The Pharma Innovation Journal 2022; SP-11(9): 2957-2961

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(9): 2957-2961

www.thepharmajournal.com
Received: 28-07-2022
Accepted: 30-08-2022

Bhupendra Singh
Department of Silviculture and Agroforestry, College of Horticulture and Forestry, Agriculture University, Kota, Rajasthan, India

Ramkaran Chouhan
Department of Fruit Science, College of Horticulture and Forestry, Agriculture University, Kota, Rajasthan, India

Aditya Kumar Jayant
Department of Silviculture and Agroforestry, College of Horticulture and Forestry, Agriculture University, Kota, Rajasthan, India

Corresponding Author:
Bhupendra Singh
Department of Silviculture and Agroforestry, College of Horticulture and Forestry, Agriculture University, Kota, Rajasthan, India

Studies of important forest tree species and their medicinal uses in Hadoti region of Rajasthan

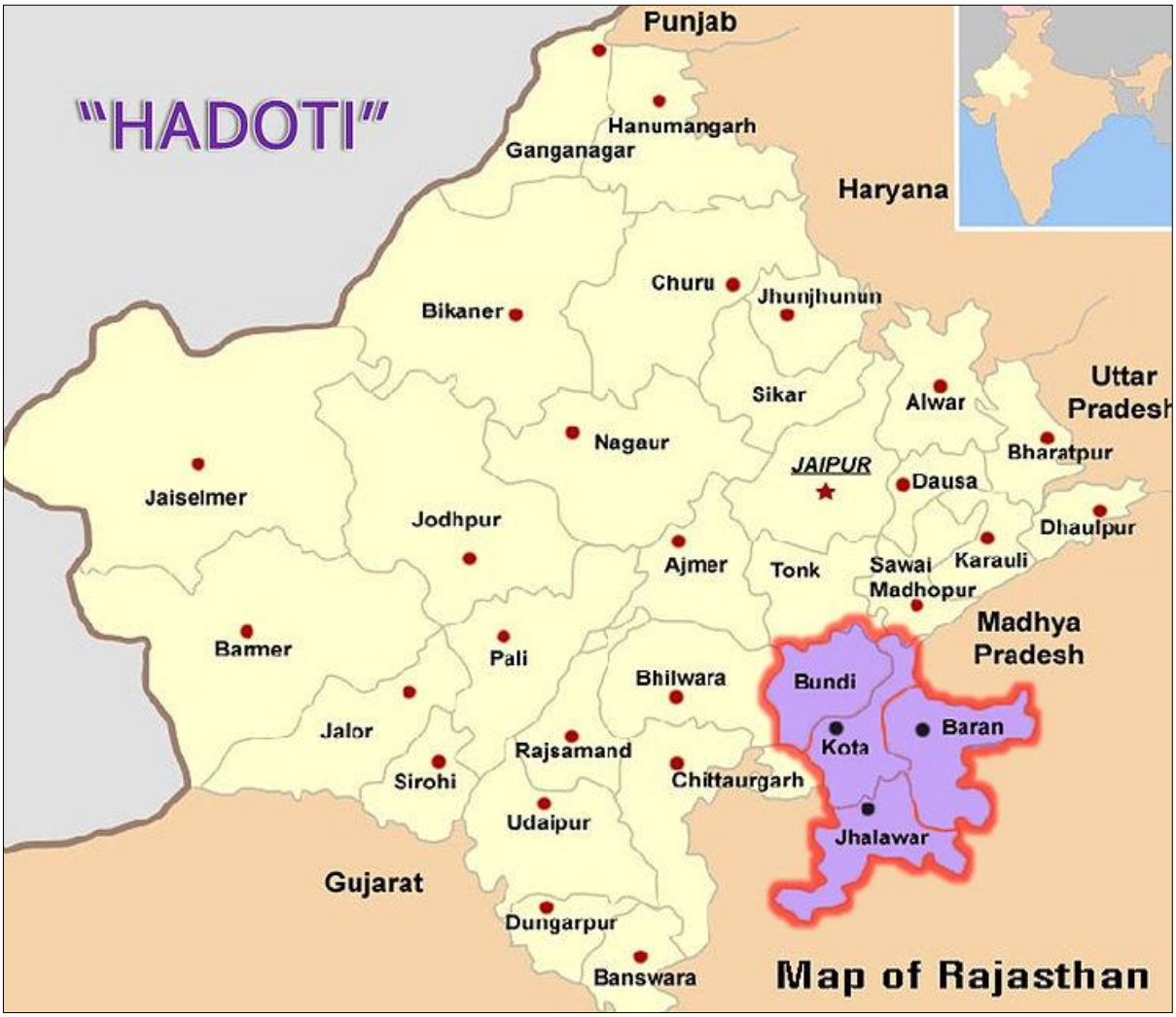
Bhupendra Singh, Ramkaran Chouhan and Aditya Kumar Jayant

