



ENUMERATION OF IMPORTANT ETHNO-BOTANICAL PLANTS_SUGALI TRIBE OF VENKATAM PALLI THANDA, ANANTAPURAMU, ANDHRA PRADESH

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Abstract:

The preliminary investigations of Ethnobotanical and Cultural Resources of Sugali tribes of Venkatampalli Thanda, Anantapuramu district, Andhra Pradesh with their recipes, preparation of drugs, administration, and usage from several centuries. Therapeutic uses of some of the species given in the table were cross checked with alternative ethno botanical systems viz. Ayurveda, Unani, Sidha and Homeopathy. **69 crude drugs (*species*) belonging to 63 genera and 30 families** were collected based on folk-lore knowledge.

Introduction

Andhra Pradesh comprises two major regions, namely Rayalaseema in the south-west and coastal Andhra bordering the Bay of Bengal in the east and north-east. The state has thirteen districts, nine located in coastal Andhra and four Rayalaseema. The climate of Andhra Pradesh varies considerably, depending on the geographical region. Temperature ranging between 20-41 °C. Anantapuramu is located at 14.68° N 77.6° E. it has an average elevation of 335 m (1,099 ft). Anantapuramu has a semi-arid climate, with hot and dry conditions for most of the year.

The Lambadies, are called by various names in different places like Lambani, Brinjari or Banjari, Boipari, Sugali or Sukali. Sugalis are the well known tribe of porters found all over Western and Southern parts of India. Lambadies claim their descendance from vali and sugriva, the two tribal chiefs mentioned in *Ramayana*. The womenfolk of this tribe particularly present a distinct feature. They are the most robust among women of Indian

origin. They can undergo a great deal of labour with apparent ease. They are mostly living peculiar, ornaments so singularly chosen they are chaste and affable. They use bows, arrows, sword and shields. The common occupation of the lambadies is transport, especially in the hill and forest tracts with difficult access, of grain and other produce on pack bullocks. They live in detached clusters of rude huts, called thandas, at some distance from established villages.

The present proposal designed with a background of previous studies in Andhra Pradesh State aimed at to provide an update inventory of Ethno medicinal important of Sugali tribe of Andhrapradesh State. Primitive ethno medicinal field collection trips plan to tribal pockets in Venkatam Palli Thanda, Anantapur District. Intensive interviews were conducted with tribal Nayakas at their dwellings according to the methods described by Jain and Rao (1983); Sudarsanam & Rao (1994) and Balaji Rao et al. (1995). The end database, after previous studies in Sugali tribe various states comprise an update nomenclature for every taxon following the 'Plant List (2013)', distribution data, life form data, topography data, complete herbarium data preserved in national and international herbaria representing the study area. Photographs will be provided for all the species. Collection localities will be geo-referenced. The data generated in the present study will be not only useful to taxonomist, ecologists and conservation scientists, but also for a range of research, policy and intellectual property rights.

MATERIALS & METHODS

During study of Ethno botanical of Sugali tribe in the Anantapuramu District (Rayalaseema Region) various field trips were conducted and were vouched from various natural populations during the period 2020-2021. Critical study of herbarium specimens deposited at EPTRI was done. Perusal of *related published literature* (Amarasingham et al. (1964), Chabra et al. (1984), Chadwick and Marsh (1994). Chopra et al. (1956), Das and Bhattacharjee (1970), Gamble (1953), Gibbs (1974), Hamambara Reddy et al. (1998), Harborne (1984), Hooker (1984), Jain (1964), Jain (1981) Kirtikar and Boser (1933), Nadkarni (1976), Pullaiah and Yasodamma (1989), Reddy et al. (1986) and Santaram (1983) for the taxonomic confirmation. Updated nomenclature, distribution along with field photographs have been presented. Field specimens were deposited in EPTRI, Hyderabad (EPTRI). Field Photographs of the species are provided for easy identification.

