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# **Ethnobotanical Study of Tribes of North Eastern Areas of Rajasthan**

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## **ABSTRACT**

Rajasthan (north eastern) is a princely state and has many tribes such as Bhils and Minas. These are the tribes which have dominated in major parts of Rajasthan apart from small tribes existed in the state. Like the other tribes of India, each of the Rajasthan tribes known to have different costumes, jewelry, fairs, and festivals. In a floristic survey 61 ethnomedicianl plant species belonging to 38 families were recorded from this region. A categorical list of plant species along with their plant part/s used and the mode of administration reported to be for effective control in different ailments is prepared. Living close to nature, the north-east Rajasthan tribals have acquired unique knowledge about the properties and uses of wild plants, most of which are not known to the outside world. Until a decade ago, nothing was known about the ethnobotany of the tribes of Rajasthan. Exhaustive field work in tribal villages with a macro-level perspective brought forth interesting revelations from the panorama of their lives.

KEYWORDS: Rajasthan, tribals, ethnomedicine, ailments, villages, control, nature, floristic

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#### INTRODUCTION

## **Tribes of North East Rajasthan**

Sahariyas

Sahariyas is one of the most backward Rajasthani tribe. Sahariyas people inhabits mainly in Jungle. They are also noted to be Bhils. Northeast Rajasthan in Dungarpur, Kota and Swaimadhopur are some places where Sahariyas can be found. Sahariyas are mostly farmers, fisherman, and hunters.[1,2]

Minas

Minas is the second biggest tribe in Rajasthan. Mina's tribesmen and women generally possess a good physic with an athletic body built, big eyes and sharp features. They are known to be the inhabitants of Indus Valley Civilization. There broad lips and a wheatish complexion. Eastern part of the state in Shekhawati belt of Rajasthan is the main area where Minas are in populous condition. Minas was the tribe which duly performed child marriages for many years.

#### Bhils

Bhils are the biggest tribe in Rajasthan. Banswara is the main area where Bhils in large numbers. Previously Bhils main occupation was to collect the food. Famous epics of Ramayana and Mahabharata depicted that Bhils [3,4]were famous for their skills in arching. From collecting food, they started farming for their livelihood. Baneshwar fair in January and February is the best place to know more about Bhil tribe.

## Gadiya Lohars

Gadiya Lohars are known to be a small Rajput Rajasthan tribe. Gadiya Lohars were the blacksmiths in the army of Maharana Pratap of Mewar. After Mughals attack they migrated and traveled from one place to another place on bullock carts named as "gadis", hence the name 'Gadiya Lohar'. Gadhiya lohars are found are Kathodi and Rabaris in Mewar region.

## Garasias

Garasias are another small Rajput Rajasthan tribe residing in Mount Abu Road area of Udaipur District in Damors of Dungarpur in northeast Rajasthan.

There are other Rajasthan tribes also, which include Kathodi (found in Mewar region), Sansi and Kanjar. [5,6]

## In ethnobotanical study:-

A total of 147 species belonging to 62 vascular plant families are reported. From these 145 species were reported to be used for medicinal applications, 135 species of which were used to treat more than one disease and remaining 8 species were used to treat only one disease. The most widely used plant part is leaves (95 species) and the, most common mode of application is oral (39.65%). The traditional knowledge about the plants can be used to produce to new products for medicinal use, food and fodder. Rajasthan has rich cultural diversity and biodiversity. Ethno botany can be defined as the total natural and traditional relationship and the interactions between man and his surrounding plant wealth from times immemorial, due to sheer, necessity, intuition, observation and experimentation. Medicinal plants are valuable and are used for the production of various drugs. These plants produce a high diversity of natural products or secondary metabolites like Mahanimbicine, Andrographine, murrayaline, lupeol and limonin, etc., with a prominent function in the protection against diseases like diabetes, kidney stones, osteoporosis, tumors, ophthalmia, leucorrhoea, bronchial asthma, diarrhea, cancer, etc.[7,8]

