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# Traditional Medicinal Plants of Lankamalleswara Wildlife Sanctuary, Kadapa District, Andhra Pradesh, India

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## ABSTRACT

The present study explores the traditional medicinal plants of Lankamalleswara wildlife sanctuary, Kadapa District, Andhra Pradesh, India.
**Objective:** The prime objective of the study is to document the traditional medicinal plants used by tribal people inhabiting the sanctuary.
**Methods:** The ethnobotanical studies carried out during 2013-15. The information was collected through interviews, discussions and observations. Many tribal pockets were visited to interact local people and gathered information about medicinal plants.
**Results:** The present investigation revealed the medicinal properties of 96 species belonging to 88 genera under 47 families. The most cited family was Apocyanaceae (9) followed by Lamiaceae (6), Fabaceae (6), Malvaceae (5), Capparaceae (4), Rubiaceae (3), Combretaceae (3), Menispermaceae (3), Asteraceae (3), Convolvulaceae (3), Moraceae (3), Verbenaceae (3), (3), Euphorbiaceae (2), Amaranthaceae (2), Liliaceae (2), Caesalpinaceae (2), Cleomaceae (2), Solanaceae (2), Loganiaceae (2) and remaining families contributed one species.
**Conclusion:** The study concludes that there is a urgent need to conserve the plant resources of study area from over exploitation and illegal trade of rare plants like Red sanders.

**Keywords-** Traditional plants, Lankamalleswara wildlife sanctuary, Phytomedicine, Ailments.

## INTRODUCTION

Traditional medicine has been defined as the sum of the knowledge, skills and practices experiences indigenous to culture used in the maintenance of health as well in the prevention, diagnosis, treatment of physical and mental health. In developing countries especially rural areas the people depends mainly on traditional medicine for their primary healthcare. The indigenous knowledge of medicinal plants has been well documented in ancient Indian literature[1]. Traditional knowledge on medicine since the time of great sage Charaka has led to the discovery of many important drugs of modern age[2]. Charakasamhitha and Susruthasamhitha written by Charaka and Susrutha respectively have information regarding traditional medicinal plants and their therapeutic values[3]. In the modern days there has been increase in the demands of herbal products and plant based drugs across the world resulting in the over exploitation of medicinal plants. Habitat degradation, unscientific harvesting and over exploitation to meet the demands of medicinal plants have led to the extinction of plant species in the world.

According to report of all India Ethnobiological survey accomplished by Ministry of Environment and Forests (MoEF), Government of India, there are over 8000 plant species that are being used by the local people. These plants are used Ayurveda, Siddha, Unani and Homeopathy Systems of medicine[4]. In other words, there are about 300 families of the flowering plants, at least 250 plants are represented by India. Medicinal properties of few such plants have been reported but a good number of plants still used by local people are not explored. Ayurveda, Siddha and Unani systems of medicine provide good base for scientific exploration of medicinally important molecules from nature. The rediscovery of Ayurveda is a sense of redefining it is modern medicines. Traditional medicine has a long history of serving peoples all over the world. The ethnobotany provides a rich resource for natural drug research and development. In recent years, the use of traditional medicine information on plant research has again received considerable interest. The Western use of such information has also come under increasing scrutiny and the national and indigenous rights on these resources have become acknowledged by most academic and industrial researchers. According to the World Health Organization (WHO) 80% of World population are relied on traditional medicine for primary healthcare[5]. However, only 25% of modern medicines are derived from plant products[6].Even in USA, use of plants and phytomedicines has increased dramatically in the last two decades**.** It has been also reported that more than 50% of all modern drugs in clinical use are of natural products, many of which have been recognized to have the ability to include apoptosis in various cancer cells of human origin[7].

