



STUDY OF ETHNO-MEDICINAL PLANTS USED BY THE TRIBES OF SILVASSA, DADRA AND NAGAR HAVELI (UT), INDIA

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Abstract

Ethno-botanical study on traditional medicinal plants was conducted between December 2016 to March 2017 in Silvassa, UT of Dadra and Nagar Haveli, India and documented different types of traditional medicinal plants used by the tribal peoples. The study was focused on identifying medicinal plants, disease treated, part of the plant used, methods of preparation, route of administration, availability, ingredients added etc. The data was collected using interview and questionnaires by selecting traditional healers using purposive sampling method. A total of 78 medicinal plant species were collected and identified from the study area for treating various human ailments. The paper enumerates these medicinal plant species belonging to 72 genera and 37 families.

Keywords: Ethno-botanical, medicinal plants, tribes, Silvassa, Dadra and Nagar Haveli.

Introduction

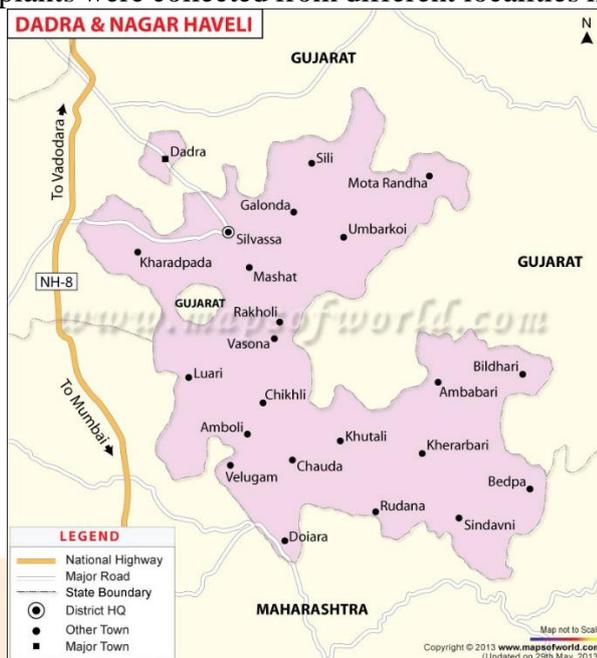
Ethnobotany is considered as a branch of ethnobiology, the study of past and present interrelationships between human cultures and the plants, animals, and other organisms in their environment. Like its parent field, ethnobotany makes apparent the connection between human cultural practices and the sub-disciplines of biology. (Ahirwar, 2014).

Ethnobotanical studies range across space and time, from archaeological investigations of the role of plants in ancient civilizations to the bioengineering of new crops. Furthermore, ethnobotany is not limited to nonindustrialized or nonurbanized societies. Ethno botany word is made from two words ethno and botany and the term was coined by John William Hershberger in the 1890. Ethnobotany is the study of people and plants this represents good relationship between wild plants and tribe's. (Kumar et al,2016)

Medicinal plants belong to a hung plants group with a large – scale interest due to its medicine, aromatic essential oil, drug, pharmaceutical, cosmetic, food nutritional application and they are an alternation to traditional crop with species in great demand at the current global market. Ethno medicinal work have been done by different authors like Sonawae *et. al.*, 2012), (Kokni *et. al.*, 2016) giving medicinal plants from different parts of India.

Materials and Method

The present investigations were carried out from Silvassa, UT of Dadra and Nagar Haveli, the tribal area of India. Silvassa is a census town in Dadra and Nagar Haveli. The geographical location of Silvassa is 20.25' N 73. 15' E. The medicinal plants were collected from different localities in villages of Silvassa, DNH.



The information about uses of plants was collected from the tribals. Questionnaires were prepared for collecting information. The interviews of bhagats or vaidays were taken and questionnaire was filled. The information about indigenous medicinal plants growing in natural habitats of Silvassa was collected. At the same time plant species were collected sample and take a photograph of each very plants for easy identification. Plant species were identified with the help of floras and Keys. Information regarding Botanical name, family name, local name, habit, part of used, disease, preparation method and availability was recorded.