Medicinal plants are the potent source of life saving drugs for the majority of world's population. It is estimated that 70-80% of people world-wide rely mainly on traditional, largely herbal medicines to meet their primary health care needs and have gained renewed interest for various reasons, affordability, low pricing, little or no side effects, their solutions for chronic diseases and disorders time tested remedies and several preventive approaches. Over the years herbal medicines have gained upward trend for consumption especially with the development and standardization of herbal medicines. Plant based drugs have a long history in both traditional and modern societies as herbal remedies or crude drugs, or as purified compounds approved by the Food and Drug Administration and similar regulatory agencies. According to one estimate 20,000 to 35,000 species of plants are used as medicines, pharmaceuticals, cosmetics and nutraceuticals by different ethnic groups the world over. In most of these species active principles are exploited in modern medicines and referred to as plants of scientific knowledge. Drug discovery from plants still provides important novel drugs, many of which are approved or have undergone trials for clinical uses against cancer,

malaria, Alzheimer's disease, HIV/AIDS, pulmonary pathologies and other deadly diseases. Enhanced market demands have posed threats to phytoresources due to unscrupulous mode of collections. There is an urgent need to conserve genetic diversity of medicinal plant resources by developing protocols for micro propagation. Plant, cell, tissue, organ culture techniques offer an integrated approach for rapid multiplication and production of material with dependable active ingredients. The conventional cultivation of some of the medicinal plants is relatively expensive and production of medicinal compounds can be elicited in vitro. Due to extensive utilization of medicinal plants for medicine and scientific research, many of them are facing extinction; therefore it is imperative to adopt alternative methods for rapid multiplication of such plants [9,10]

## **Discussion**

Langot Bhil, they are the original Bhil's living in the forests, their customs are still old and mainly live in Madhya Pradesh and Rajasthan. According to the census of India, the country had a tribal population of 3 crores in the year 1961 which increased to 10.42 crore in the 2011 census, and which has a decadal growth rate of 23.7%. Current report is based on various surveys of northeast Rajasthan to explore their thrift on basis of, culture, customs and their dependency on plants for livelihood that if they are "van putra" then how forests and their products are important for their subsistence. Present investigation has been done during march 2018 to march 2020 and investigators have visited northeast Rajasthan tribal festivals and their local weekly market 'haat' to observe their economic securities through forest product as these tribes comes in local markets or in festivals with their unique products to sell them and get some financial security from urban, semi urban or village areas.

Bhil tribe this name comes with a dark shadow, well muscular built up that shows their hard work, average height due to gene pool, with traditional ornaments formed with natural things including plants products, or other natural resources. Bhil traditionally meaning 'Van putra' or "bow" due to use of bow and arrow for their livelihood and forest habitat, other reason that comes anthropogenically is sharpen nose and grinded canines. Bhil are the largest ethnic group of India which mainly found in north east Rajasthan. There are two sub categories of Bhil tribe Ujaliya / Kshatriya Bhil, which is basically the Kshatriya who went in to the forests at the time of Mughal invasion. While second one is Langot Bhil, they are the original Bhil's living in the forests, their customsare still old

and mainly lives in Madhya Pradesh, in Rajasthan, Bhil has collected to serve Maharana Pratap, ruler of Mewar. According to the census of India, the country had a tribal population of 3 crores in the year 1961 which increased to 10.42 crore in the 2011 census, which has a decadal growth rate of 23.7%[11,12]

- 1. Food and fodder in North eastern Rajasthan Bhil peoples used to come at urban or semi urban areas in weekend/ Sunday with their unique natural and organic food products and this is really important for urban area peoples that anyhow they are connected with their culture and getting pure food quality in this polluted era of chemicals. Major food variety including edible oil, pickle, condiments, grains, pulses, masticatories, fruits, vegetables.
- 2. Timber and non-timber products- Bhil tribe used to come sell out timber and non-timber products in local market which has content of furniture wood, fibers of plants for making cote and fencing for domestic animals beside it, in non-timber products, they make trade of various plant gum which is edible as medicinal or for other uses.
- 3. Cosmetic products- In this bracket they come with raw herbal products, about which they have traditional knowledge. Especially skin care and cooling agents.
- 4. Domestic articles-in this category they made various domestic articles from various plant stem and root. In these traditional equipment's they give their full effort of handcraft and used to sell out them in local market (haat) or in local fair where gathering is good.
- 5. Herbal Medicine In this class they prove themself as local medicinal healer with tremendous ancient medicinal knowledge especially related with stomach and skin diseases of domestic animals or about humans. By this knowledge they earn cash but in spite of getting money, indirectly they are serving human race and society by their regular local practice remedies. They (Bhil tribe) don't have any idea about scientific knowledge of plants or their products economic value but they have ethnic mastery by which they are getting funds for their economic survival.

