

Medicinal Plant Resources of Puttaparthi Mandal: Taxonomic Overview and Need for Conservation

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Abstract

Puttaparthi Mandal is situated to the south of Anantapur town in the Sri Sathya Sai taluk of Anantapur district, Andhra Pradesh, India. A broad taxonomic overview of the medicinal flora of Puttaparthi Mandal is presented herein – 185 medicinal plant species are distributed among 132 genera and 55 families in this region. These resources are under threat due to over exploitation by the local people for firewood, fodder, medicinal plants, reclamation of forest land for agriculture purpose, urbanization and heavy incidence of grazing. If steps for proper conservation and management of plants are not taken in near future these resources may be lost forever.

Key words: Biodiversity; medicinal plants; taxonomy; Puttaparthi Mandal; conservation; resources

Introduction

Plants are a vital component of the world's biodiversity and essential natural resource for human well-being (Gadgil 1996). Besides sustenance, the plants have been used as therapeutic aid for alleviating human ailments from very ancient times (Sullivan and Shealy 1997). Such plants commonly referred to as medicinal plants, have been

one of the valuable tools in the traditional system of medicine and are also known to provide ingredients for formulations of new medicines in pharmaceutical industry. In fact, WHO has listed over 21,000 plant species to be of medicinal use around the world. More than 60 % of the world's human population relies on plant medicine for primary health-care needs (Singh 2002).

Worldwide, extensive bioprospecting programmes are being carried out to identify plant-based biochemical compounds that may provide effective treatments for various human diseases (Pushpangadan and Nair 2001). The increasing demand for raw medicinal plants by various processing industries (pharmaceutical, food, cosmetics, perfumery and many others) has resulted in the market expansion. During the year 1999, the world market for herbal remedies was US \$19.4 billion with an annual growth rate of 10 %. India is a major exporter of raw medicinal plants and processed plant-based drugs (Singh et al. 2002). Exports of the medicinal plants and their products were valued at US \$67 million during the year 2000 (Kumar 2004). The traditional healthcare systems- Ayurveda, Unani, Sidda and Homeopathy (AYUSH) - operate alongside the modern healthcare system. About 2,500 plant species in India are used by traditional healers (Utkarsh et al. 1999).

The present work envisages to provide a detailed account of the medicinal plant flora of the Puttaparthi Mandal, in the state of Andhra Pradesh, India along with relevant details regarding their medicinal applications.

Materials and Methods

Area of study

Puttaparthi Mandal belongs to Sri Sathya Sai taluk of Anathapur district, Andhra Pradesh, India. Anantapur district is situated at the south western corner of Andhra Pradesh lies between 13° 41' and 15° 14' North latitudes and 76° 47' and 78° 26' East longitudes. The climate is tropical semi-arid with average rainfall of 538 mm, soil is of red and gravelly type, derived mostly from disintegrated rocks. The hillocks in and around Puttaparthi vary in their height from 100 to 200 feet. The elevation of the hill ranges of Vengalammacheruvu and Ammagondapalem are 950 ft. The climate can be described as tropical semi arid with more number of sunny days.

Plant collection and identification

In the present study, the plant species used in the traditional as well as modern medicine have been recognized as medicinal plant species (MPS). The study includes the MPS belonging to the flowering plants from the Puttaparthi Mandal. A data base of the MPS has been generated on the basis of perusal of relevant literature published during the last half century, supplemented with our field observations while working on the flora of the Puttaparthi Mandal during the last decade. The information on medicinal uses of plants was gathered with consultation with the local informants, herbal healers, shepherds, *Natuvaidulu* (Quacks), *Sugalis* (Local tribes) etc.

Statistical analysis

The following indices were used for data analysis among the first ten larger families.

1. Parthi Prop (Puttaparthi proportional representation) = number of species in the family in the region divided by the total number of species in the region. The total number of flowering plant species in the Puttaparthi Mandal has been found to be 464 species.
2. Med Prop (proportional representation in medicinal flora) = number of MPS in the family from the region divided by the total number of MPS from the region.
3. Med Rat (medicinal plant species ratio) = number of MPS in the family from the region divided by the number of flowering plant species in the family from the region.