Result and Discussion

The present study explored the ethnomedicinal knowledge of the heredity people their culture skills and practices and experiences. 78 species of plants belonging to 37 families recorded which are being used by the local tribal people in different human ailments. In the following account these species have been listed with scientific name, local name, family, habit, part used, diseases used, preparation method and status. (table.1)

In the preset study Fabaceae has maximum of 12 specie in ethnomedicinal contributed followed by Bignoniaceae, Apocynaceae, and Mimosaceae contributed 5 species of medicinal plants each similar study recorded Moraceae, Combretaceae, Verbenaceae, Acanthaceae, Convolvulaceae, Rubiaceae, Menispermaceae, Rhamanceae, Meliaceae, Amarathaceae, Aslepidaceae.

In this study work the maximum number of plants were used for treatment diarrhea for which 12 species used, jaundice with 11 species treat and followed by snake bite (scorpion bite, dog bite), pain (body pain, ear pain), cough, fever, menorrhagia, stone (kidney), sugar, ache (body ache, head ache), wound, dysentery, ulcer (mouths, skin ulcer), bone fracture, asthma, vomiting, promote fertility in woman and other many ailments. In this analysis of reported use in various ailments.

Table 1. Ethno medicinal plants of Silvassa, Dadra and Nagar Haveli

	Scientific Name	Local Name	Family	Habit	Part used	Disease	Preparation method	Status
1	<i>Achyranthus aspera</i> Linn.	Aghedo	Amaranthaceae	Herb	Root	1.dysentery 2.scorpine bite	Powder of dried roots is used 3-time daily 3.root decoction used in part on bite place	Available
2	<i>Volkameria inermis</i> L.	Alan	Celastraceae	Tree	Leaf	Head ache	2 drops of ½ leaf juice in nose	Rare
3	<i>Tamarindus indica</i> L.	Amali	Fabaceae	Tree	Leaf	Body ache	Leaves boiled in water and after cooling that water is used for bathing	Available
4	<i>Cuscuta reflexa</i> Roxb.	Amarvel	Convolvulaceae	Climber	Stem	Paralysis	Take fresh stem crushed with water make decoction used cure	Available
5	<i>Ventilago denticulata</i> Willd.	Asay	Rhamnaceae	Climber	Bark	Asthma	Dried bark mixed water and taken 3time daily orally.	Available
6	<i>Cassia fistula</i> L.	Bahava	Fabaceae	Tree	1.Bark 2.fruit	1.Sugar 2.Stomach pain	½ cup fresh bark juice daily	Available
7	<i>Acacia nilotica</i> (L.) Delile	Bavliyo	Mimosaceae	Tree	Reping Fruit	Damaged and cracked Heels	fruit pulp and paste apply to cracked heels	Available
8	<i>Terminallia bellirica</i> (Gaertn.) Roxb.	Behado	Combretaceae	Tree	Bark	Sugar	½ cup Fresh bark daily	Available
9	<i>Aegle marmelos</i> (L.) Correa	Bel	Rutaceae	Tree	Leaf	Fever	Juice of leaf mixed in water	Available
10	<i>Ficus exasperata</i> Vahl	Bhui-Umber	Moraceae	Tree	Bark	Promote Fertility in woman	Bark is boiled in water and filtrate is given to woman. The filtrate given	Available

							daily till conception	
11	<i>Solanum virginianum</i> L.	Bhuirigani	Solanaceae	Herb	Fruit	Tooth pain	Dried fruits burn smoke inhaled in mouth daily	Available
12	<i>Pterocarpus marsupium</i> Roxb.	Bivalo	Fabaceae	Tree	Bark	1.Asthma, 2.Blooding, 3.Diarrhoea	Fresh bark crushed and	Rare
13	<i>Lagerstromia parviflora</i> Roxb.	Bondara	Lythraceae	Tree	Bark	1.Skin disease And scabies	make paste use externally on skin	Available
14	<i>Persicaria glabra</i> (Willd) M.Gomez	Bos	Polygonaceae	Herb	Whole Plant	Skin Ulcer	Take it whole plant and burn to ash with oil apply externally	Available
15	<i>Ziziphus oenoplia</i> (L.) Miller	Chanbor	Rhamnaceae	Shrub	Root	Cough	Take roots crushed with water.	Available
16	<i>Abrus precatorius</i> L.	Chanothi	Fabaceae	Climber	Leaf	mouth ulcer	A paste of leaves is used to treat mouth ulcer	Available
17	<i>Acacia pennata</i> (L.) Willd.	Chilhari	Mimosaceae	Climber	Bark	Curbuncle	Bark powder is used is as fish poison fishing.	Available
18	<i>Dalbergia lanceolaria</i> L.f.	Dandosi	Fabaceae	Tree	Bark	Jaundice	Juice of bark and mixture of other intermediate plants	Available
19	<i>Anogeissus lentifolia</i> (Roxb.)	Dhamodo	Combretaceae	Tree	Bark	Menorrhagia	Bark powder mixed with water and take it 2-3 ml	Available
20	<i>Wrightia tinctorial</i> R. Br.	Dudhkudi	Apocynaceae	Tree	Leaf	Snake bite	Bark crushed to prepare bark juice and taken it with other material	Available
21	<i>Embelia tsjeriam-cottam</i> (Roem. & Schutt.) A.DC.	Fatakalo	Myrsinaceae	Shrub	Root Bark	1.Head ache, 2.Cough	2-3 drops of root in nose, bark is also used with other plants.	Rare