Procedures

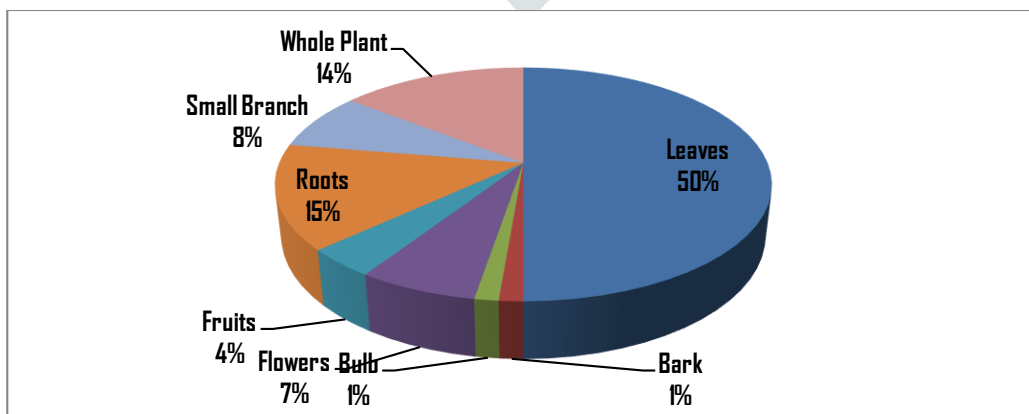
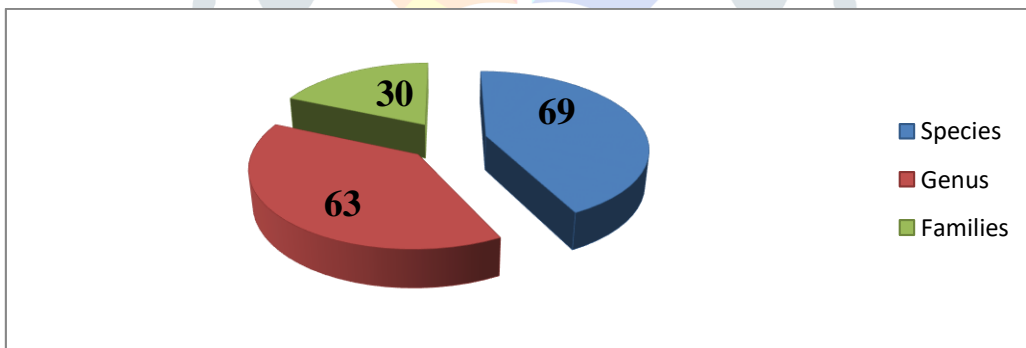
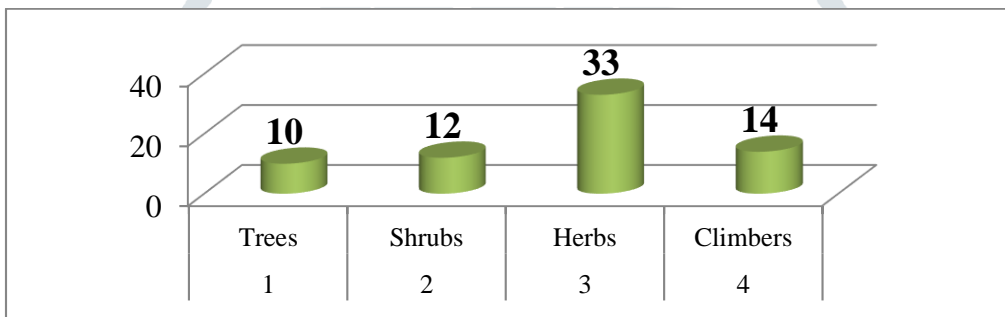
Herbarium specimens were prepared following the standard techniques); additionally, leaves and flowers were preserved in AFA (Alcohol, formaldehyde, acetic acid) for morphological analysis. The description follows the terminology of Lindley (1951). The descriptions and illustrations were based on living specimens and field collections. Plants were photographed (GIS) in the field. A perusal of *related published literature* (Amarasingham et al. (1964), Chabra et al. (1984), Chadwick and Marsh (1994), Chopra et al. (1956), Das and Bhattacharjee (1970), Gamble (1953), Gibbs (1974), Hamambara Reddy et al. (1998), Harborne (1984), Hooker (1984), Jain (1964), Jain (1981), Kirtikar and Boser (1933) Nadkarni (1976) Pullaiah and Yasodamma (1989), Reddy et al.

