Indian J. Applied & Pure Bio. Vol. 36(2), 349-355 (2021). **ISSN: 0970-2091**
A web of Science Journal

Ethnomedicinal plants of Fabaceae reported from different Regions of Rajasthan, India-A review

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Abstract

Rajasthan is the largest state of India on the basis of area. According to census of India 2011, total tribal population of the state Rajasthan is 9238534 (13.5% of the total population). Geographically they are located mainly in the southern and eastern part of the state. Mina and Bheel are two major tribes of the state while Garasiya, Sahriya, Damor, Sansi and Kathodi are some less populated tribes of Rajasthan. Deep respect and close proximity with nature of these indigenous people have preserved their ancient traditiontill now. Traditional system of medicines is such an example which still being practiced for various ailments. The aim of the current study is to review the literature about ethno-medicinal plants from the family fabaceae being used by tribes of different regions of Rajasthan. Fabaceaeis the third largest family of India represented by 173 genera and 1192 species with numerous medicinal plants. Present review documented a total of 67 fabaceous ethno medicinal plants from 30 research paper reported from different regions of Rajasthan.

Ethnobotany is a science of study the relation between plant and people. Ethnomedicine is a branch of ethnobotany which deals with the plants used as a medicine by indigenous or tribal people. Many modern drugs have been developed through this traditional knowledge of plants which is transmitting from generation to generation by aboriginal people. The scope of ethnomedicine is increasing day by day with the advancement of scientific techniques and tools for the phytochemical analysis. Present review paper is an attempt to document the ethnomedicinal plants reported from the different regions of the Rajasthan from the family Fabaceae as being a large and economically important family of flowering plants.

Study area :

The present study is aimed to document and analysis of ethnomedicinal plant reported from various regions of the state Rajasthan (India). Rajasthan is the largest state of India which is located in between 27.023p N to 74.217p E. According to census of India 2011,

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total tribal population of the state Rajasthan is 9238534 (13.5% of the total population). Geographically they are located mainly in the southern and eastern part of the state. The Bheel is the most primitive and largest tribe of the state which inhabited in Udaipur division including Banswara, Udaipur, Dungarpur and Pratapgarh district. The Meenais also one of the major tribe of eastern Rajasthan. A special tribe Damor is restricted to Simalwara tehsil in district Dungarpur while Garasiya tribe is inhabited in Abu region of district Sirohi. Sahriya, Sansi and kathodi are some another tribes dispersed in various location of Rajasthan. Due to the diverse tribal people there is potential scope of ethnomedicinal plants and related studies in the state.

For the review of proposed investigation all published research paper and article were investigated. Work reported from different regions of Rajasthan,especially of past two decades were searched form different online platforms like google scholar, scopus, pubmed, researchgate, science direct etc. From different ethno medicinal reports, plants from the family fabaceae were sorted with full description.

Table-1. Fabaceous ethno medicinal plants with full description reported from various regions of Rajasthan

S.No.	Plant name	Plant part used	Medicinal value
1.	*Abrus precatorius* L.	Root, leaves	Cough, toothache, leucorrhoea, polyuria, contraceptive, anti- inflammatory, mouth blister
2.	*Acacia arabica* Willd	Twig, tender eaves	Oral hygiene
3.	*Acacia catechu* (L.) Willd. Oliv.	Leaves, bark, root	Asthma, arthritis ,mouth ulcer, , gonorrhea, as abortifacients, difficulties in child birth, wound healing
4.	*Acacia farnesiana* (L.) Willd	Leaf extract	Eye inflammation, conjunctivitis
5.	*Acacia ferruginea* D.C.	Leaf, fruit	Ear disorder
6.	*Acacia jacquemontii* Benth.	Whole plant	Spasmolytic, anthelmintic
7.	*Acacia leucophloea* (Roxb.) Willd	Bark, gum, leaves	Bone fracture, diarrhea, contraceptive, menstrual complains
8.	*Acacia senegal* (L.) Willd	Latex, flower	Diabetes, burns, as hepatic-protective, conjunctivitis, wound, stomach ache
9.	*Albizzia lebbeck* (L.) Benth.	Seed, bark, leaves, root	Snake bite, night blindness, piles, diabetes, leprosy, bronchitis, boils, pimple
10.	*Albizzia odoratissima* (L.f.) Benth.	Bark	Antibacterial, bronchitis