India is rich in biological diversity and nearly 550 tribal communities pertaining to 227 ethnic groups are inhabited. About 26 tribal communities are inhabiting in Andhra Pradesh. Different workers have explored and documented the ethnobotanical information from different parts of Andhra Pradesh. For the first time, Krishnamachari (1900) documented the use of leaves of *Erythroxylum monogynum* and roots of *Aloe vera* as food during paucity[8]. Hemadri (1976, 1981) reported the procurement of raw drug materials and tribal medicine for rheumatism[9-10]. Hemadri and Rao (1983, 1984) explored the plant species used for leucorrhoea, menorrhagia and jaundice[11-12]. Rao and Sreeramulu (1985) documented 52 ethnomedicinal plants used by Savaras, Jatapus and Gadabas from Srikakulam District[13]. Ramarao (1988) documented the data on 'Ethnobotany of

Eastern Ghats in Andhra Pradesh[14]. Reddy *et al*. (1991) collected information on 45 plant taxa in traditional system of medicine used by tribals of Kadapa District[15]. Rao and Prasad (1995) enlisted the ethnomedicine from Andhra Pradesh[16]. Reddy *et al*. (1996) documented the tribal medicine from Rutaceae[17]. Rajendran *et al.* (1996, 1997) provided the information on hepatic stimulant plants of Andhra Pradesh[18]. Jeevan and Raju (2001) described certain potential crude drugs used by tribes of Nallamalai for skin diseases[19]. Reddy and Subbaraju (2005) shortlisted the plants used as ethnomedicine from Maredumilli region of East Godavari District[20]. Reddy and Subbaraju (2005) studied the ethnomedicine for rheumatic diseases from Eastern Ghats[21]. Reddy *at al*. (2005) reported certain ethnobotanical orchids of Eastern Ghats[22]. Reddy *at al*. (2006a) investigated ethnobotanical uses for respiratory disorders in Eastern Ghats[23]. Savithramma *et al* (2007) reported the ethnobotanical plants used to treat asthma[24]. Rao *et al.* (2007) explored ethnobotanical importance of Pteridophytes used by Chenchus of Nallamalais[25]. Jeevan *et al*. (2007) recorded some rare and little-known medicinal plants from Nallamalais of Eastern Ghats[26] and Reddy *et al.* reported the traditional knowledge on wild food plants in the Andhra Pradesh[27]. Ratnam and Raju (2008a) enumerated the traditional medicine used by the adivasis of Eastern Ghats for bone fractures[28]. Suneetha and Reddi (2011) provided data on the 600 ethnomedicinal plants used by tribal people from East Godavari[29]. Rao *et al*. (2011) enumerated the ethnomedicinal properties of 62 plant species used by Gadaba tribes of Visakhapatnam District[30]. Rajagopal Reddy *at al*. (2011) surveyed and reported 60 ethnomedicinal plants from Seshachala hill range of Kadapa District[31]. Savithramma *at al*. (2012) reported 20 medicinal plants from Penchalakona forest area of Nellore District[32]. Suneetha *et al*. (2013) reported ethnomedicinal plants as remedy for jaundice by the tribals of East Godavari District[33]. Raju *at al*. (2014) documented 90 medicinal plants from hilly tract areas of East Godavari District[34]. Rao *at al*. (2014) observed usage of crude drugs in treatment of liver diseases by Chenchu tribes in Nallamalais[35]. Swapna (2015) has explored 30 ethnobotanical plants used by Yanadis from Kavali area of Nellore District[36]. Mastan *et al.* (2015) reported 38 liana species from Lankamalleswara wildlife sanctuary[37]. Omkar *at al*. (2015) reported 153 medicinal plants from Gundlabrahmeswaram wildlife sanctuary, Andhra Pradesh[38]. But information about traditional medicinal plants of this study area is not available, therefore the present study was undertaken.

## STUDY AREA

The Lankamalleswara wildlife sanctuary is situated between 13° 50′ – 14° 20′ N latitude and 77° 51′ – 78° 50′ E longitude. In this, there are number of hills possessing diverse plant species. These hills are one of the important hill ranges of Kadapa District. A large extent of Kadapa dry forests include open and scrub forest type (85%), only few undisturbed and protected hill ranges support natural dry deciduous forests. The vegetation of the study area is varied depending upon the climate, altitude and other factors. According to Champion and Seth (1968) the hills include the following forest types. South Indian dry mixed deciduous forest, Red Sanders forest type, Hardvickia forest type and Scrub forests[39]. Within sanctuary many streams and canals pass through these forest hills. The forests in the fringe areas which are heavily used by human beings for pilgrimage, livestock grazing, indiscriminate cutting of trees, annual forest fire, soil erosion and illegal export of red sanders wood, while the interior forest areas are