Abstract
The present study highlights the importance of forest tree species from Hadoti region of Rajasthan. Detailed survey had been conducted in four districts (Kota, Baran, Bundi and Jhalawar) of Hadoti region and the information regarding the use of medicine were collected on the basis of frequent interviews with local physicians practicing indigenous system of medicine, villagers, priests and tribal folks. The plants were identified by using standard monographs and flora. This study is focused to provide an effective knowledge of medicinal properties of forest trees, so that this will be a pave way to cure diseases by herbal medicines without any side effect. Trees have been an important source of precursors and products used in a variety of industries, including those of pharmaceuticals, food, cosmetics and agrochemicals. Gradually the folk medicines led to the rise of traditional system of medicine like Ayurveda in India. In Rajasthan (India), tribals are using herbal medicine for long time.

Keywords: Forest trees, Hadoti region, medicine, tribal, villagers

Introduction
India is blessed with various climatic zones these zones are rich in its flora and fauna. Around 45,000 plants and 81,000 animal species are reported so far in India. Hence India is included in the 12 mega diversity countries. For millennia, plants are used for therapeutic purposes. Diversity of plants was explored to cure different diseases since ancient time in India (Nath *et al*., 2011) [3]. Rajasthan is the largest state of India, situated in the north-western part of India between 23°3' and 30°12' N latitude and 69°30' and 78°17' E longitude; comprises an area of about 34227 Sq. Km. Most of the area of Rajasthan come under the Thar Desert but rich in biodiversity. Various plants found in Rajasthan having medicinal properties (Sharma and Sharma, 2017) [5]. 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) [1] and Sharma *et al*., (1993) [4] but detailed information about their medicinal properties are lacking. Rajasthan is one of the largest states of India. About 12.44% of the population belongs to tribes such as the Bhil, Bhil-Meena, Damor, Dhanka, Garasia, Kathodi, Kokna, Kolidhor, Naikara, Patelia, Meena, and Seharia and reside in remote areas devoid of basic infra-structure facilities (Maheshwari and Sharma, 2019) [2]. A large number of medicinally important tree species are present on Aravalli hill range and other areas including less hopitable North–West Rajasthan. An attempt was made to characterize tree species of the region and detailed pharmacognostical studies on them are in progress. Several tribes of Rajasthan used the traditional system of medicine. The tribal's who depend on forest (mostly their surrounding vegetation) wealth are the real custodians that safeguard the medicinal plants till now. Rapid deforestation caused by over–harvesting and exploitative trade of medicinal plants has significantly reduced the availability of the medicinal plants in arid and semi–arid region of Rajasthan (Srivastava, 1977) [6]. The present study is towards the importance of medicinal tree species and their medicinal uses by the people of hadoti region of Rajasthan. Communities of this region (especially tribal) have a rich knowledge of trees based traditional medicines used in herbal and folk remedies.

Study area
Hadoti is the region of south eastern Rajasthan lies between Malwa plateau in the east, Aravali range in the west and Marwar plateau in the west south side on the border with Madhya Pradesh. It includes the district of Kota, Bundi, Baran and Jhalawar. The major river is the Chambal with its tributaries Kaalisindh, Parvati and Chhapi. The soil of this region is alluvial.



Map of the study site

Materials and Methods

The information presented herein about the trees species and their medicinal value is based on the survey carried out by the authors, experiences of the local inhabitants, practitioners and scale-tered literature. The tree species are indexed in a uniform systematically followed by their local and botanical names, family, part used and their medicinal values in consecutive columns.

