions and body building.
37.	*Vetiveria zizanioides* (Khus*)*	Poaceae	Applied on skin for relieving stress and repelling insects, also used in arthritis, stings and burns.

CONCLUSION:

This region have very diversified flora, which can be used as a medicine or as the additional source of income for local people. This is very good alternate for rural poor to generate the employment through collection of medicines and conserve them for future generation.

Conflict of Interest: None of the authors have any conflicts of interest to disclose. All the authors approved the final version of the manuscript.

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