relatively free of human disturbance. The endemic species *Pterocarpus santalinus* witnessed rapid decline during last two decades due to illegal export. The sanctuary has relatively high abundance of wild animals compared to other forest areas of Kadapa District. The vegetation includes number of endemic, rare and threatened plants[40]. The tribal people live in hilly tracts, forest and naturally isolated areas. They are generally referred to as Adivasis, Adima Jati, Aboriginal, Girijan, Vanya Jati, and Vanavasi[41]. The tribal inhabitants of the study area mainly consist of Yerukalas, Sugalis and Yanadis. These tribal people depend on wild medicinal plants for the treatment of different diseases and ailments. They also collect non-timber forest products from the forest and sell them in Girijan co-operative stalls. The forest provides ample scope and socio-cultural activities of the tribes that live in adjacent areas.

## METHODOLOGY

Since the tribal societies are store houses, accumulated experience and knowledge on indigenous vegetation, the present information is an outcome of Ehanobotanical studies carried out during 2013-15. The ethnobotanical information was collected through interviews, discussions and own observations[42-43]. Many tribal pockets were visited to interact with local people, local vaidyas and tribal doctors and gathered information about medicinal plants. In this way, a total of 95 persons were contacted for present study. The data was collected for the name of plant species used for treatment, parts used, disease cured, local name, mode of administration, plant habit etc. The interviews were preferably conducted in local language for the convenience of the respondents. Field visits were conducted along with the local people to document the medicinal properties of the plant species in that area. Plant species are categorized into their respective genera and families to understand the diversity of flora. The data was analyzed for number of species that can be used for the treatment of a particular disease and to check the number of diseases that can be cured by using a single species. The collected specimens were identified with the help of floras[44-47].The voucher specimens were deposited in Yogi Vemana University herbarium, Kadapa. The botanical names were updated according to AGP III classification[48]. The plant species are arranged alphabetically with their botanical name, followed by local name, family, habit and mode of administration. (See Table No. 1)

## RESULTS AND DISCUSSION

The present study documented the medicinal uses of plants used by local tribal people in the Lankamalleswara wildlife sanctuary. The results are presented in table 1. During the survey it was found that most of the tribal people use medicinal plants for various therapeutic purposes in their day to day life for primary healthcare. A large number of informants (62%) were educated and remaining (38%) were illiterate and they were keen to provide the information and transferring the indigenous knowledge of medicinal plants from one generation to another generation.

The information was collected from 95 respondents both men and women. It was observed that traditional knowledge is related to the age and sex of an individual. Generally old age people have much information about medicinal plants due to their personal experience and interaction with the plants. A survey was conducted in Tamilnadu which revealed that old age people have sound knowledge about medicinal plants as compared to young people[49]. This corroborated with our results. But in this study area, young people are most sensitive to conserve their knowledge

and plant resources. The present investigation revealed the medicinal properties of 96 species belonging to 88 genera under 47 families. Among them 30 were herbs, 25 shrubs, 26 trees, 6 lianes, 7 climbers and 3 stragglers respectively. The most cited family was Apocyanaceae (9) followed by Lamiaceae (6), Fabaceae (6), Malvaceae (5), Capparaceae (4), Rubiaceae (3), Combretaceae (3), Menispermaceae (3), Asteraceae (3), Convolvulaceae (3), Moraceae (3), Verbenaceae (3), (3), Euphorbiaceae (2), Amaranthaceae (2), Liliaceae (2), Caesalpinaceae (2), Cleomaceae (2), Solanaceae (2), Loganiaceae (2) and remaining families contributed one species.

The uses of aboveground plant parts for medicinal purposes were found to be higher (84%) than the underground (16%) plant parts. Leaf was the most widely used plant part accounting for 36 plant species in total of 97 reported plants, followed by root ( 11), stem bark (8), fruit (6), seed (6), tubers (4 ), stem (3), root bark (3 ), flower (3 ), aerial parts (3), gum (2), wood (2), latex (2) and rhizome from one species. The whole plant parts of *Andrographis paniculata*, *Bacopa monnieri*, *Borreria hispida*, *Evolvulus alsinoides*, *Hybanthus enneaspermus*, *Mimoisa pudica*, *Sida acuta* were found to have a medicinal value. The remedies are prepared in the form of paste, extract, decoction, powder, infusion etc. Most of the herbal remedies were taken in the form of paste.