(1986), Santaram (1983), and Shaikmahaboob et al. (2021) for the taxonomic confirmation. Updated nomenclature, distribution along with field photographs has been presented. All Field data was noted carefully in field notebooks, and each drug material was individually recorded videos and photographs were taken with GIS tags.

RESULTS & DISCUSSION

The preliminary investigations of Ethnobotanical and Cultural Resources of Sugali tribes of Venkatampalli Thanda, Anantapuramu district, Andhra Pradesh with their recipes, preparation of drugs, administration, and usage from several centuries. Therapeutic uses of some of the species given in the table were cross checked with alternative ethno botanical systems viz. Ayurveda, Unani, Sidha and Homeopathy. 69 crude drugs belonging to 63 genera and 30 families were collected based on folk-lore knowledge. The dominant families with respect to number of species are Leguminosae (11), Euphorbiaceae (5), Apocynaceae (5), Malvaceae (4), Cucurbitaceae (4), Amaranthaceae (4), Lamiaceae (4), Solanaceae (4), Acanthaceae (3), Asparagaceae (2), Menispermaceae (2), Asteraceae (2) and Rhamnaceae (2). Analysis of plants tissues followed tribes used leaves highly 50%, Roots 15%, Whole plants 14%, Small branches 8%, Flowers 7%, Fruits 4%, Bulb (*Asparagus racemosus*) 1% and remaining Bark (*Anogeissus latifolia*) 1%. Some of the data was cross checked with alternative ethnobotanical systems namely Ayurveda, Unani, Sidha and homeopathy. Following species *Abrus precatorius* used in Ayurveda, Siddha, and Unani for snake bite antidote and aphrodisiac, while in Homeopathy it's used for chronic pain. *Abutilon indicum* used in Ayurveda, Siddha, and Unani for malarial fevers, while in Homeopathy it's used for chronic rheumatism and sciatica. *Acacia nilotica* used in Ayurveda, Siddha, and Unani for furuncles and edema, while in Homeopathy it's used for skin diseases. *Acalypha ciliata* used in Ayurveda for rejuvenating the body, while in Homeopathy it's used for respiratory diseases. *Acalypha indica* used in Ayurveda for reducing phlegm, cough, asthma, and other breathing problems, while in Homeopathy it's used for liver and spleen disorders. *Achyranthes aspera* used in Ayurveda, Siddha, and Unani for snake and scorpion bite antidote, while in Homeopathy it's used for rheumatism and arthritis. *Acmella paniculata* used in Ayurveda, Siddha, and Unani for toothache and throat infections, while in Homeopathy it's used for mouth ulcers. *Agave americana* used in Ayurveda for inducing abortion, while in Siddha and Unani it's used for menstrual disorders and sexual debility, respectively. In Homeopathy, it's used for neuralgic pain. *Albizia lebbek* used in Ayurveda, Siddha, and Unani for snake and scorpion bite antidote, while in Homeopathy it's used for nervous system disorders. *Ammannia baccifera* used in Ayurveda for edema and skin diseases, while in Homeopathy it's used for stomach and liver disorders. *Andrographis paniculata* used in Ayurveda, Siddha, and Unani for fever, colic pain, and mouth ulcers, while in Homeopathy it's used for influenza and common cold. *Anisomeles malabarica* used in Ayurveda, Siddha, and Unani for headache, vitality, and psychosis, while in Homeopathy it's used for skin diseases. *Aristolochia bracteolata* used in Ayurveda, Siddha, and Unani for stomach ache, anti-diarrhea, and snake bite antidote, while in Homeopathy it's used for intestinal colic and flatulence. *Asparagus racemosus* used in Ayurveda, Siddha, and Unani for rheumatism, while in Homeopathy it's used for infertility and leucorrhea. *Balanites aegyptiaca* used in Ayurveda for anti-dandruff, while in Siddha and Unani it's