Results and Discussion

Classification of medicinal plants

At the present stage of enquiry, our studies on the flora of the Puttaparthi Mandal indicate that nearly 185 plant species find their use as medicinals. These medicinal plant species (MPS) are distributed within 132 genera and 55 families of Angiosperms. The Dicots constitute 128 genera and 175 species, whereas monocots include 4 genera and 10 species (Table 1). Herbal MPS are very significant, numbering 94, followed by trees - 40, shrubs - 35 and climbers - 16. Ecologically, majority of them are mesophytes and few are xerophytes, hydrophytes and parasites.

Statistical analysis

In terms of number of the MPS, the family Euphorbiaceae contributes 19 MPS to the total medicinal flora (Table 2). It is followed by Caesalpinaceae (12), Asclepiadaceae (9), Amaranthaceae (8), Fabaceae (8), Solanaceae (8), Acanthaceae (7), Apocynaceae (7), Asteraceae (6) and Boraginaceae (6). The representation of the MPS within the families is highly skewed, with just ten larger families contributing 50 %, while the remaining 50 % by the other 45 families.

Table 1: Number of genera (G) and Species (S) per family in the medicinal flora of Puttaparthi Mandal.

Family	No. of Species	Family	No. of species
Acanthaceae	7	Meliaceae	1
Agavaceae	1	Malvaceae	5
Aizoaceae	2	Mimosaceae	6
Amarantaceae	8	Menispermaceae	1
Annonaceae	2	Moraceae	2
Apocynaceae	7	Moringaceae	1
Asclepiadaceae	9	Nyctaginaceae	1

Aristolochiaceae	1	Oleaceae	1
Asteraceae	6	Onagraceae	1
Boraginaceae	6	Oxalidaceae	1
Bignoniaceae	1	Papaveraceae	1
Cactaceae	1	Passifloraceae	1
Caesalpiniaceae	12	Plumbaginaceae	1
Capparidaceae	5	Portulacaceae	2
Combretaceae	5	Poaceae	4
Convolvulaceae	6	Rhamnaceae	2
Cucurbitaceae	1	Rubiaceae	3
Cyperaceae	2	Rutaceae	4
Ebenaceae	2	Salvadoraceae	1
Erythroxylaceae	1	Santalaceae	1
Euphorbiaceae	19	Sapindaceae	3
Fabaceae	8	Scrophulariaceae	1
Flacourtiaceae	1	Solanaceae	8
Lamiaceae	6	Verbenaceae	4
Liliaceae	3	Violaceae	1
Lythraceae	1	Vitaceae	2
Myrtaceae	1	Zygophyllaceae	1

Table 2: The first ten families in medicinal flora of the Puttaparthi Mandal (In terms of number of MPS).

S.No	Family	MPS
01	Euphorbiaceae	19
02	Caesalpiniaceae	12
03	Asclepiadaceae	09
04	Amarantaceae	08
05	Fabaceae	08
06	Solanaceae	08
07	Acanthaceae	07
08	Apocynaceae	07
09	Asteraceae	06
10	Boraginaceae	06

On the basis of Med Prop, the percentage of first ten large families in the medicinal flora is as follows: Euphorbiaceae (10.2%) > Caesalpiniaceae (6.5%) > Asclepiadaceae (4.9%) > Amaranthaceae, Fabaceae, Solanaceae (4.3%) > Acanthaceae, Apocynaceae (3.8%) > Asteraceae and Boraginaceae (3.2%). However, on computing the Med Rat, the family Euphorbiaceae with value of 73% is the largest, followed by Solanaceae (72%), Asclepiadaceae (69%), Apocynaceae (63%). In other words, more than half of the species in the family Euphorbiaceae, Solanaceae,

Asclepiadaceae, Apocynaceae, Caesalpinaceae, from Puttaparthi Mandal are MPS. The families on the basis of Med Rat. the sequence of first ten large number of families is as follows: Euphorbiaceae (73%) > Solanaceae (72%) > Asclepiadaceae (69%) > Apocynaceae (64%) > Caesalpinaceae (63%) > Boraginaceae (54%) > Amaranthaceae (50%) > Acanthaceae (36%) > Fabaceae (28%) > Asteraceae (19%). The Euphorbiaceae, which tops on the basis of absolute number of MPS, also tops in the ranking of Med Rat (Table 3).