22	<i>Paracalyx scariosa</i> Roxb.	Ghonsi	Fabaceae	Climber	Root	1.jaundice 2. cough 3.sugar 4.fracture	Daily drink 3-5 ml juice of fresh roots	Available
23	<i>Acacia polyacantha</i> Willd.	Goradiyo	Mimosaceae	Tree	Bark	Diarrhea, vomiting Snake bite	Fresh bark crushed and make decoction.	Available
24	<i>Tinospora cordifolia</i> (Thunb.) Miers	Gulvel	Menispermaceae	Climber	Stem	Jaundice	Bind a bandage of bark juice with Curcuma around the neck.	Rare
25	<i>Viscum articulatum</i> Burm.f.	Hadmodi (Hadsakl)	Loranthaceae	Climber	Whole plant	Fracture/ Bone crack	Bind paste of the whole plant with chapatti on damaged bone.	Available
26	<i>Adina cordifolia</i> (Roxb.) Ridsdale	Hed	Rubiaceae	Tree	Bark	Diarrhoea	Bark crushed into powder	
27	<i>Saccopetalum tomentosum</i> Hook.f. & Thmson	Humb	Annonaceae	Tree	Bark	Diarrhoea	Take daily small amount of bark juice	Available
28	<i>Eranthemum roseum</i> (Vahl) R.Br.	Jagali Aboli	Acanthaceae	Herb	Root	Jaundice	Crush bark and decoction of root daily 2-3 ml orally	Available
29	<i>Tectona grandis</i> Linn.	Jagali sag	Verbenaceae	Tree	Bark	Diarrhoea, Vaomting	Crushed fresh bark and make juice and intermediate plants mix (other plant)	Available
30	<i>Eugenia jambolana</i> Linn.	Jamb	Myrtaceae	Tree	Bark	Diabetes	Fresh bark crushed in water and take 1 cup daily.	Available
31	<i>Sterculia urean</i> Roxb.	Kahdol	Sterculiaceae	Tree	Bark	Menorrhagia	2-4 ml juice of bark.	Available
32	<i>Garuga pinnata</i> (Roxb.)	Kakad	Burseraceae	Tree	Bark	Inflammation	Apply paste of the bark.	Available
33	<i>Gossypium herbaceum</i> L.	Kapus	Malvaceae	Shrub	Root	Jaundice	Juice of fresh root mixed with intermediate plants	Rare