used for constipation and bronchitis, respectively. In Homeopathy, it's used for skin diseases. *Caesalpinia bonduc* used in Ayurveda, Siddha, and Unani for prolonged fevers, while in Homeopathy it's used for urinary tract infections. The Sugali tribe possessing rich folklore information forms the prime source and exists scope to extend scientific research in further isolation and characterization of active principles involved in the pharmacological utility. Keeping because the fact potential source of medicinal plants of folklore origin needs to be preserved and conserved. In an extremely interesting study, Sugali tribe uses traditional stories and myths to analyse the symbolic function of trees in Andhra Pradesh. Sacred groves are the site of ritual and secret society initiations, a local where social and political values, morals, secrets, and laws are passed on to the younger generations. *Ficus religiosa*, *Azadirachta indica*, *Prosopis cineraria*, *Albizia amara* is also a sacred trees throughout the Andhra Pradesh and Telangana states. There is little information on the ways in which these values are changing. No studies explore the implications of changing cultural values on forest resource use.



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Appendix 1. Plants List-Sugali Tribes Crude Drugs Preparation methods

S. No	Name of the Species	Family	Vern. Names (Sugalis)	Plant parts Use	Preparation/Admistration	Medicinal Use
1	<i>Abrus precatorius</i> L.	Leguminosae	<i>Gurivindha</i>	L, R	Macerated with water/drunk Root Juice/oral 3 times a day cotyledons powdered/oral	Menorrhoea Snake bite antidote Aphrodisiac
2	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	<i>Naalrare Jaad</i>	L	With garlic juice extract/oral	Malarial fevers
3	<i>Acacia nilotica</i> (L.) Delile	Leguminosae	<i>Jaali Jaad</i>	L	Heated and placed on the spot for 3 days	Furuncles, Oedema
4	<i>Acalypha ciliata</i> Forssk.	Euphorbiaceae	<i>Adavi pippinta</i>	L	Leaves are applied as dressing to sores (4, 5); crushed plant is used for skin parasites.	Rejuvenate the body

5	<i>Acalypha indica</i> L.	Euphorbiaceae	<i>Pippi</i>	L	Leaves mixed with pepper, and garlic extract/oral for 3-6 times.	Used for teeth pain reduce phlegm and in the treatment of cough asthma and other breathing problem
6	<i>Achyranthes aspera</i> L.	Amaranthaceae	-	R	Root decoction/oral	Snake and scorpion bite antidote
7	<i>Acmella paniculata</i> (Wall. ex Dc.) R.K. Jansen	Asteraceae	<i>Vana mogga</i>	Fl	Flowers applied on the tongue below 5-10 year children and used in toothache and infections of the throat and gum	Toothache and throat and gum
8	<i>Agave americana</i> L.	Asparagaceae	-	L	Dried pulp/oral for weekdays	Abortifacient
9	<i>Albizia lebbek</i> (L.) Benth.	Leguminosae	-	L	Juice (50 ml)/ oral for 3 times	Snake and scorpion bite antidote
10	<i>Ammannia baccifera</i> L.	Lythraceae	-	L	Pulp was applied on the area for 3 days Juice with dry chillies/oral for 3 days	Edema and skin disease Ascariasis and Stomach pain.
11	<i>Andrographis paniculata</i> (Burm.f.) Nees	Acanthaceae	-	L	Anti-inflammatory, antiviral, and antioxidant properties	Fever, colic pain, mouth ulcers
12	<i>Anisomeles malabarica</i> (L.) R.Br. ex Sims	Lamiaceae	-	Wp	Burnt and vapors/inhaled decoction/oral. Leaves placed on	Psychosis, Unconsciousness Vitality Headache