Table 3: Parthi Prop, Med Prop, and Med Rat computed for the first 10 large families in the medicinal flora of the Puttaparthi Mandal.

Family	Parthi Prop. %	Med Prop. %	Med Rat. %
Euphorbiaceae	5.6	10.2	73
Caesalpinaceae	4.0	6.5	63
Asclepiadaceae	2.8	4.9	69
Amarantaceae	3.4	4.3	50
Fabaceae	6.3	4.3	27
Solanaceae	2.4	4.3	72
Acanthaceae	4.0	3.8	36
Apocynaceae	2.4	3.8	63
Asteraceae	6.6	3.2	19
Boraginaceae	2.4	3.2	54

The complete list of medicinal plants is presented after the references section (Table 4) with their scientific name, family, vernacular name, parts used and medicinal applications. Plant resources of Puttaparthi Mandal are endowed with various medicinal properties for human well being. Most of them are mentioned in the Ayurveda, Folk, Siddha, Unani and Homeopathy systems.

Threats to medicinal plant resources of Puttaparthi Mandal

Some of the major threats to the depletion of medicinal plant resources are:

1. Intense and unrestricted grazing by cattle and goats.
2. Excess forest fires cause loss of regeneration potential of the species.
3. Demand of medicinal plants and illegal trade practices
4. Low rain fall and high temperature during summer (40 -46°C)

5. Unsustainable extraction of young plants and mature seeds from forests
6. Cutting of plants for fire wood and leaves for fodder by local villagers
7. Lack of interest from state forest department to conserve the medicinal plant resources available in this region.
8. Lack of awareness among local people about the potentiality of medicinal plants and their uses.
9. Urbanization and expansion of the Puttaparthi town.

Recommendation for sustainable management of medicinal plants

In this alarming situation, conservation of medicinal plants is very important; some species have been disappeared from the deforested region of Puttaparthi. Therefore, sustainable utilization of medicinal plants is an urgent need of the hour. The following management steps could be taken immediately for conservation and sustainable management of medicinal plants:

1. Establishment of community based home gardens and nurseries.
2. Identification of villagers/farmers for on-farm pilot propagation and cultivation trials of medicinal plant to reduce pressure from wild populations.
3. Piloting of farmer based cultivation trails for selected and important medicinal species on the edge of forest and in home gardens.
4. Community mobilization and creating awareness on sustainable harvesting of plant parts among the local people of the surrounding villages.
5. Promotion of alternative village incomes linked to maintaining the integrity of resources of medicinal plants.
6. Establishment of Village Knowledge Centers (VKC) with specific focus on the medicinal plants. Local herbal healers (vaidyas) should associate in teaching other people about the importance of medicinal plants.
7. Establishment of various types committees to protect the forest from denudation.
8. Promotion of participatory research in breeding and knowledge management involving villagers, scientists, NGOs, government officials and tribal families.
9. Establishment of linkages with markets, so that the cultivation of medicinal plants becomes market driven, with assured income security for local people and tribal families.

Conclusion

Taxonomic information is the foundation stone for advanced studies in every discipline of biological sciences (Khushoo, 1995). The present study provides a broad taxonomic overview on the medicinal flora of the Puttaparthi Mandal. From our study, it can be concluded that about 39% of the flora has been known for their potential medicinal value. Most of the MPS belong to the Dicotyledons; the Euphorbiaceae having the highest number of MPS in absolute terms, possess the highest number of MPS in relative terms. Such type of studies can provide vital insights in the formulation of policies for the assessment, monitoring and conservation of medicinal plant resources of the region (Moerman et al., 1999; Dhar et al., 2000) and also for biological and biotechnological studies (Basavaraju, 2004)

Conservation of medicinal plant resources is gaining importance with the overexploitation of available resources on the rise. Villagers, traders, processors, non-governmental organizations, government officials

should work together for sustainable management of medicinal plant resources which lead to the biodiversity conservation. These above mentioned steps, if properly implemented will not only protect the medicinal plants, but also help in boosting the economy of the rural people who mostly depend on the nature for their livelihood.