11.	*Albizia procera* (Roxb.) Benth.	Leaves, Bark, Root	Diabetes, Liver disorders
12.	*Atylosia scarabaeoides* (L.) Thouras	Root	Rheumatism, diarrhea
13.	*Bauhinia purpurea* L.	Root	Diarrhea, ulcer, boils, abscesses
14.	*Bauhinia racemosa* Lam.	Stem bark, leaf	Dysentery, malaria headache, contraceptive, dysuria
15.	*Bauhinia vahlii* (Wight & Arn) Benth.	Young shoot	Bone fracture
16.	*Bauhinia variegata* (L.) Benth.	Root, leaves, bark	Wound healing, boils, sores, diarrhea, obesity, snake bite
17.	*Butea monosperma* (Lam.) Taub	Stem bark, flower, gum, leaves, seed	Kidney stone, dysentery, fever, piles, snake bite, boils, asthma, BP, bone fracture, hernia, bleeding
18.	*Butea parviflora* DC.	Bark, root	Ant dysenteric, toothache
19.	*Caesalpinia bonduc* (L.) Roxb.	Seed, leaves	Fever, rheumatism, stomach-ache, analgesic, antipyretic
20.	*Cassia auriculata* (L.) Roxb.	Flower, bark, leaf	Diabetes, asthma, bronchitis, urinary disorder, ant helminthic, tuberculosis
21.	*Cassia fistula* L.	Pods, stem, root	Stomachache, constipation, paralysis inflammation, leprosy, heart disease
22.	*Cassia obtusifolia* (L.) Irwin	Root paste, leaves	Ringworm, ulcer, tuberculosis
23.	*Cassia occidentalis* (L.) Link	Leaves	Skin disease, ear ache
24.	*Cassia pumila* (Lam.) K. Larsen	Whole plant	Galactgogues
25.	*Cassia sophera* (L.) Roxb.	Bark and seed	Diabetes
26.	*Cassia tora* (L.) Roxb.	Shoot, leaves, seed	Fever, stomach ache, rheumatism, night blindness, skin disease
27.	*Cicer arietinum* L.	Seed	Asthma
28.	*Clitoria ternatea* L.	Seed, root, leaf	Colic, snake bite, eye disease, syphilis
29.	*Crotalaria burhia* Buch.-Ham	Root	Typhoid

30.	*Cyamopsis tetragonoloba* (L.) Taub	Seed, leaf	Diabetes, asthma
31.	*Dalbergia latifolia* Roxb.	Leaf extract, bark	Dysentery, body ache
32.	*Dalbergia paniculata* Roxb.	Bark	Body ache
33.	*Dalbergia sissoo* Roxb.	Leaves, seed oil, bark	Diabetes, fever, gonorrhea, jaundice, skin burn, scabies, leprosy, dysentery,
34.	*Delonix elata* (L.) Gamble	Leaf	Rheumatism
35.	*Derris indica* (L.) Bennet	Whole plant	Ulcer, leucoderma, piles, bronchitis
36.	*Desmodium gangeticum* (L.) DC.	Root powder	Cough and cold, snake bite, cuts
37.	*Dichrostachys cinerea* Wight et Arn	Bark and root extract	
38.	*Erythrina indica* Lam.	Bark, leaves	Joint pain, menstrual problem, worms
39.	*Erythrina stricta* Roxb.	Flower	Abortion
40.	*Erythrina suberosa* Roxb.	Bark	Ant dysenteric
41.	*Hardwickia binata* Roxb.	Leaf extract	Antifungal , antibacterial
42.	*Indigofera latifolia* Micheli	Leaves	Cut and wounds
43.	*Indigofera cordifolia* Roth.	Leaves, seed	Swollen gum, throat congestion
44.	*Indigofera tinctoria* L.	Leaves, whole plant	Diabetes, asthma, fever, diarrhea
45.	*Medicago sativa* L.	Root decoction	Asthma, arthritis, diabetes,
46.	*Mimosa hamata* Willd.	Seed, flower, Root	Ulcer, sexual weakness, dysentery, leucorrhoea
47.	*Mimosa rubicaulis* Lam.	Leaf, Bark	Antimicrobial
48.	*Mucuna pruriens* (L.)DC.	Seed powder	Snake bite, intestinal disorder, asthma
49.	*Ougeinia oojeinensis* (Roxb.) Hochr	Bark, root	Constipation, urinary disorder, ant helminthic
50.	*Parkinsonia aculeata* L.	Leaves, stem	Arthritis, fever
51.	*Phaseolus radiatus* L.	root	Baldness
52.	*Pithecellobium dulce* (Roxb.) Benth.	bark	Anemia
53.	*Pongamia pinnata* (L.) Pierre	seed	Kill lice, menstrual disorder