					the fore head for an overnight	
13	<i>Aristolochia bracteolata</i> Lam.	Aristolochiaceae	<i>Gaadidhag adapaaku</i>	L	Applied paste on bitten area leaves with pepper, Juice/oral for tree ties	Stomach ache, Anti-diarrhea, and Snake bite antidote Ascariasis.
14	<i>Asparagus racemosus</i> Willd.	Asparagaceae	-	R	Fresh bulbs collected and boiled orally taken	Rheumatism
15	<i>Balanites aegyptiaca</i> (L.) Delile	Zygophyllaceae	-	Fr	Fruits pulp or Juice direct applied hairs	Antidandruff
16	<i>Caesalpinia bonduc</i> (L.) Roxb.	Leguminosae	<i>Gachikaay jaad</i>	L	Leaf decoction/oral for 3 times. Powder missed with jaggery/oral	Prolonged fevers
17	<i>Calotropis gigantea</i> (L.) Dryand.	Apocynaceae	<i>Aaker Jaad</i>	L	Juice/oral for vomiting.	Antitoxicsis
18	<i>Capparis zeylanica</i> L.	Capparaceae	-	F	Leaves are widely used as counter-irritant, febrifuge, and as a cataplasm in swelling, boils, and piles	An antidote to snake bite, cholera
19	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	-	L	Paste applied on the part	Oedema
20	<i>Celosia argentea</i> L.	Amaranthaceae	<i>Laambdi bhaaji</i>	R	Extract orally for 3 days	Typhoid fevers
21	<i>Cissus quadrangularis</i> L.	Vitaceae	<i>Nalleru</i>	L	Young shoots used for vegetable-helping prevent metabolic	Bone fracture and allergies

					syndrome	
22	<i>Citrullus colosynthis</i> (L.) Schrad.	Cucurbitaceae	<i>Moto Kodivasela</i>	F	Pulp macerated with garlic, extract/oral for weekdays fruit pulp squeezed/oral	Psychosis and anxiety Constipation
23	<i>Cleome gynandra</i> L.	Cleomaceae	<i>Bhangroo Jaad</i>	L	Heated fruit placed on the ankle	Calcareous spur
24	<i>Clerodendrum phlomidis</i> L.f.	Lamiaceae	-	L	Boiled in water and vapors/inhaled Extract with pepper/oral, 3 times. Leaf extract/oral	Severe and prolonged body aches Constipation and dropsy Debility
25	<i>Coccinia grandis</i> (L.) Voigt	Cucurbitaceae	-	L	Juice was applied on the affected part of the head juice/oral and applied on the bitten area Juice 5 or 6 drops in the ear	Tenia capitis Scorpion bite antidote Otalgia
26	<i>Cocculus hirsutus</i> (L.) W. Theob.	Menispermaceae	<i>Dussara theega</i>	L	Used leaves juice for body cooling	Stomach and ovary disorders
27	<i>Corallocarpus epigaeus</i> (Rottler) Hook.f.	Cucurbitaceae	-	R	About 200 ml Juice/ oral for vomiting juice dropped in the ears twice a day for three days	Snakebite antidote Nostalgia
28	<i>Corbichonia decumbens</i> (Forssk.) Exell	Lophiocarpaceae	-	R	Past with cow urine/oral for weekdays	Yellow and white jaundice