Table 1: Important forest tree species and their medicinal uses

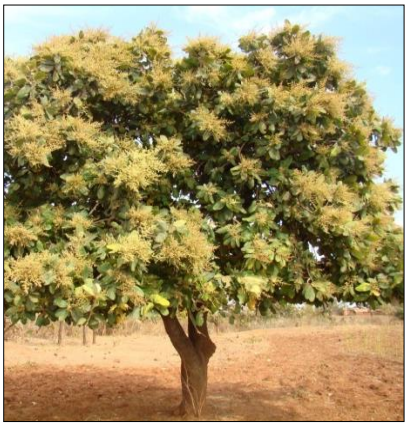
S. No.	Botanical Name (common name)	Family	Part used	Uses
1.	*Ailanthus excelsa* (Ardu)	Simaroubaceae	Stem Bark	Birth control and Dysentery
2.	*Alangium salvifolium* (Ankol)	Alangiacea	Fruit, bark, Seed oil	Gastric problems Anti-rabies
3.	*Balanites aegyptiaca* (Hingota)	Balanitaceae	Bark, Fruit, Seed	Improve lactation Antidote Wormicide
4.	*Butea monosperma* (Dhak)	Leguminoceae	Flower Leaves	Leather, Patravali plate, Dye
5.	*Azadirachta indica* (Neem)	Meliaceae	Leaves, bark Oil	Sarvaroganivarini, boost immune system, Improve hair growth, oral health, skin conditions, Wound healing
6.	*Oroxylum indicum* (Shyonak)	Bignoniaceae	Root, Bark, leaves, fruit and stem	Anti-septic, Anti-allergic, Dysentery
7.	*Acacia nilotica* (Babul)	Leguminosae	Stem bark, fruit, gum and seeds	(Gum) Reducing the swelling in uterus, Helps in coagulation of blood Wormicide
8.	*Acacia senegal* (Kumbal)	Leguminosae	Gum, seed and bark	Food additive, wood use for fuel and shelter, seeds used as vegetable
9.	*Aegle marmelos* (Baelpatra)	Rutaceae	Leaves, both ripe	Anti-inflammatory and pain relieving herb, cure problems related to