54.	*Prosopis chilensis* (Mol.) Stanz	Stem bark	Antidepressant, antibacterial
55.	*Prosopis cineraria* (L.) Druce	Flower, fruit, seed	Rheumatism, miscarriage, cough, skin disease
56.	*Prosopis spicigera* (L.) Druce	leaves	Leprosy, bronchitis, asthma
57.	*Pueraria tuberosa* (Willd.) Druce	tubers	For mental health to increase memory
58.	*Psoralea corylifolia* L.	Seeds	Leucoderma
59.	*Pterocarpus marsupium* Roxb.	Stem, bark	Diabetes, asthma, gastritis
60.	*Rhynchosia minima* (L.)DC.	Root powder	Malnutrition
61.	*Saraca asoca* (Roxb.) Willd	flower	Dysentery
62.	*Tamarindus indica* L.	Seed, leaves	Snake bite, ringworm, cough, piles, jaundice
63.	*Tephrosia hookeriana* Wight & Arn.	Leaves, root	Anti-inflammatory, anticancer, ulcer, cough
64.	*Tephrosia purpurea* (L.) Pers.	Root powder, whole plant	Leprosy, ulcer, asthma, tumor, syphilis, gonorrhea, skin and ear disease
65.	*Terminalia catappa* L.	fruit	Asthma
66.	*Terminalia chebula* Retz.	Young fruit	Diarrhea
67.	*Trigonella foenum-graecum* L.	seed	Diabetes

A total of 30 research paper from past two decades were analyzed which reports 69 ethnomedicinal plants from the fabaceae excluding common reports. In the study of Eastern Rajasthan Upadhyay B. *et al.*,[30] reported highest number of species (28) from the family fabaceae. Jain, A. *et al.*,[11] (31 species), Meena A. K. *et al.*,[21] (22 species), Mishra, N. *et el.*,[24] (29 species), Sharma, H. *et al.*,[26] (14 species), Deora, G. S. *et al.*,[4] (10 species) made significant contribution to documenting the fabaceous ethnomedicinal plants.The present review shows that many of the plants from the family fabaceae are being used by various tribal people. Certain plant like *Acacia nilotica, Butea monosperma, Abrusprecatorius, Tamarindus, indica, acacia catechu, cassia auriculata* and *Dalbergiasisso* were most widely used for various ailments. Several reports shows that some of the plant used for various purposes therefor further phytochemical investigation is needed to identify promising phytochemical to prove the medicinal value of particular plants for particular disease.

Table-2. Number of species from the family Fabaceae reported from different regions of Rajasthan

S. No.	References	No. of species reported	Study area
1	Arora A. *et al.* (2018)	04	South east Rajasthan
2	Bapna S. *et al.* (2014)	02	Rural Rajasthan
3	Deora G. S. *et al.* (2016)	07	Tribal area of Rajasthan
4	Deora G.S. *et al.* (2018)	10	Tribal area of Rajasthan
5	Dudi A. *et al.* (2018)	04	District Pali, Rajasthan
6	Gautam A. *et al.* (2014)	05	Mount Abu region(Sirohi)
7	Goyal, M. (2017)	01	Jodhpur district
8	Goyal, P. K. *et al.* (2020)	04	Sariska tiger reserve region
9	Gupta, U. *et al.* (2013)	03	Tehsil Simalwara (Dungarpur)
10	Hada, B. S. *et al.* (2015)	02	Jhalawar district
11	Jain, A. *et al.* (2005)	02	Southern Rajasthan
12	Jain, A. *et al.* (2005)	31	Sitamata Wild life sanctuary (Pratapgarh)
13	Jain A. *et al.* (2008)	02	Tribal area of Rajasthan
14	Jain, A. *et al.* (2011)	06	Tribal area of Rajastahan
15	Jeph. A. (2017)	03	Surajgarh tehsil (Churu)
16	Kala, S. *et al.* (2020)	07	South east Rajasthan(Chambal basin)
17	Kapoor, B. B. S. *et al.* (2013)	02	Jodhpur district
18	Katewa, S. S. *et al.* (2006)	02	Shekhawati region
19	Katewa, S. S. *et al.* (2005)	03	South Rajasthan
20	Khan, J. B. *et al.* (2010)	04	Nahargarh wild life sanctuary (Jaipur)
21	Meena, A. K. *et al.* (2010)	22	Meena community area
22	Meena, K. L. *et al.* (2010)	04	Sirohi district(garasiya tribe)
23	Menghani, E. *et al.* (2010)	01	Whole Rajastahn
24	Mishra, N. *et al.* (2015)	29	Kota district
25	Rana, S. *et al.* (2018)	03	Banswara district
26	Sharma, H. *et al.* (2011)	14	Whole Rajasthan (review)
27	Sharma, N. K. (1990)	02	Mukundara hills (south east Rajasthan)
28	Shikha, B. *et al.* (2011)	06	Whole Rajasthan
29	Tomar, K. (2018)	08	Dholpur district
30	Upadhyay, B. *et al.* (2010)	28	Eastern Rajasthan