Usually they grow food articles for their daily uses and some part of it they come with market to sell out them for money. Major categories are cereals, pulses, vegetables, fruits other wild plants and domestic articles made up by wood of leaves, which can be eat or sell in market. Though there is a good transport and communication facilities are developing in past years by government but still Bhil tribe are following the trend which they learned from their ancestors, sometimes they come with their unique edible food quality with wild fruits or with other things and local peoples of city have much interest in them, in last 2 years we observed and interrogate their policies of doing business with main stream. So, on the basis of experience, we have listed plants and their products list which is valuable subsistence for Bhil tribe in north east Rajasthan[13,14]

## **Results**

Tectona grandis (Sagwan) wood of this plant is used for making durable furniture and it's really precious in city markets. By the way it's illegal trading of cutting these plants but some local merchants approach them to cut these trees for wood and offer them money as Bhil lives in forests area and it's easy for them to cut these trees. However, this product never comes in market; it's a black market of furniture merchant of north east Rajasthan which they full fill by approaching needy tribe. While Chola, Timru, Badli leaves are used to make saucer and cups (Pattal -Dona) through which Bhil tribegets direct money from local peoples. Beside it, they collect edible gums from various plants e.g., Chola (Kamarkas), Khair, Neem, Babool, Katria gum, which is very precious in local market, one of them is 'Kamarkas' which obtained from Butea monosperma this is dark red in color and very valuable for pregnant ladies for strengthen of back bone. Kamarkas is used as in diluted form for making ladoos for specific ones. They sell it out in 50 to 70 rs for half kg while local [15,16] vendor makes a lot much money from it. Other plants are also important as medicine in form of vegetable or herbal food or as direct medicine. Every plant has its own medicinal properties which come with ethnic knowledge of Bhil tribe e.g. Enicostemma littoral commonly known as Naame or Kadwachirayta, good source for blood purifier cause of its bitterness but mainly used to cure common fever or malaria. Leaf sticks boiled in water accordance and particular amount has taken by patient to cure diseases. For this Bhil tribe get 10 or 15 rupees, per 100 gm. while again local market vendors purchase this article with very nominal price[17,18] and sell out in higher markets.