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Table 4: Medicinal plants of Puttaparthi Mandal.

Name of the plant	Family	Telugu name	Parts used	Treatment for/used as
<i>Abrus precatorius</i> L.	Fabaceae	Guruginjaa	Seed	Asthma
<i>Abutilon indicum</i> L. Sweet	Malvaceae	Thuthurubenda	Root, whole part	Internal injury of chest
<i>Acacia catechu</i> Willd.	Mimosaceae	Nalla sandra	Bark, heart wood	Diabetes, Bronchial Asthma
<i>Acacia farnesiana</i> Willd.	Mimosaceae	Kasturi thumma	Bark, heart wood	Asthma
<i>Acacia nilotica</i> Willd.	Mimosaceae	Nalla thumma	Gum	Diabetes
<i>Acacia tomentosa</i> L.	Mimosaceae	-	-	-
<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppintaku	Plant leaf juice with oil, salt or lime	Asthma, applied in snake bite
<i>Acanthospermum hispidum</i> D C	Acanthaceae	-	Plant	Used in skin diseases
<i>Achyranthes aspera</i> L.	Amaranthaceae	Uthareni	Plant, seed, flower tops, leaf paste, root	Asthma, cardiac disorder, snake bite, bites of poisonous insects, wasp, bees etc
<i>Adhatoda zeylanica</i> Medik	Acanthaceae	Addasaramu	Leaves, flowers and roots	Bronchitis and Astma
<i>Aegle marmelos</i> (L.)Corrrea	Rutaceae	Maredu	Tender leaf, ripe fruit	Asthma, Diabetes, brain and Cardio tonic
<i>Aerva lanata</i> L.	Amaranthaceae	Kondapindi	Plant root	Diabetes, Cardiac diseases
<i>Agave americana</i> Roxb.	Agavaceae	Kalabanda	Leaf, seed, rhizome	Cancer, Hydrophobia, Filariasis
<i>Ageratum conyzoides</i>	Asteraceae	Pumullu	Decoction of the herb	Diarrhoea and Dysentery.
<i>Albizia lebbek</i> L. Willd	Mimosaceae	Sirisamu	Seed, leaf, bark, flower	Asthma, snake bite, food and other poisoning
<i>Aloe vera</i> L. Burm.f.	Liliaceae	Chinna kalabanda	Leaf pulp	Liver and skin disorders
<i>Alternanthera sessilis</i> (L.) DC.	Amaranthaceae	Ponagantikura	Stem and leaf	Applied for snake bite
<i>Amaranthus spinosus</i> L.	Amaranthaceae	Mullathotakuraa	Whole plant, root	Snake bite, cholera
<i>Amaranthus tricolor</i> L.	Amaranthaceae	Chirikura	Whole plant, root	Snake bite, cholera
<i>Amaranthus viridis</i> L.	Amaranthaceae	Chilakathotakura	Whole plant	Febrifuge and Diarrhoea
<i>Ammannia baccifera</i> L.	Lythraceae	Agnivednapaku	Leaves	Rheumatic pains