			and unripe fruits	female reproductive system
10.	*Boswellia serrata* (Salar)	Burseraceae	Bark Fruit Gum	Biliousness, Dysentery, Skin and blood disease, Ulcer, Blood purifier, Leucoderma, Piles, Antipyretic, vaginal discharge, Bronchitis
11.	*Bauhinia variegata* (Kachnar)	Fabaceae	Bark Flower, leaves seeds	Anti-microbial, Nasal polyphs, Bark decoction helpful against tonsillitis, liver functioning, ulcers and bad breath, act as an appetizer, anti diabetic and blood purifier.
12.	*Cordia dichotoma* (Lasoda/gunda)	Boraginaceae	Fruit and Bark	Improve general body strength and remove fatigue
13.	*Cassia fistula* (Amaltas)	Caesalpiniaceae	Root Leaves Flower Fruit, Seed	Syphilis, Leprosy, Skin diseases, Laxative, Antiperiodic, Rheumatism, Antipyretic, Heart diseases, Carminative and Appetizer
14.	*Diospyros melanoxylon* (Tendu)	Ebenaceae	Bark Leaves Flower Fruit	Diarrhoea, dyspepsia. Opthalmia, Trichiasis, Aphrodisiac, Leucorrhoea. Night blindness, spleen enlargement, Digestive, carminative.
15.	*Ficus benghalensis* (Bargad)	Moraceae	Roots Bark Leaves Seed	Biliousness, Ulcer, Erysepelas, vaginal complanints, fever, Gonorrhea, Syphilis, Liver trobles, Diabetes, Leprosy, Piles, cooling tonic.
16.	*Ficus religiosa* (Pipal)	Moraceae	Roots Bark Fruit Seed	Leucorrhoea, Biliousness, Ulcer, Diseases of vagina and uterus. Gout, stomatitis, Alexipharmic, Diseases of blood and heart, Urinary discharges.
17.	*Flacourtia indica* (Kanju)	Flacoutiaceae	Fruit	Appetizer, Jaundice, Spleen enlargement.
18.	*Gmelina arborea* (Gamari)	Verbenaceae	Roots Leaves Flower Fruit	Antihemintic, stomachic, Hallucination, Fever, Piles, Demulcent, Wormicidal, Gonorrhoea, Foetid discharge Cough, Leprosy, Blood diseases, Aphrodisiac, Alterative, Diuretic, Hair tonic, Cooling, Anemia, Ulcer, stomatic urinary disease
19.	*Mallotus philippensis* (Sinduria)	Euphorbiaceae	Leaves Fruit	Alexiteric, Purgative, Caarminative, Antihelmintic, Bronchitis, Ulcers Bladder stone,Vermifuge, Cathartic, Rheumatism.
20.	*Bridelia retusa* (Kalamjhar)	Euphorbiaceae	Whole plant	Lumbago, Haemiplegia Rheumatism, urinary troubles
21.	*Moringa oleifera* (Sahjana)	Moringaceae	Root Bark Leaves Flower Fruit	Aphrodisiac, Alexiteric, Analgesic, Antihelmintic, Ulcer, Heart trouble Ophthalmia, Hallucination Muscular and Spleen siseases
22.	*Nyctanthes arbortrestis* (Harsingar)	Oleaceae	Leaves Flower Seeds	Arthritis, Sciatica, Antibacterial,
23.	*Phyllanthus emblica* (Wild aonla)	Euphorbiaceae	Fruit Seed Bark	Useful for skin, hair, eye and digestive health, good for weight loss, healthy maintenance of circulatory, respiratory and urinary system.
24.	*Sapindus trifoliatus* (Ritha)	Sapindaceae	Roots Leaves	Diaphoretic, Diuretic, emetic, Gonorrhoea, Rheumatism, Lumbago, Emmenagogue.
25.	*Wrightia tinctoria* (Doodhi)	Apocynaceae	Root Tuber Seed	Alternative, Aphrodisiac, Narcotic tonic, Alternative, Narcotic, Bronchitis, Psoriasis, Ulcer, senile debility, Rheumatism Diuretic, Hypnotic
26.	*Terminalia arjuna* (Arjun)	Combretaceae	Bark	Astringent effect, cleaning of urinary tract, support uterus and regulate the hormonal cycle, Cholestrol lowering, Antioxidant, barking on boiling with milk heal fractured bone on a faster rate.
27.	*Leucaena leucocephala* (Subabool)	Fabaceae	Bark, Seed Pod	Stomach diseases, Diabetes, Antibacterial and Anticancer
28.	*Feronia limonia* (Kaith)	Rutaceae	Fruit Leaves	Asthma, Piles, Tumours, Biliousness, Cardiac troubles
29.	*Dolichandrone falcate* (Mokha)	Bignoniaceae	Bark Leaves	Fractures, Leucorrhoea
30.	*Eucalyptus globules* (Safeda)	Myrtaceae	Leaves Barks	Joint pain, Fever, Infections, Whooping cough, Asthma, Ulcer, Burns, Liver and Gallbladder problems
31.	*Buchanania lanzan* (Chironji)	Anacardiaceous	Roots Leaves Fruit Seedd	Biliousness, Blood diseases Expectorant, Blood purifier Laxative, Ahrodisiac, Ulcers Cardiac tonic
32.	*Manilkara hexandra* (Khirni)	Sapotaceae	Fruit Seed, Bark	Treatment of excess thirst, Emaciation, Bleeding disorder, Ulcer, Jaundice and Fever
33.	*Madhuca longifolia*	Sapotaceae	Whole plant	Headache, Rheumatism, Piles, constipation, hair problem, cough, cold,