Reference :

1. Arora, A. and S. Jain (2018). *The Journal of Phytopharmacology, 7*(2): 203-206.
2. Bapna, S., M. Ramaiya and A. Chowdhary (2014). *American Journal of Ethnomedicine, 1*(5): 319-325.
3. Deora, G. S. and G. S. Jhala (2016). *International Journal of Pharmacognosy*, *3*(8): 359-370.
4. Deora, G. S., and M. S. Rathore (2018). *Annals of Plant Science, 7*(2): 2047-2055.
5. Dudi, A., and M. M. D. Singh (2018). *Journal of Pharmacognosy and Phytochemistry*, *7*(4): 2729-2733.
6. Gautam, A. and A. Batra (2014). *Research Journal of Pharmacognosy and Phytochemistry*, *6*(1): 33-36.
7. Goyal, M. (2017). *Food Quality and Safety, 1*(3): 203-210.
8. Goyal, P. K. and G. Jeyabalan (2020). *International Joiurnal of Research and Review. 7:* 131-138.
9. Gupta, U. and H. Solanki (2013). *International Journal of Pure and Applied Sciences and Technology*, *17*(1): 100.
10. Hada, B. S., and S. S. Katewa (2015). *Journal of Global Biosciences, 4*(4): 2077-2086.
11. Jain, A., S. S. Katewa and P. K. Galav (2005). *IJTK 4*(3): 291-297.
12. Jain, A., S. S. Katewa, P. K. Galav and P. Sharma (2005). *Journal of ethnopharmacology, 102*(2): 143-157.
13. Jain, A., S.S. Katewa, P. Galav and A. Nag (2008). *American-eurasian journal of botany, 2*(1): 22-29.
14. Jain, A., S. S. Katewa, S. K. Sharma, P. Galav and V. Jain (2011). *IJTK 10*(2): 258-268.
15. Jeph, A. (2017). *IJLTEMAS, 6:* 25-29.
16. Kala, S., H. R. Meena, S. Reeja, V. Subbulakshmi, A. K. Singh, I. Rashmi and R. K. Singh (2020). *Journal of Pharmacognosy and Phytochemistry, 9*(3): 1179-1187.
17. Kapoor, B. B. S. and S. Lakhera (2013). *Indian Journal of Pharmaceutical and Biological Research, 1*(04): 71-75.
18. Katewa, S. S. and P. K. Galav (2006). *Indian Jouirnal of traditional knowledge 5*(4): 494-500.
19. Katewa, S. S., A. Jain, B. L. Chaudhary and P. Galav (2005). *Nelumbo, 47*(1-4): 121-130.
20. Khan, J. B. and G. P. Singh (2010). *Our Nature, 8*(1): 225-230.
21. Meena, A. K. and M. M. Rao (2010). *Asian journal of traditional medicines*, *5*(1): 19-31.
22. Meena, K.L. and B.L. Yadav (2010). *Indian journal of natural product and resources, 1*(4): 500-506.
23. Menghani, E., A. Pareek, R. S. Negi and C. K. Ojha, (2010). *Ethnobotanical Leaflets*, *2010*(5): 3.
24. Mishra, N. and A. Pareek (2015). *India Int J of Adv Res*, *3*(12)L 994-1007.
25. Rana, S. and D. K. Sharma (2018). *Indian J. Applied & Pure Bio. 33*(2): 169-175.
26. Sharma, H. and A. Kumar (2011). *Journal of Medicinal plants research*, *5*(7): 1107-1112.
27. Sharma, N.K. (1990). *Nelumbo, 32*(1-4): 116-120.
28. Shikha, B., N. B. Prakash and B. Nikhil (2011). *Int Res J Pharm*, *2*: 1-7.
29. Tomar, K. (2018). *voyager. 9:* 1-4.
30. Upadhyay, B., A. K. Dhaker andm A. Kumar (2010). *Journal of Ethnopharmacology*, *129*(1): 64-86.