<i>Andrographis paniculata</i> Wall. Ex Nees	Acanthaceae	Nelavemu	Plant, Plant extract	Diabetes, Malaria, Typhoid, Filaria
<i>Anisomelos malabarica</i> L.	Lamiaceae	Megabeera	Plant	Snake bite and scorpion sting
<i>Anogeissus latifolia</i> Wall. Ex Guill.& Perr.	Combretaceae	Sirikarra	Bark	Asthma, Diabetes, Scorpion sting, Snake bite
<i>Argemone Mexicana</i> L.	Papaveraceae	Brahmadandi	Seed whole plant, latex ,seed	Asthma, Scorpion sting
<i>Argyreia nervosa</i> (Burm.f.) Bojer	Convolvulaceae	Chandrapala	Leaves	Eczema, Antiseptic.
<i>Aristolochia bracteolata</i> Lam.	Aristolochiaceae	Gadida-gadapaku	plant	Snake bite, Scorpion sting
<i>Asparagus racemosus</i> Willd.	Liliaceae	Pilligaddalu	Root , leaf Root	Diabetes, Tuberculosis
<i>Azadirachta indica</i> A. Juss.	Meliaceae	Vepa, Yapa	Bark , leaf ,seed	Diabetes, Measles, Chicken Pox
<i>Asima tetraacantha</i> Lam.	Salvadoraceae	Tella Uppi	Leaves	Asthma, Rheumatism
<i>Bacopa monnieri</i> (L.) Pennel	Scrophulariaceae	Sambrani chettu	Plant	Asthma, cardio tonic
<i>Barleria prionitis</i> L.	Acanthaceae	Mullugorinta	plant	Mouth wash and tooth ache
<i>Bauhinia racemosa</i> Lam.	Cesalpiniaceae	Are chettu	Leaves	Diarrhoea, Dysentery
<i>Bauhinia variegata</i> L.	Cesalpiniaceae	Devakanchanamu	Root and bark Dried buds Root Bark	Diabetes, Tumors, Antidote to snake bite Malaria
<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Atika mamidi	Root and Plant	Asthma, Cardiac disorder
<i>Borreria articularis</i> Will.	Rubiaceae	Madanaka	Leaves	Head ache and Tooth ache
<i>Cadaba fruticosa</i> L. Druce	Capparidaceae	Adamorinika	Roots, leaves	Skin diseases and body pains
<i>Calotropis gigantea</i> (L.)R. Br	Asclepiadaceae	Tella jilledu	Powdered root Root, bark, leaf Flower , latex, paste of root bark	Asthma, Snake bite, rat bite, Elephantiasis
<i>Calotropis Procera</i> (L.)R. Br	Asclepiadaceae	Jilledu	Bark. Latex	Asthma, Snake bite, rat bite Elephantiasis
<i>Cananga odorata</i> Hook. f. & Thoms	Annonaceae	Apoorva Champakamu	Flower, oil	Gout, Ophthalmia and Astma
<i>Canthium perviflorum</i> Lam	Rubiaceae	Balusu	Leaves and fruits	Diarrhoea, diphtheria
<i>Capparis spinosa</i>	Capparidaceae		Buds and fruits	Paralysis, tooth ache
<i>Capparis zeylanica</i> L.	Capparidaceae	Aridonda	Bark and Leaves	Stomach ache and piles