The plant parts were crushed and made into paste for drug administration. Majority of remedies were taken orally followed by external application. In external application the drug applied over the area of diseases. In some cases the remedies were taken along with other combinations like milk, honey, pepper, salt, lemon etc. This addition of other substances to drugs enhances the efficacy of herbal remedies or to make the remedy as undesirable taste when taken orally. Tribal people use substitute of one medicinal plant in the place of other if that particular plant is not available. The information on plant species includes scientific name, local name, family, habit and mode of administration of drug presented in table. Despite their high medicinal importance, the use of traditional medicinal plants is declining day by day which may be because of the availability of the fast relieving medicines in the market. There are many plant species which were used by the natives in earlier times but are not in use today. This may be due to lack of knowledge of their utility as traditional medicinal plants.

## CONCLUSION

In ancient times, human beings lived in the nature and attributed divine qualities to it. It is fact that natural forests are progressively shrinking due to overexploitation, it obligatory to investigate scientifically and document our floristic wealth in order to use the same. Ethnobotanical research can provide a wealth of information regarding both past and present relationships between plants and the traditional societies. Indigenous herbal treatment is a part of the culture and dominant mode of therapy in most of the developing countries. Many medicinal plants occurring have yet to be subjected to rigorous chemical screening and pharmacological investigation.

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**Table 1.** List of medicinal plants reported from Lankamalleswara wildlife sanctuary

| S. No | Botanical Name | Local Name | Family | Habit | Mode of administration |
|---|---|---|---|---|---|
| 1 | *Abutilon indicum* (Linn.) Sweet | Adavibenda | Malvaceae | Shrub | Leaf paste applied for toothache |
| 2 | *Acalypha indica* Klein ex Willd. | Kuppi | Euphorbiaceae | Herb | Leaf juice used as a lotion for skin eruptions |
| 3 | *Achyranthes aspera* Linn. | Uthareni | Amaranthaceae | Herb | Leaf paste with honey used as an external application for deep cuts by iron tools |
| 4 | *Acorus calamus* Linn. | Vasakomma | Araceae | Herb | Rhizome paste used as a peppermint for free from cough |
| 5 | *Aganosma cymosa* (Roxb.) G.Don | Paramalle | Apocyanaceae | Shrub | Root paste applied externally for snake bite |
| 6 | *Alangium salvifolium* (L.f.) Wang | Oodaga | Alangiaceae | Tree | Root bark soaked in a glass of water and taken orally for next day morning for stomach disorders |
| 7 | *Aloe vera* (Linn.) Burm.f. | Kalabanda | Xanthorrhoeaceae | Shrub | Tender leaf pulp used as a lotion for foot cracks |
| 8 | *Alternanthera sessilis* (Linn.) R.Br. | Ponnagantiaku | Amaranthaceae | Herb | Tender twigs used as a curry for eye diseases |
| 9 | *Andrographis paniculata* (Burm.f.) Wall. | Nelavemu | Acanthaceae | Herb | The whole plant ground with seeds of *Strychnos*, the extract heated and administered for chest pain |
| 10 | *Anisomeles indica* (Linn.)Kuntz. | Addabeera | Lamiaceae | Herb | Stem ground with black pepper and the extract administered for malarial fever |
| 11 | *Anisomeles malabarica* (Linn.) R.Br | Magabeera | Lamiaceae | Herb | Dried leaves are burnt and fumes spread out in home for evil spirit and cold |
| 12 | *Annona squamosa* Linn. | Sithapalam | Annonaceae | Shrub | Leaf paste applied over the head before going to bath twice a week for fortnight for free from lice |
| 13 | *Aristolochia indica* Linn. | Nalla eswari | Aristolochiaceae | Herb | Leaf decoction used for indigestion |
| 14 | *Asparagus racemosus* Willd. | Pilliteegalu | Liliaceae | Shrub | Fresh peeled tubers consumed daily once for one |