29	<i>Cyperus stoloniferus</i> Retz.	Cyperaceae	-	R	Powder with jaggery/oral for 40 days Powder with hibiscus <i>rosa-sinensis</i> leaves/applied with coconut oil.	Leucoderma, blood purification dandruff
30	<i>Dicliptera paniculata</i> (Forssk.) I. Darbysh.	Acanthaceae	-	Wp	Mixed with egg white and lime applied on the fracture and made a bandage	Bone fracture
31	<i>Dodonea viscosa</i> (L.) Jacq.	Sapindaceae	<i>Bhandarare Jaad</i>	L		Bone fracture, rheumatism
32	<i>Enicostema axillare</i> (Poir. ex Lam.) A. Raynal	Gentianaceae	-	Wp	Mixed with pepper macerated and placed around finger and dressing for 3 days	Whitlow
33	<i>Euphorbia heterophylla</i> L.	Euphorbiaceae	-	Wp	Extract/oral 3-8 times after delivering heated leaves applied on the part latex applied directly on the parts	Lactation Skin abs cense Syphilis
34	<i>Euphorbia heyneana</i> Spreng.	Euphorbiaceae	-	Wp	with garlic, and pepper macerated/oral for 3 days	Dry cough in children, influenza, prolonged fevers
35	<i>Euphorbia hirta</i> L.	Euphorbiaceae	<i>Dhoodhaer jaad</i>	L	Fresh leaves and Garlic 1-2 pieces mixture 5 gm, daily morning 2-3 days	Best Milk Production

					taken	
36	<i>Grewia tenax</i> (Forssk.) Fiori	Malvaceae	-	R	About 10gm/chewed for one time	Snake and scorpion bite
37	<i>Gymnema sylvestri</i> (Retz.) R.Br. ex Sm.	Apocynaceae	-	L, R	Leaves direct eating for sugar, leaves juice used for pain	Diabetes
38	<i>Heliotropium indicum</i> L.	Boraginaceae	-	L	Extract with jaggery/oral for one time	Snake and scorpion bite antidote
39	<i>Hibiscus micranthus</i> L.f.	Malvaceae	-	L	With egg, lime, turmeric, and pulp mixed dressing in made daily for 5 days. Extract	Bone fracture
40	<i>Ipomoea obscura</i> (L.) Ker Gawl.	Convolvulacea e	-	Wp	Heated, placed on the spot, and dressed juice 20 ml/oral	Wounds, burns, boils skin abscess giddiness, and nausea
41	<i>Jasminum azoricum</i> L.	Oleaceae	-	L	Juice applied on the spot Ker-Gall	Furuncles, Oedema for 3 days
42	<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	-	L	Macerated with jowar seeds applied for weekdays	Furuncles, Hematoma
43	<i>Lantana camara</i> L.	Verbenaceae	<i>Bheli Jaad</i>	L	Leaves extract applying on wounds	Wound Healing/Anti- inflammatory
44	<i>Lepidagathis crinata</i> Willd.	Acanthaceae	-	L	Ash with coconut oil, made to paste, applied on the affected part for weekdays	Anti- inflammatory, skin abscess, tumors

45	<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	-	L	Extract with pepper, garlic/Oral Extract dropped in the opposite ear of the Pain side	Malaria, intermittent fevers encephalitis migraine
46	<i>Luffa tuberosa</i> Roxb.	Cucurbitaceae	<i>Kolaar</i> <i>Jaad</i>	R	Juice extracted with 5 gm musambaram/oral 3 times a day for 3 days	Abortifacient
47	<i>Parkinsonia aculeata</i> L.	Leguminosae	-	L	Extract orally for 3 days	Anemia, Fatigue
48	<i>Pedaliium murex</i> L.	Pedaliaceae	-	Wp	Mouth gargling with decoction	Dental caries
49	<i>Pergularia daemia</i> (Forssk.) Chiov.	Apocynaceae	-	L	A small quantity of root was collected and added finger millet powder add one glass of water - boiled throughout the wounds and a few areas 5-6 drops of extract were dropped in the opposite ear to the bitten area for one time. With pepper macerated applied to the knee for weekdays	Scorpion bite antidote Oedema
50	<i>Phyllanthus amarus</i> Schumach. & Thonn.	Phyllanthaceae	-	Wp	With clover dry ginger extract/oral for three weeks	Yellow with white jaundice