<i>Cardiospermum halicacabum</i> L	Sapindaceae	Buddakakara	Root and leaf	Tumors
<i>Caralluma adscendens</i> Grav. & Mayur	Asclepiadaceae	Kundelu kimmulu	Herb	Inflammation
<i>Caralluma umbellata</i> Haw	Asclepiadaceae	Kundeti kimmulu	Stem	Stomach disorders
<i>Caesalpinia bonduc</i> L. Roxb	Caesalpiniaceae	Gacchakaya	Leaves and seeds	Diarrhoea, Asthma and Filaria
<i>Celosia argentea</i> L.	Amaranthaceae	Gurugu	Leaves, flowers	Scorpion sting, Dysentery
<i>Carissa carandus</i> L.	Apocyanaceae	Wakkayalu	plant	Antiscorbutic and Cooling
<i>Cassia alata</i> L.	Caesalpiniaceae	Sima avise	Leaves	Skin diseases
<i>Cassia auriculata</i> L.	Caesalpiniaceae	Tangedu	Bark, leaves	Skin disease and Liver disorder
<i>Cassia occidentalis</i> L	Caesalpiniaceae	Kasinda	Plant	Typhoid, Asthma
<i>Cassia fistula</i> L.	Caesalpiniaceae	Rela	Fruits	Leprosy and Jaundice
<i>Cassia italica</i> Lam	Caesalpiniaceae	Nelaponna	Leaves	Ulcer and burns
<i>Cassia pumila</i> Lam	Caesalpiniaceae	Nallajiluga	Seeds	Purgative
<i>Cassia tora</i> L	Caesalpiniaceae	Tellakashinda	Plant	Skin disease
<i>Catharanthus roseus</i>	Apocynaceae	Billa ganneru	Root leaf and whole plant	Cancer, Diabetes, Cardio tonic
<i>Cleome gynandra</i> L.	Capparidaceae	Vamonta	Leaves	Rheumatism
<i>Cleome viscosa</i> L.	Capparidaceae	Kukkavaminta	Leaves	Wounds and Ulcers
<i>Chloroxylon swietenia</i> DC.	Rutaceae	Billu	Bark	Rheumatism
<i>Chrozophora rottleri</i> Sprl.	Euphorbiaceae	Erramiriyam	Leaves	Dermatitis
<i>Cissus quadrangularis</i> L.	Vitaceae	Nalleru	Stem paste, shade dried root	Bone fracture
<i>Cissus pallid</i> Planch.	Vitaceae	Nallateega	Roots	Rheumatism
<i>Clitoria ternatea</i> L.	Fabaceae	Sankhapushpam	Whole plant	Asthma, Sterility in female, Snake bite
<i>Coldenia procumbens</i> L.	Boraginaceae	Hamsapaduka	Leaves	Rheumatism and for digestion
<i>Cordia dichotoma</i> Forst. F.	Boraginaceae	Chinnanakkeru	Fruit	Chest and urinary infections
<i>Crotalaria retusa</i> L.	Fabaceae	Potti giligicha	Plant	Cardiac disorders
<i>Croton bonplandianum</i> Baill	Euphorbiaceae	Galivana chettu	Leaves	Skin diseases
<i>Cymbopogon caesius</i> Stapf	Poaceae	Kamanchi gaddi	Leaves, roots and rhizomes	Fever, cold and gonorrhoea
<i>Cymbopogon flexuosus</i> Watson	Poaceae	Nimma gaddi	Leaves	Leprosy
<i>Cymbopogon citrates</i> Stapf.	Poaceae	Nimma gaddi	Leaves	Skin disease and cholera
<i>Cymbopogon martinii</i> Watson	Poaceae	Kamakshi kasuvu	Leaves	Bronchitis and leprosy
<i>Cyperus esculentus</i> L.	Cyperaceae	Musta	Tubers	Cardio tonic
<i>Cyperus rotundus</i> L	Cyperaceae	Tunga	Tubers	Cholera, Scabies
<i>Dalbergia sissoo</i> Roxb.	Fabaceae	Sissoo	Wood	Skin disease

<i>Datura metel</i> L.	Solanaceae	Ummetha	Root ,leaf, flower	Asthma, Scorpion sting, Snake bite
<i>Datura innoxia</i> Mill.	Solanaceae	Ummetha	Plant	Anaesthetic
<i>Delonix elata</i> L. Gamble	Caesalpiniaceae		Leaves	Rheumatism
<i>Delonix regia</i> Raf.	Caesalpiniaceae	Agnipoolu	Flowers	Dysmenorrhoea
<i>Digera muricata</i> Mart.	Amaranthaceae	Chenchalikura	Plant	Urinary disorders
<i>Diospyros melanoxylon</i> Roxb	Ebenaceae	Tumki	Fruit, Bark	Diarrhoea and Dyspepsia
<i>Diospyros Montana</i> Roxb	Ebenaceae	Gatugata	Plant	Hypertension
<i>Dodonaea viscosa</i> Jacq	Sapindaceae	Bandaru	Leaves	Bone fractures
<i>Echinops echinatus</i> Roxb.	Asteraceae	Brahmadandi	Plant	Histeria, dyspepsia, Ophthalmia
<i>Eclipta prostrata</i> L.	Asteraceae	Guntagalagara	Herb	Spleen disorders,
<i>Erythroxylum monogynum</i> Roxb.	Erythroxylaceae	Adivi Gorinti	Bark and wood	Diuretic and Diaphoretic
<i>Euphorbia antiquorum</i> L.	Euphorbiaceae	Bommajemudu	Whole plant	Diabetes
<i>Euphorbia caducifolia</i> L.	Euphorbiaceae	-	Latex	Antispasmodic
<i>Euphorbia hirta</i> L	Euphorbiaceae	Reddivarinanubalu	Plant	Asthma, Anti tubercular activity.
<i>Euphorbia heterophylla</i> L.	Euphorbiaceae	-	Roots and aerial parts	Haemostatic and purgative
<i>Euphorbia indica</i> Lam	Euphorbiaceae	-	plant	Diarrhoea and Dysentery
<i>Euphorbia thymifolia</i> L	Euphorbiaceae	Reddivarinanubalu	-	Antimicrobial and in bowel complications.
<i>Euphorbia tirucalli</i>	Euphorbiaceae	Kalli, Sanna jamudu	Latex	Rheumatic pains
<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Vishnu krantamu	Plant	Bronchitis, tuberculosis and Asthma
<i>Feronia limonia</i>	Rutaceae	Velaga	Fruits	
<i>Ficus recemosa</i> L.	Moraceae	Medi	Bark, leaves	Diarrhoea, Dysentery and Diabetics.
<i>Ficus religiosa</i> L.	Moraceae	Aswatham, Raavi	Bark	Diarrhoea, Dysentery and skin diseases
<i>Flacourtia indica</i> Merr.	Flacourtiaceae	Pulivelaga	Fruits	Jaundice and diuretic
<i>Gisekia pharnaceoides</i> L.	Aizoaceae	Isaka dasari kura	Herb	Antihelmintic
<i>Gloriosa superba</i> L.	Liliaceae	Adavi nabhi	Rhizome paste	Snake bite, scorpion sting
<i>Gymnema sylvestre</i> R.Br.ex Schult	Asclepiadaceae	Podapatri	Leaf powder Root	Cardiac stimulant, Asthma, snake bite, Diabetes
<i>Heliotropium indicum</i> L.	Boraginaceae	Nagadanthi	Plant	Stings of insects