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|---|---|---|---|---|---|
| | | | | | month for female potency |
| 15 | *Bacopa monnieri* (Linn.) Wettst. | Brahmi | Scrophulariaceae | Herb | Whole plant used for venereal diseases and scabies |
| 16 | *Bauhinia vahli* Wt. & Arn. | Addaku | Caesalpinaceae | Liane | Root bark extract mixed with goat milk and used as aphrodisiac |
| 17 | *Borreria hispida* (Linn.) K.Schum | Madanakattu | Rubiaceae | Herb | Whole plant powder administered daily twice for a week for minimizes excess of heat |
| 18 | *Boswellia serrata* Roxb.ex Colebr | Guggilam | Burseraceae | Tree | Tender leaves ground with turmeric and paste applied for skin diseases |
| 19 | *Butea monosperma* (Lam.) Taub. | Moduga | Fabaceae | Tree | Root extract administered orally for gastric troubles |
| 20 | *Cadaba fruticosa* Linn. | Uttarasi chettu | Capparaceae | Shrub | Root bark extract mixed with sesamum oil and administered for antifertility |
| 21 | *Calophyllum inophyllum* Linn. | Ponna chettu | Clusiaceae | Tree | Seed paste used as an external application for body swellings |
| 22 | *Calycopteris floribunda* Lam. | Adavi jama | Combretaceae | Liane | Dry leaf powder mixed with milk used for diabetes |
| 23 | *Canavalia gladiata* (Jacq.) DC. | Adavithamba | Fabaceae | Shrub | Flower juice given orally to kill intestinal worms |
| 24 | *Cansjera rheedii* Gmel. | Adavi karedu | Opiliaceae | Straggler | Stem bark crushed with onion and extract administered for epilepsy and leucorrhoea |
| 25 | *Capparis sepiaria* Linn. | Nalla uppi | Capparaceae | Straggler | Stem extract administered orally for rib muscle pain |
| 26 | *C.zeylanica* Linn. | Pedda uppili | Capparaceae | Shrub | Leaf crushed with pepper and extract used for mouth ulcers |
| 27 | *Cardiospermum haalicacabum* Linn. | Budda kakara | Sapindaceae | Herb | Leaves ground with jiggery and eaten as an appetizer |
| 28 | *Carissa spinarum* Linn. | Chinna kalivi | Apocyanaceae | Shrub | Gum dissolved in water and taken orally for urinary disorders |
| 29 | *Cassia fistula* Linn | Rela | Caesalpinaceae | Tree | Leaf and powder paste used an external application for skin eruptions |
| 30 | *Cassia tora* Linn. | Pedda kasintha | Caesalpinaceae | Herb | Leaf juice mixed with lemon juice taken orally for stomachache |
| 31 | *Chloroxylon swietenia* DC. | Billudu | Flindersiaceae | Tree | Stem bark paste made into bolls and used as mosquito repellent |
| 32 | *Cleome gynandra* Linn. | Vaminta | Cleomaceae | Herb | Leaf juice used as a lotion for wounds |

| | | | | | |
|---|---|---|---|---|---|
| 33 | *Cleome viscosa* Linn. | Kukkavaminta | Cleomaceae | Herb | Leaf aroma inhale daily for three days for free from fever |
| 34 | *Cocculus hirsutus* (Linn.) Diels | Dusarateega | Menispermaceae | Climber | Leaf paste contains cloth kept over the eyes for free from reddening eyes |
| 35 | *Combretum albidum* G.Don. | Yadara teega | Combretaceae | Liane | Stem bark paste heated mildly and applied over ulcers and wounds |
| 36 | *Corollocarpus epigaeus* Hook.F | Nagadonda | Cucurbitaceae | Climber | Tuber paste administered for poisonous bites |
| 37 | *Costus speciosus* (Koen.) Smith. | Bomma kachika | Costaceae | Herb | Tuber paste mixed with milk and used orally for arthritis pains |
| 38 | *Dalbergia sissoo* Roxb. | Jittegi | Fabaceae | Tree | Leaf juice used as eye drops for eye irritation |
| 39 | *Decalepis hamiltonii* Wt. & Arn. | Maredu kommulu | Apocyanaceae | Liane | Fruits crushed with pepper and extract administered for paralysis |
| 40 | *Desmodium pulchellum* (Linn.)Benth | Deyyapaku | Fabaceae | Shrub | Seed paste applied for snake bite |
| 41 | *Diospyros melanoxylon* Roxb. | Tuniki | Ebenaceae | Tree | Flower paste mixed with milk and used for urinary disorders |
| 42 | *Emilia sonchifolia* (Linn.) DC | Kundeti chevi aku | Asteraceae | Herb | Tender tips decoction administered daily once for eye diseases |
| 43 | *Evolvulus alsinoides* Linn. | Vishnukantha | Convolvulaceae | Herb | Whole plant powder with water taken for mental disorders |
| 44 | *Ficus benghalensis* Linn. | Marri chettu | Moraceae | Tree | Latex used as a lotion for foot cracks |
| 45 | *F. racemosa* Linn. | Medi chettu | Moraceae | Tree | Fresh fruits consumed daily for gynecological disorders |
| 46 | *F. religiosa* Linn. | Ravi chettu | Moraceae | Tree | Fresh tender leaves with honey consumed daily for easy fertilization in women |
| 47 | *Gmelina asiatica* Linn. | Chundrukaya | Verbenaceae | Shrub | Fresh fruit paste applied on head for reduce hair falling |
| 48 | *Gymnema sylvestre* (Retz.) R.Br | Podapatri | Apocyanaceae | Climber | Dried leaf power mixed with water or milk administered orally for diabetes |
| 49 | *Helictres isora* Linn. | Gubatada | Sterculiaceae | Shrub | Fruit powder applied for sores |
| 50 | *Heliotropium indicum* Linn. | Telukondi chettu | Boraginaceae | Herb | Leaf paste smeared over the sting area for scorpion bite |
| 51 | *Hemidesmus indicus* (Linn.) R.Br var. *indicus* | Sugandhi pala | Periplocaceae | Herb | Root decoction administered for cardiac troubles and jaundice |
| 52 | *Hibiscus platanifolius* | Konda pathi | Malvaceae | Tree | Leaf past mixed with heat |