34	<i>Carissa spinarum</i> L.	Karand	Apocynaceae	Shrub	Bark	Cough	Bark crushed with water to prepare juice.	Available
35	<i>Bambusa</i> sp.	Kasat	Poaceae	Herb	Whole plant	Asthma	Juice of the whole plants and drink 1-2 ml.	Very Rare
36	<i>Acacia catechu</i> (L.f.) Willd.Oliv.	Khair	Mimosaceae	Tree	Bark	Dog bite	Juice of the bark and decoction taken orally	Available
37	<i>Radermachera xylocarpa</i> (Roxb.) K. Schum.	Kharshing	Bignoniaceae	Tree	Bark	Dysentery, Jaundice	Decoction of the bark taken 2-3 ml orally	Rare
38	<i>Albizzia procera</i> (Roxb.) Benth.	Kinay	Fabaceae	Tree	Bark	Snake bite	Bark mixed to other intermediate plant	Rare
39	<i>Careya arborea</i> Roxb.	Kubhyo	Lecythidaceae	Tree	Bark	Diarrhoea	Juice of bark mixed with another intermediate Plants	Available
40	<i>Phanera variegata</i> (L.) Benth	Kurbheto	Fabaceae	Tree	Bark	Menorrhagia (2 to 3 moths)	Take 2-4 ml Juice of bark per stage	Rare
41	<i>Celosia argentea</i> Linn.	Kurdu	Amaranthaceae	Herb	Seed	Kidney stone	Crush seed in water make decoction-take it oral	Available
42	<i>Mimosa pudica</i> L.	Lazari	Mimosaceae	Herb	Whole Plant	Skin Disease	Crush whole plant and make paste and apply to skin disease	Rare
43	<i>Eucalyptus globules</i> Labill	Lilgar	Myrtaceae	Tree	Leaf	Fever	Take a bath of boiled leaves with warm water.	Available
44	<i>Azadirachta indica</i> A. Juss	Limbdo	Meliaceae	Tree	Leaf Bark	1.Skin disease 2.sugar	1.Apply juice of leaves to skin 2 Crushed the bark and take ½ cup daily in sugar	Available

45	<i>Lennea coromadelica</i> (Houtt) Merrill	Modhal	Anacardiaceae	Tree	Bark	Dysentery	Fresh or dry bark crushed and decoction of bark take it	Available
46	<i>Madhuca longifolia</i> (J.Konig) J.F. Macber	Mohu	Spotaceae	Tree	Bark	Body pain	1.apply warm bark on body pain 2.Bath of boiled bark.	Available
47	<i>Schrebera swietenoides</i> Roxb.	Mokho	Oleaceae	Tree	Bark	Jaundice	Juice of bark mixed with other intermediate plants	Rare
48	<i>Vitex nigundo</i> L.	Nirgudi	Verbenaceae	Shrub	Leaf	Fever	Bath of warm boiled leaves.	Available
49	<i>Cardiospermum halicacabun</i> L.	Karodiyo vel	Sapindaceae	Climber	Root	Malaria	Decoction of root	Available
50	<i>Stereospermum chelonioides</i> DC.	Padal	Bignoniaceae	Tree	Bark	Diarrhoea , vomiting	Fresh bark juice.	Available
51	<i>Butea monosperma</i> (Lamk)	Palas	Fabaceae	Tree	Bark	Snake bite	Juice of leaves	Available
52	<i>Kalanachoe lanciniata</i> L.	Panfuti	Crassulaceae	Herb	Root Leaf	1.kidney Stone 2.wound	1.Decoction of leaves and take it daily 3-4 ml / only one time in day 2.Paste of leaves applied to injured part	Available
53	<i>Meyna laxiflora</i> Robyus	Pedar	Rubiaceae	Tree	Bark	Stomach disorder	1-2 ml Juice of bark, 3 times daily.	Available
54	<i>Mollolus polycarpa</i> Benth.	Petar (petari)	Euphorbiaceae	Tree	Bark	Stomach ache Diarrhea	1-2 ml Juice of fresh bark 3 time daily.	Rare
55	<i>Holarrhena antidysenterica</i> (L.) R.Br.	Pivas	Apocynaceae	Tree	Bark	Diarrhoea	Decoction of bark - 2-3 ml	Rare
56	<i>Tecomella undulate</i> (Sm.) Seem	Ragat rohda	Bignoniaceae	Tree	Bark	Pain/ Bone Fracture	1.Apply paste of stored dry bark for pain and fracture 2.Bath of boiled bark.	Very rare