	(Mahua)			Hemorrhoids, Diabetes and Respiratory problem.
34.	*Neolamarckia cadamba* (Kadamba)	Rubiaceae	Bark Fruit	Antibacterial, to treat mouth ulcer, inflammation of gums, nausea and vomiting, fever, pimple, black spot, improve female hormonal balance.
35.	*Terminalia bellirica* (Baheda)	Combretaceae	Fruit rind Seeds and Seed kernel	Laxative and Purgative in nature, antibacterial, asthama, cure conjucative and blood pressure and helps in lowering down cholesterol level.
36.	*Anogeissus pendula* (Kala dhok)	Crassulaceae	Bark Fruit	Bark is used in anemia. Fruit is used in urticaria, hiccough, and constipation
37.	*Dalbergia latifolia* (Shisam)	Fabaceae	Leaves Roots	Juice of leaves cure apthalus ulcer and used as gargles in sore throat. Root is used in gonorrhoea
38.	*Pongamia pinnata* (Karanj)	Fabaceae	Leaves Seed	Seed powder is applied scalp for dandruff treatment. Leaf juice as a nasal drops for migraine
39.	*Anogeissus latifolia* (Safeddhok)	Crassulaceae	Bark Leaves Seed	Arial part diuretic and cardiovascular stimulant
40.	*Lannea coromandelica* (Gurjan)	Anacardiaceae	Leaves	Leaves used in chronic rheumatism
41.	*Syzygium cumini* (Jamun)	Myrtaceae	Bark Leaves Fruit	The bark is astringent &used in sore throats, bronchitis, asthma, ulcers &dysentery, purifying blood the fresh juice of bark with goats milk is given in diarrhoea
42.	*Delonix regia* (Gulmohar)	Caesalpinioideae	Gum	leaves as a green manure are rich in Magnesium
43.	*Alstonia scholaris* (Saptaparni)	Apocynaceae	Stem bark Latex Flower	Antibacterial, Anti allergic, Dyspnea, Blood purifier, antipyretic, Manitain hormonal balance of women during and after delivery
44.	*Tamarindus indicus* (Imli)	Fabaceae	Stem bark Leaves Fruit Seeds	Natural skin exfoliating agent Anti-aging property Improve digestion Good for heart patient Improve blood circulation Treat diabetes
45.	*Pithecellobium dulce* (Jangaljalebi)	Mimosaceae	Bark decoction Leaves Fruit	Promotes Weight Loss Cures Gut Problems Fortifies Bones And Muscles Boosts Immune Function Relieves Anxiety And Depression Promotes Oral Health
46.	*Albizia lebbeck* (Shirisha)	Fabaceae	Bark Seeds Leaves Flower	Anti-poisioning, Asthama and breathing related problems, infection in vagina, Swelling, Ear pain, Eye related problem, Blood purification, Skin problems
47.	*Casearia tomentosa* (Chilla)	Salicaceae	Fruits Seeds	Diabetes, Ringworm, Ascites, Ulcer, Wound, Snake bite, Fever
48.	*Ficus racemosa*	Moraceae	Fruits Leaves	Diarrhea, Liver disorder, Inflammatory conditions, Respiratory and Urinary disorder
49.	*Sterculia urens* (Kadaya)	Malvaceae	Bark Seeds	Sexual disorder, Constipation, Liver diseases, Diabetes and sore throat
50.	*Schleichera oleosa* (Kusum)	Sapindaceae	Leaves and Seed	Skin diseases, Stomach diseases
51.	*Soymida Febrifuga* (Rohini)	Meliaceae	Bark Flower, Seeds	Rheumatic pain, Stomach diseases, Dental problems, Wounds and infections

(Rohini)

(Dhak)



(Chironji)

(Tendu) (Kusum) (Kadaya)

Fig 1: Some important forest tree species of the region

Result and Discussion

Here, in the present work total 51 forest tree species belonging to different families have been enumerated. Proper scientific evaluation of these forest trees might lead to the discovery of some interesting and important information. According to our research all 51 trees are important to cure various diseases as like: rheumatism, diarrhea, tuberculosis, joint pain, cancer, dysentery, malaria, diabetes, skin diseases, scurvy, respiratory disorders, asthma and bones, hormonal imbalance as given in table. These 48 trees are frequently used by tribal but some are still untouched by modern medical science.

Conclusion

The present research highlights useful ethno botanical information about the uses of tree by the tribal's and local communities of Hadoti region. Efforts should be made to conserve the ethno medicinal plants. The plant parts used in various ailments, so ecological monitoring is the essential methodology for the conservation of biodiversity in Hadoti region. Hadoti is a rich area in biodiversity but ever-changing climatic conditions affecting growing area and natural habitats. This is an attempt to avoid probable consequences in future and to elevate these important plants to stand in endangered species in future.

References

1. Bhandari MM. Flora of the Indian desert. Scientific Publishers, Jodhpur; c1990. p. 55-59.
2. Maheshwari S, Sharma A. Ethno-botanical studies on medicinal plants in Hadoti region of Rajasthan. Journal of Pharmacognosy and Phytochemistry. 2019;8(2):546-549.
3. Nath MD, Dutta BK, Hajra PK. Medicinal plants used in major diseases by Dimasa tribe of Barak valley. Assam University Journal of Science and Technology. 2011;7(1):18-26.
4. Sharma BD, Balakrishna NP, Rao RR, Hajra PK. Flora of India (1). B.S.I., Culcutta; c1993.
5. Sharma P, Sharma DK. Medicinal values of three common plants of Rajasthan, India. Journal of Medicinal Plants Studies. 2017;6(1):96-101.
6. Srivastava TN. Forest Resources of Rajasthan. Natural Resources of Rajasthan. 1977;1:633-638.