51	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Leguminosae	<i>Seemachint ha Jaad</i>	Sb	Extract with jaggery of <i>borasus</i> /oral very often	Thirst
52	<i>Pongamia pinnata</i> (L.) Pierre	Leguminosae	<i>Kaanegaer Jaad</i>	F, R	20 ml extract/oral for weekdays, Powder with pepper/oral with milk for 3 days, Extract/oral for three days	Dog bite antidote, Whooping cough, Gonorrhoea
53	<i>Ricinus communis</i> L.	Euphorbiaceae	<i>Arendare jaad</i>	L	Fresh leaves putting on the head one night to get relief from headache-related issues	Headache
54	<i>Senna auriculata</i> (L.) Roxb.	Leguminosae	<i>Valanyaar Jaad</i>	F, L	Decoction/oral for 3 days young leaves chewed repeatedly	Leucorrhoea Snakebite
55	<i>Senna italica</i> Mill.	Leguminosae	-	L	Decoction/ oral for 3 days dry powder/oral with goat milk	Constipation/purgative Health tonic for 15 days
56	<i>Solanum americanum</i> Mill.	Solanaceae	<i>Kasaaku</i>	Wp	Ripening fruits edible, fresh leaves collect before washed and after boiled and mixing coconut powder, mirchi powder and add salt.	Stomach ache

57	<i>Solanum surattense</i> Burm. f.	Solanaceae	-	F	Juice mixed with turmeric powder is applied inside the eyelid. Macerated, applied, and exposed to sunlight	Jaundice, Scabies
58	<i>Solanum torvum</i> Sw.	Solanaceae	Ringini	L	Leaves are mainly used for the treatment of tooth decay, and hypertensions.	wounds, tooth decay, arterial hypertension
59	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Jaambooo Jaad	B	Decoction with lemon juice in honey/oral twice a day for two days	Antidiabetic
60	<i>Tamarindus indica</i> L.	Leguminosae	Aamli Jaad	B	Macerated with water applied on bitten area Extraction/oral for 3 days	Scorpion bite antidote Menorrhoea
61	<i>Tephrosia purpurea</i> (L.) Pers.	Leguminosae	Vempalli Jaad	R	Decoction with garlic dropped (2-3 drops) in ears for 3 days brushing daily	Nostalgia, Pyorrhoea
62	<i>Tinospora sinensis</i> (Lour.) Merr.	Menispermaceae	-	L	Diabetic patients took one or two leaves regularly	Diabetes, high cholesterol
63	<i>Trichuriella monsoniae</i> (L.) f.) Bennet	Amaranthaceae	-	Wp	Used in the treatment of scorpion stings, headache boils, sores, and wounds	Scorpion sting, headache, sores, and wounds
64	<i>Tridax procumbens</i> (L.) L.	Asteraceae	-	L	Juice was applied on the spot	Cut and wounds

65	<i>Tylophora indica</i> (Burm. f.) Merr.	Apocynaceae	-	L	Leaves and latex were orally applied	Mouth allergies, asthma, cough
66	<i>Vitex negundo</i> L.	Lamiaceae	<i>Kaalo Samaeli Jaad</i>	L	Warmed leaves were applied to the part. Fresh leaves are dressed on to forehead during sleep. Decoction with capsicum/oral for 3 days	Rheumatic pains, Headache, Giddiness, Postnatal debility
67	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	-	L	For knee joint, pain-used leaves juice is also used in goat & sheep	Arthritic disease
68	<i>Wrightia tinctoria</i> R.Br.	Apocynaceae	<i>Dhoodhir Jaad</i>	L	Macerated pulp with butter placed around the finger and dressed for 3 days	Whitlow, Rheumatoid arthritis
69	<i>Ziziphus jujuba</i> Mill.	Rhamnaceae	<i>Bhorer Jaad</i>	L	Fresh leaf, prepared paste with asafetida/oral for 3 days	Constipation in children