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| | (Willd.) Sweet. | | | | water and bath for free from rheumatic pains |
| 53 | *Hugonia mystax* Linn. | Kakibeera | Linaceae | Shrub | Root bark made into bolls and used as anthelmintic |
| 54 | *Hybanthus enneaspermus* (Linn.) Muell. | Ratnapurusha | Violaceae | Herb | Whole plant paste applied for leucoderma |
| 55 | *Hyptis suaveolens* (Linn.) Poit. | Seema tulasi | Lamiaceae | Herb | Aerial parts are burnt and fumes inhaled for cold and cough |
| 56 | *Ichnocarpus frutescens* (L.)R.Br | Nalla teega | Apocyanaceae | Shrub | Seed oil used for hair growth |
| 57 | *Ipomoea hederifolia* Linn. | Kasiratnalu | Convolvulaceae | Herb | Slightly warmed leaf paste used as an external application for body pains |
| 58 | *Ixora pavetta* Andr. | Korivi chettu | Rubiaceae | Tree | Leaf decoction administered orally daily twice for constipation |
| 59 | *Leucas aspera* (Willd.) Link | Tummi | Lamiaceae | Herb | Leaf aroma inhale for headache and cold |
| 60 | *Maerua oblongifolia* (Forsk.) A.Rich | Meruputeega | Capparaceae | Straggler | Gum paste applied for dog bite |
| 61 | *Manihot esculenta* Crantz. | Karrapendalam | Euphorbiaceae | Shrub | Burnt tubers are consumed for general debility |
| 62 | *Mimoisa pudica* Linn | Attipatti | Mimosaceae | Shrub | Whole plant burnt and fumes inhale for bronchitis |
| 63 | *Morinda pubescens* J.E.Smith | Togaru | Rubiaceae | Tree | Leaf decoction given orally for loose motions |
| 64 | *Ocimum canum* Linn | Kukka tulasi | Lamiaceae | Herb | Leaf juice administered orally with honey for fever |
| 65 | *O.tenuiiflorum* Linn | Tulasi | Lamiaceae | Herb | Fresh leaf juice administered with 2-4 drops of honey for winter allergy |
| 66 | *Opuntia dellenii* (Ker Gawl.) Haw. | Nagajamudu | Cactaceae | Shrub | Flower paste with turmeric and salt used as a lotion for ulcers |
| 67 | *Pachygone ovata* Miers. | Peddadusara | Menispermaceae | Liane | Unripe fruit paste plastered over for bone fractures |
| 68 | *Passiiflora foetida* Linn. | Jumiki | Passifloraceae | Climber | Leaf paste used as external application for skin eruptions |
| 69 | *Pavonia zeylanica* (Linn.) Cav | Karubenda | Malvaceae | Shrub | Stem bark paste made into pills and orally administered to women for conception |
| 70 | *Pergularia daemia* (Forsk.)Chiov. | Juttapaku | Apocyanaceae | Climber | Slightly warmed leaf paste applied over the swellings |
| 71 | *Physalis angulata* Linn. | Budda busara | Solanaceae | Herb | Fruits are consumed to dissolve stones in kidney |
| 72 | *Plumeria alba* Linn. | Devaganneru | Apocyanaceae | Tree | Latex used as a lotion for |