## List has given below here.

Sr no	Botanical name	Local name	Family	Lively hood products
01	Abelmoschus moschatus	Jungle bhindi	Malvaceae	Vegetable
02	Abrusprecatorius	Chirmi/ Chanboi	Fabaceae	Medicine (leaves) for mouth blisters
03	Acacia catechu	Khair	Mimosaceae	Kathaa
04	Acacia farnesiana	Gandhi babool	Mimosaceae	Gum
05	Acacia leucophloea	Babool / Boliya	Mimosaceae	Gum
06	Acacia nilotica	Babool	Mimosaceae	Gum
07	Acacia Senegal	Koomata/Kumatio	Mimosaceae	
08	Actiniopteris radiata	Morphagi / Pattharfodi	Actiniopteridaceae	Leaves as medicine in stomach stone
09	Adina cardifolia	Haldu	Rubiaceae	Vegetable
10	Aegle marmelos	Bel/Beel	Rutaceae	Fruit
11	Agave americana	Gul bans	Agavaceae	Fibres
12	Agave cantala	Gul bans	Agavaceae	Fibres
13	Ailanthus excelsa	Ardu/Aldoo	Simaroubaceae	Wood for kids' toy
14	Alhagimaurorum	Jawasa	Fabaceae	Evaporating cooling pads for water coolers.
15	Allium cepa	Piaz/Kando	Liliaceae	Vegetable
16	Allium sativum	Lashan/Lahusan	Liliaceae	Vegetable
17	Aloe barbadensis	Gwarpatha / Rambans	Liliaceae	Medicine, vegetable
18	Amaranthus caudatus	Chulai	Amaranthaceae	Pods as vegetable
19	Amaranthus gangeticus	Kangani	Amaranthaceae	Vegetable
20	Amaranthus spinosus	Kantalichaulai	Amaranthaceae	Vegetable
21	Amaranthus viridis	Jungle chorai	Amaranthaceae	Vegetable
22	Annona squamosa	Sitaphal	Annonaceae	Fruit
23	Anogeissuslatifolia	Dhok	Combretaceae	Wood for domestic articles
24	Areca catechu	Supari	Arecaceae	Masticatories
25	Asparagus racemosus	Satabar/Sitabar	Liliaceae	Medicine, vegetable
26	Asphodelus tenuifolius	Pyaji	Liliaceae	Vegetable
27	Azadirachtaindica	Neemdo/Neem	Meliaceae	Wood for domestic articles and medicine
28	Bacopa monnieri	Bramhi /Jal buti	Scrophulariaceae	Medicine
29	Balanites aegyptiaca	Hingota	Simaroubaceae	As detergent in villages
30	Barleriacuspidata	Bajradanti	Acanthaceae	Medicine, tooth brush
31	Bauhinia purpurea	Kachnar	Caesalpinaceae	Flowers as vegetable
32	Bauhinia variegate	Kachnar	Caesalpinaceae	Flowers as vegetable
33	Benincasahispida	Petha	Cucurbitaceae	Vegetable and raw material for sweets
34	Bombex cetba	Semal/Sanwal	Bombacaceae	Cotton
35	Boswellia serrata	Salar	Burseraceae	Gum
36	Brassica nigra	Kali rai	Brassicaceae	Condiment
37	Buchananialatifolia	Chironji	Anacardiaceae	Medicine, dry fruit
38	Butea monosperma	Chola / Cheela	Fabaceae	Wood, gum (Kamarkas) leaves for cup and saucer
39	Calotropis gigentiea	Safed Akdo	Asclepiadaceae	Flowers for festivals
40	Calotropis procera	Aak/ Aakdo	Asclepiadaceae	Flowers for festivals
41	Capparts decidua	Kair/ Tainti	Capparaceae	Fruits as pickle
42	Capparis sepiaria	Kair / Tanti	capparaceae	Fruits as pickle
43	Carica papaya	ArandKakdi	Caricaceae	Fruit
44	Carrisacongesta	Karonda	Apocynaceae	Vegetable
45	Catharanthus roseus	Sadaphuli	Apocynaceae	Flowers for festivals
46	Cenchrus biflorus	Bharoot	Poaceae	Fibre and for making toy
47	Centellaastatica	Brahmi buti	Apiaceae	Medicine
48	Chenopodium album	Bathua	Chenopodiaceae	Vegetable
49	Chenopodium mwale	Chieva	Chenopodiaceae	Vegetable
50	Chlorophytum tuberosum	Safed moosli	Liliaceae	Medicine
51	Cicer arletinum	Chana/ Hore	Fabaceae	Vegetable
52	Cissusquadrangularis	Hadjod	Vitaceae	Medicine (breakage of bones)
53	Citrullus colocynthis	Gartoomba/Tommba	Cucurbitaceae	Fruit
54	Citrullus lanatus	Matira	Cucurbitaceae	Fruit
55	Citrus limon	Neembu/Khatta	Rutaceae	Fruit
56	Citrus maxima	Bijoda	Rutaceae	Fruit
57	Cocciniacordifolia	Teedori/Tidori	Cucurbitaceae	Vegetable
58	Cocciniagrandis	Gol kakri/ Kinduri	Cucurbitaceae	Vegetable
59	Cocus nucifera	Khopra	Areaceae	Fruit and leaves broom
60	Corchorus aestuans	Jute	Teliaceae	Fibre used for making cot