57	<i>Thespesia lampas</i> (Cav.) Dalzell & A. Giblson	Ranbhedi	Malvaceae	Herb	Root	Jaundice	Juice of leaves mixed intermediate other plants	Available
58	<i>Tadehagi triquetrum</i> (L.) DC.	Randha	Fabaceae	Herb	Whole plant	Mouth Ulcer	Chew whole plant but mainly leaf	Very Rare
59	<i>Soymida febrifuga</i> Juss.	Rohan	Meliaceae	Tree	Bark	Vomiting Diarrhoea	2-3 ml Juice of bark	Rare
60	<i>Colotropis gigamtea</i> (Lnn.) R.BRr.	Rui	Aslepidaceae	Shrub	Bark Root	1.Snake bite 2.Stomache ache	1.Rub Bark on teeth. 2. Juice of root	Available
61	<i>Terminalia elliptica</i> (Willd)	Sadadi	Combretaceae	Tree	Bark	Diarrhoea Cough	Juice of fresh bark.	Available
62	<i>Cayanthillium cinerea</i> (L.) Less.	Sahdevi	Asteraceae	Herb	Whole plant	1.Urinary problem 2.fever	Juice of the whole plant is given to children	Available
63	<i>Moringa oleifera</i> Lam.	Shegavo	Moraceae	Tree	Root Leaf	1.Diarrhoea 2.Eye disease	1. 2-3 ml juice of fresh leaves 2. Fresh leaves juice 1 cup daily	Available
64	<i>Holostemma ada-kodie</i> Schult.	Shiridod	Asclepidaceae	Climber	Tuber, Flower, Root	Cough	1.Eat boiled tuber 2.Eat fresh flower 3. Juice of root.	Rare
65	<i>Dalbergia sissoo</i> D.C	Shisav	Fabaceae	Tree	Bark	1.Jaundice 2. Menorrhagia	Juice of leaves mixed with other plants.	Available
66	<i>Cocculus hirsutus</i> W. Theob	Tan	Menispermaceae	Climber	Leaf	Bleeding	Take fresh leaves of paste and apply to bleeding part of body	Available
67	<i>Oroxylum indicum</i> (linn) Kurz	Tetav	Bignoniaceae	Tree	Bark	Jaundice Stone	Paste of bark mixed in water and take it 3time daily	Available
68	<i>Ziziphus rugosa</i> Lam.	Toran	Rhamnaceae	Climber	Bark	Promote fertility in woman	Crush bark and small amount given and Tie around the neck	Available
69	<i>Cassia tora</i> L.	Tureto	Fabaceae	Herb	Leaf	Jaundice	Half cup Juice of leaves daily	Available

70	<i>Getonia floribunda</i> (Roxb) Lam	Ugasi	Combretaceae	Shrub	Bark	Cough	Juice of bark taken once daily.	Available
71	<i>Ficus racemose</i> L.	Umber	Moraceae	Tree	Latex Bark Stem	1.kindeg stone 2.boils, diarrhea	1.take 1 cup sugar and added in latex of ficus and dilute and eat weekly 2 time 2.juice of bark & take it 2-3 ml	Available
72	<i>Anisomeles indica</i> (L) Kuntze		Lamiaceae	Shrub	Leaf	Fever	Fresh leaves Crushed and paste apply to body or bathing	Available
73	<i>Hemidesmus indicus</i> Linn	Uparsadi	Apocynaceae	Climber	Root	Increase milk flow in female (galactogoga)	Extracted milk taken orally	Available
74	<i>Hygrophila auriculata</i> (Schumach)	Vikharyo	Acanthaceae	Herb	Root	1.Scorpine bite 2.ear pain	1.make juice of root 2. 1-2 drop juice of leaf poured in ear	Available
75	<i>Capparis zeylanica</i> L.	Waghoti	Capparidaceae	Climber	Root	Snake bite	Juice of the root	Rare
76	<i>Heterophra-gam roxburghii</i> (Spreng.) DC.	Waras	Bignoniaceae	Tree	Bark	Menorrhagia	Crushed bark make powder and mixed in water, addition intermediate plants and take it 2-3 ml daily	Rare
77	<i>Ipomoea caenea</i> Jace.	Zadvo	Convolvulaceae	Shrub	Fresh leaf	Rheumatism, pain, joints	Apply warm 3-5 leaves and overlap on pain part body	Available
78	<i>Dregea volubilis</i> (L.f.) Benth. ex Hook.f.	Aekota	Apocynaceae	Climber	stem	Diarrhoea	Decoction of the bark taken according the age like 2-3 ml	Available

The drug yielding plants are analysed based on their morphological habit and revealed that trees dominated with 43 species (54%) followed by herbs with 13 species (18%), climber with 12 species (17%) and shrub with 10 species (11%) (Fig. 1).