<i>Heliotropium ovalifolium</i> Forsk.	Boraginaceae	-	Plant	Diarrhoea and vomiting
<i>Heliotropium Subulatum</i> Hochst.	Boraginaceae	-	Plant	Snake bites and insect stings
<i>Hemidesmus indicus</i> R.Br	Asclepiadaceae	Sugandhipala	Whole plant	Asthma, diabetes
<i>Holarrhena pubescence</i> Wall.ex. G.Don	Apocyanaceae	Palakodisa	Bark, seeds	Asthma, Cardiac disorders
<i>Hybanthus enneaspermus</i> F. Muell	Violaceae	Ratnapurusha	Plant	Leprosy and eye diseases
<i>Hygrophyla schulli</i> M.R. & S. M. Almeida	Acanthaceae	-	Whole plant, roasted seed	Diabetes
<i>Indigofera tinctoria</i> L.	Fabaceae	Nili	Roots, stem and leaves	Asthma, cardio disorders, Nervous disorders, Scorpion sting, dog bite
<i>Ipomea nil</i> Roxb.	Convolvulaceae	Kolli - vottulu	Seeds	Purgative
<i>Ipomea pes-tigridis</i> L.	Convolvulaceae	Chikunuvvu	Herb	Dog bite, Pimples and sores
<i>Ipomea quamoclit</i> L.	Convolvulaceae	Kasiratnamu	Plant	Bleeding piles
<i>Ipomea sepiaria</i> Koen. ex. Roxb.	Convolvulaceae	Lakshmana	Plant	For rejuvenating
<i>Jasminum auriculatum</i> vahl	Oleaceae	Adavi teegamalle	Roots, flower	Skin diseases, cardio tonic
<i>Jatropha curcas</i> L.	Euphorbiaceae	Adavi aamudamu	Root, leaf and seed	Rat bite, Antidot for poisoning
<i>Jatropha glandulifera</i> Roxb.	Euphorbiaceae	Adavi mudamu	Seed and seed oil	Snake bite, rheumatism
<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	Nela amudamu	bark	Stomach ache, Leprosy
<i>Lantana camera</i> L.	Verbenaceae	Pulikampa	Leaf	Malaria
<i>Lowsonia inermis</i> L.	Lythraceae	Gorintaaku	Leaves, flowers	Skin deseases.
<i>Lepidagathis cristata</i> Wild	Acanthaceae	Mullabanti	plant	Skin disorders
<i>Leptadenia reticulate</i> Wight & Am	Asclepiadaceae	Mukku tummu	Leaves and Root	Cardiac diseases, skin diseases and tuberculosis
<i>Leucas aspera</i> Link.	Lamiaceae	Thummi	Leaf, flower and Root	Snake bite, Astama
<i>Ludwigia adscendens</i> Hara.	Onagraceae		Plant	Snake bites, burns, scalp diseases and antibacterial.
<i>Mimosa pudica</i> L.	Mimosaceae	Attipatti	Root, stem and leaf	Diabetes, Asthma and scorpion sting
<i>Momordica charantia</i> L.	Cucurbitacea	Kakara	Fruit	Diabetes, Healing wounds, Rheumatism
<i>Morinda pubescens</i> J.E.Smith	Rubiaceae	Maddi Chettu	Leaves	Diarrhoea, Dysentery