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51	Corchorus capsularis	Jute	Teliaceae	Fibre used formaking cot and other domestic articles
52	Cordia dichotoma	Lisora/Lehsua	Ehertiaceae	Vegetable, pickle
53	Crotalaria juncea	San	Fabaceae	Fibre for making cot and another domestic article
54	Cucumis callosus	Kachari	Cucurbitaceae	Vegetable
55	Cucumis melo var utilissimus	Kakadi	Cucurbitaceae	Vegetable
56	Cucurbita moschaia	Danger vela/Koiais	Cucurbitaceae	Vegetable
57	Cuminumcyminum	Jeera	Apiaceae	Condiment
58	Curculigoorchioides	Kali moosli	Hypoxidaceae	Medicine
59	Cureume amada	Ama haldi	Zingiberaceae	Condiment
70	Cynodont dectylon	Dubri/Doob	Poaceae	Whole plant sold out in various Hindu rituals
71	Delbergia sissoo	Tali/ Seesham	Fabaceae	Wood used for making various articles
72	Detoergia sissoo Detura innoxia	Dhaturo	Solanaceae	Plants and flowers used in lord Shiva festivals
73	Dendrocalamustrictus	Bans	Poaceae	Toy articles and arrow making
74	Dioscoreabulbifera	Ratalu	Dioscoreaceae	Vegetable
75	Diospyros melanosylon	Timru / Tendu	Ebenaceae	Fruits, leaves in bidi making
76	Eclipiaprostrata	Bhringraj	Asteraceae	Medicine (hair tonic)
77	Entcostemalittorals	Kadwachiryata/Bamae	Acanthaceae	Medicine (fever)
78	Ficus benghalensi:	Bad/badla	Moraceae	Fruits, pyre wood, wood
79	Ficuscarica	Anjir	Moraceae	Fruits
80	Ficusracemose	Gular	Moraceae	Fruits for pickle
81	Ficus religiosa	Pipli/Pipal	Moraceae	Fruits, pyre wood
8.2	Grewlaastatica	Phalsa/ Falsa	Tiliaceae	Fruit
83	Gymnemasylvestre	Gudmar	Asclepiadaceae	Medicine (Diabetes)
84	Helicweresisora	Marodphali/Amli	Sterculiaceae	Medicine (kidney stone
8.5	Hibiscus cannabinus	San	Malvaceae	Fibre
8-6	Ipomoea basatas	Sakarkand	Convolvulaceae	Tuber as fruit
87	Lagenarissiceraric	Tumba/ Lauki/ Ghiya	Cucurbitaceae	Vegetable
88	Madhucaindica	Mahua	Sapotaceae	Fruits, and flowers, Taadi(local wine)
89	Mangiferaindica	Aam / Kairi	Anacardiaceae	Fruits, wood
90	Mantikarahexandra	Khirni	Sapotaceae	Fruits
91	Melilotus alba	Janglimethi	Fabaceae	Vegetable
92	Mentha spicata	Pudina	Lamiaceae	As coolant freshener
93	Memerdicadioica	Kakoda	Cucurbitaceae	Vegetable (Diabetes)
94	Moringa oleifera	Sainjna	Moringaceae	Flower and pcds as vegetable
95	Morus aiba	Shahtoot	Moraceae	Fruit
96	Musa paradistaca	Kela/Kell	Musaceae	Fruits, leaves
97	Nelumbo nucifera	Kamal	Nelumbonaceae	Stem and flower
98	Nertum indicum	Kaner	Apocynaceae	Flowers for lord Shiva
99	Ocimummajorana	Marwa	Lamiaceae	Medicine
100	Pandanus fascicularis	Kevra	Pandanaceae	Medicine and for flavour
101	Phoenix sylvestris	Khajoor	Areaceae	Fruit and brooms
102	Phyllanthus emblica	Anwala	Euphorbiaceae	Fruit
103	Phyllanthus niruri	Bhoomi anwala	Euphorbiaceae	Fruit
104	Piper beile	Paan	Piperaceae	Petiole or leaf
105	Piper longum	Pipalmool	Piperaceae	Medicine
106	Psidium guajava	Amrood	Myrtaceae	Fruit
107	Ricinus communis	Arand/ Arandi	Euphorbiaceae	Seeds
108	Santalum album	Chandan	Santalaceae	Wood
109	Setariattalica	Kakun	Poaceae	Seeds
110	Syzygiumheynewum	Kath jamun	Myrataceae	Fruit
111	Tamarindusindica	Imali	Caesalpiniaceae	Fruit and wood
112	Tecomeliaundulata	Rehida/Rohido	Bignoniaceae	Wood (Fumiture)
113	Tectonagrandis	Sagwan/Hagwan/Nakta	Verbenaceae	Wood (Furniture)
114	Terminalia crjuna	Arjun/Koara	Combietaceae	Medicine, (Bark) and wood
115	Termmalia bellirica	Baheda /Guter	Combietaceae	Fruit, seed
116	Tinosporacerdifolia	Giloy/Neem giloy/Adharbel	Menispermanceae	Medicine
117	Trapa natans Vigna trilobata	Singara Jungle moth	Trapaceae Fabaceae	Frui: Vegetable
118	Vigna triobata  Zea may:	Jungie motn Makka	Poaceae	Fruit
119	жей тиро	POLICE AND ADDRESS OF THE PARTY	rozceże	
120	Zisin hare provedtione	Badi Bordi	Phampagaga	Fruit and wood
120 121	Ziziphus mauritiana Ziziphus numullaria	Badi Bordi Chotibordi/Jharbheri	Rhamnaceae Rhamnaceae	Fruit and wood Fruits