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| | | | | | sprains |
| 73 | *Pongamia pinnata* (Linn.)Pierre | Kanuga | Fabaceae | Tree | Root bark juice used for insect bite |
| 74 | *Portulaca oleracea* Linn. | Payalaku | Portulacaceae | Herb | Leaves used as a curry for general debility |
| 75 | *Premna latifolia* Roxb. | Konda manga | Verbenaceae | Tree | Dry leaf powder with coconut oil applied for dandruff |
| 76 | *Pterocarpus marsupium* Roxb. | Yegisa | Fabaceae | Tree | Wood extract administered daily twice for minimizing diabetes |
| 77 | *Rauvolfia serpentina* (Linn.) Benth. | Sarpagandhi | Apocyanaceae | Shrub | Root paste used for hypertension and decoction administered orally for intestinal disorders |
| 78 | *Rivea hypocrateriformis* (Desr.) Choisy. | Boddi teega | Convolvulaceae | Shrub | Root decoction used for fever |
| 79 | *Santalum album* Linn. | Sri Gandham | Santalaceae | Tree | Wood paste applied for herpes and skin eruptions |
| 80 | *Sida acuta* Burm.f. | Parasika | Malvaceae | Shrub | Whole plant paste is applied externally for wounds |
| 81 | *Smilax zeylanica* Linn. | Pirangi chekka | Smilacaceae | Climber | Root paste used as an external application for body swellings |
| 82 | *Solanum surattense* Burm. | Nelavakudu | Solanaceae | Shrub | Seeds burnt fumes are pulling for free from rotting of teeth |
| 83 | *Strychnos nux-vomica Linn.* | Musti | Loganiaceae | Tree | Seed paste administered orally for dyspepsia |
| 84 | *Strychnos potatorum* L.f | Chillangi | Loganiaceae | Tree | Stem bark paste with milk used to cure asthma |
| 85 | *Syzygium cumini* (Wt.) Walp. | Neredu | Myrtaceae | Tree | Root paste applied for rheumatic pains |
| 86 | *Terminalia chebula* Retz. | Nalla karaka | Combretaceae | Tree | Stem bark paste applied for bone fractures |
| 87 | *Thespesia populnea* (Linn.) Sol.ex Corr. | Gangaravi | Malvaceae | Tree | Root bark powder mixed with milk and administered orally for piles |
| 88 | *Tinospora cordifolia* (Willd.) Miers. | Tippateega | Menispermaceae | Climber | Leaf paste made into bolls and used as Mosquito repellent |
| 89 | *Tridox procumbens* Linn. | Bellapaku | Asteraceae | Herb | Leaf decoction used for menstrual disorders |
| 90 | *Triumfetta rhomboidea* Jacq. | Kustumokka | Tiliaceae | Shrub | Leaf paste administered for cooling effect |
| 91 | *Tylophora indica* (Burm.f.) Merr. | Kukkapala | Apocyanaceae | Climber | Stem crushed with pepper and made into bolls applied for leprosy |
| 92 | *Ventilago maderaspatana* | Yerra surugudu | Rhamnaceae | Liane | Seed powder administered orally for jaundice |

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| 93 | *Vitex negundo* Linn. | Tellavavili | Verbenaceae | Shrub | Leaf paste applied externally for headache |
| 94 | *Wattakaka volubilis* (L.f) Stap. | Kalisaku | Apocyanaceae | Shrub | Bark powder with milk administered for purgative |
| 95 | *Wrightia tinctoria* R.Br. | Palavareni | Apocyanaceae | Tree | Bark powder used for blisters |
| 96 | *Xanthium strumarium* Linn. | Marulamatangi | Asteraceae | Herb | Leaf paste with water administered orally for dysentery |