Fig. 1:

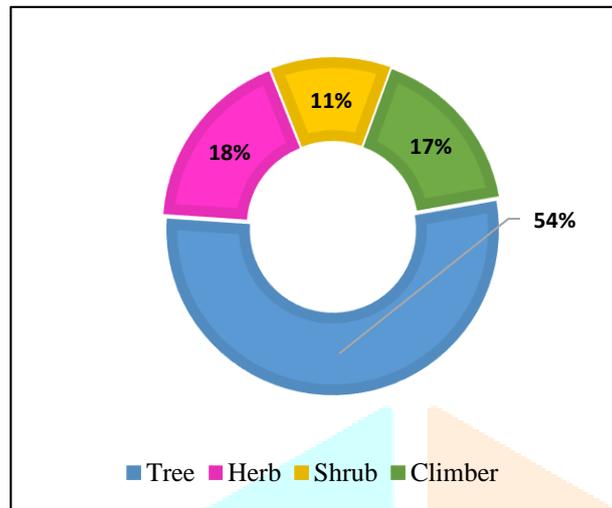
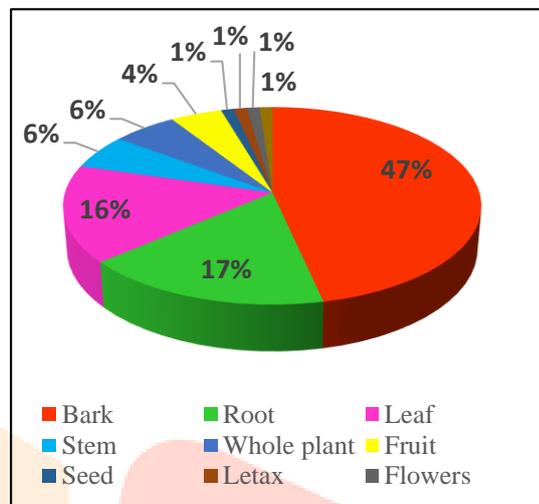


Fig. 2:



Richness of crude drug: habit-wise analysis

Crude drug samples: plant part –wise analysis

Plant part based on their morphological part use to mostly bark 42 species, root 15 species, leaf 14 species, stem 5 specie, whole plant 4 species, fruit 5 specie, and seed, latex, flower and tuber are 1 specie and other various plant part use.

Present in this study also observed diversity (availability) of plants species in Silvassa area of area Our studies also revealed that about 4% of the existing species are very rare, 24% are rare and 72 % are available (fig. 3)

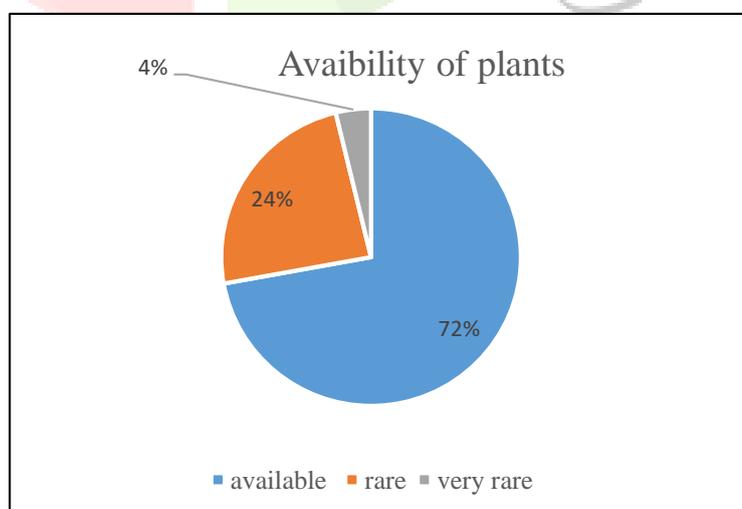


Fig.3 The percentage of threatened and available flora of Silvassa, DNH.

Conclusion

The information collected shows that these traditional medicinal plants have been used to remedy many types of disease. Generally, the people of the studied area still have a strong trust in the impact and success of the herbal plants medicine. The results of the reported study supply testimony that medicinal plants continue to play an important function in the healthcare arrangement of the tribal group community. The ethno medicinal - botanical investigate revealed that the people from this area have important herbal drugs knowledge but as the people are in way out exposure to new generation, their knowledge of traditional uses of plants may be lost in due studies. So, it is significant to practice and documented the uses of plants by different group tribes and sub-tribes for future studies.

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