## **Implications**

The history of medicine is linked with evolution of mankind. Since disease, decay and death have always co-existed with life, the study of disease and their treatment must also have been contemporaneous with the down of human intellectuality. The primitive man must have used those therapeutic agents and remedial measures. Vedas are written documents of this knowledge up to the time of curative herbs. Among traditional medicines, Ayurveda has a major role designated as the science of life. Ayurveda is the Indian system of medicine whose foundation was laid down by Charak, Sushruta and others like Bag Bhatta, Chakradatta, Bhav Prakash, and Bag Sen etc.[19,20] The practice of medicine among tribal people and villagers follows the same pattern of two thousand years ago, there is hardly any change. Rajasthan has 70.97 lacs tribal population (fifth rank in India) forming 12.5% of state's total population which is concentrated mainly in ten districts viz. Baran, Banswara, Chittorgarh, Dausa, Dungarpur, Karauli, Pratapgargh, Rajsamand, Sawaimadhopur, and Udaipur. In the eastern Rajasthan, main tribal community is Meena and traditional communities are Gurjar, Jogi, Kanjar, Sansi, Mali, Mongia etc. Above mentioned groups still live in remote areas and used local flora for their daily needs. In Rajasthan a lot of work on medicinal plants has been carried out. Researcher gave an overview of the ethnomedicine of tribals of Rajasthan. It was reported total 384 op [2] medicinal plant species used by the tribals of Rajasthan. These works were mainly carried out in northeast Rajasthan. Also it is studied home remedies of different communities of Jaipur district whereas authors from of Bundi district. Researcher published work on ethnobotany of Siliserh, Alwar. A scientist collected data on ethnomecdicinal plants of Jaisalmer district. It has been documented ethnomedicinal plants of Karauli district. It is evident that very little work has been carried out on ethnomedicinal plants of eastern Rajasthan and therefore there is a great scope to study traditional medicines used by the natives of the area.[21,22]

Leaves were found to be the most frequently used plant parts accounting for 32 preparations followed by root (23), stem (14), whole plant parts (11), fruit (7), Oil and latex (3), and others such as flower and rhizome. Most of the ethnobotanical studies confirmed that leaves are the major portion of the plant used for the treatment of diseases. The reason why leaves are used mostly is that they are easily accessible and are active in photosynthesis and production of metabolites. With regard to the families with wound healing plants, Fabaceaeis represented by highest number of species (7)

followed by Asteraceae and Euphorbiaceae (6), Mimosaceae (5) and Apocynaceae and Verbenaceae (3) and others represent less than 3.[23,24]

## **Conclusions**

The present study revealed that traditional medicines are still in common use by the tribal communities. Thus the study ascertains the value of a great number of plants used in tribal medicine especially in wound healing which could be of considerable interest in the development of new drugs. There is obviously much still unknown information about plants to treat various ailments including wounds. Traditional healers use these medicinal plants for the treatment of wounds in their remote areas where modern treatment facilities are unavailable. Documentation of such plants from the perspective of ethnobiological angle is important for the understanding of indigenous knowledge systems. These resources are genetically important for future research. This study evidently point out that, instead of trying to identify the active components of herbs through massive collection of plants from natural sources, it is better to start investigating the efficacy of the natural product from the traditional use[25]

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