<i>Moringa pterigosperma</i> Gaertn	Moringaceae	Munuga	Plant	Blood pressure, cardiac disease, Bronchitis, Asthma
<i>Oscimum americanum</i> L	Lamiaceae	Kukka Tulasi	Leaves	Dysentery, Bronchitis.
<i>Oscimum basilicum</i> L.	Lamiaceae	Bhutulasi	Leaves	Brohchitis, Skin disease, Dysentery
<i>Oscimum tanuiflorum</i> L.	Lamiaceae	Krishna Tulasi	Leaves	Cough, Respiratory disorders
<i>Opuntia stricta</i> Haw.	Cactaceae	Nagajemmudu	Plant	Gonorrhoea, ophthalmia
<i>Oxalis corniculata</i> L.	Oxalidaceae	Pulichintaku	Entire plant	Cardiac disease
<i>Passiflora foetida</i> L.	Passifloraceae	Tellajumiki	Plant	Astma, Eczema
<i>Pavonia zeylanica</i>	Malvaceae	Chitti benda	Plant	Vermifuge, Purgative
<i>Pergularia daemia</i> Chiov	Asclepiadaceae	Jithupaku	Leaf	Astma, Diarrhoea
<i>Peristrophe paniculata</i> Brummitt	Acanthaceae	Chebeera	Root	Fillariasis
<i>Phyla nodiflora</i> Greene	Verbenaceae	Bokkenaku	Plant	Astma , cardiac disorders
<i>Phyllanthus acidus</i> Skeels	Euphorbiaceae	Chinna Usiri	Fruit	Bronchitis, Piles,
<i>Phyllanthus amarus</i> Schum & Thonn	Euphorbiaceae	Nelausiri	Leaves	Diabetes, Jaundice
<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Usiri	Fruits	Asthma, Brochitis
<i>Phyllanthus maderaspatensis</i> L.	Euphorbiaceae	Nella Usirike	Leaves	Head ache
<i>Phyllanthus reticulatus</i> Poir.	Euphorbiaceae	Nallapurugudu	Plant	Diuretic, Cooling
<i>Physalis minima</i> L.	Solanaceae	Budda budama	fruits	Spleen disorders
<i>Plectranthus barbatus</i> Andr.	Lamiaceae	Pashana bhedi	Tuber	Cancer and Asthma
<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Tella Chitramoolam	Roots	Asthma , ulcer, skin disorders
<i>Plumeria rubra</i> L.	Apocynaceae	Deva Ganneru	Bark	Rheumatism, Diarrhoea.
<i>Polyalthia longifolia</i> Thw.	Annonaceae	Ashoka	Bark	Respiratory and cardiac problems
<i>Pongamia pinnata</i> Pierce	Fabaceae	Kanuga chettu	Root, leaf, flower, seed oil	Snake bite, Diabetes
<i>Portulaca oleracea</i> L.	Portulacaceae	Pappukura	Seed, leaf	Cardiac diseases and diabetes
<i>Portulaca quadrifida</i> L.	Portulacaceae	Payala kura	Herb	Asthma, Skin diseases
<i>Premna tomentosa</i> Willd.	Verbenaceae	Kampu gummadi	Leaves, Bark	Diarrhoea
<i>Pterocarpus marsupium</i> Roxb.	Fabaceae	Yagisa	Heart wood	Diabetes and Astma
<i>Santalum alba</i> L.	Santalaceae	Chandanamu	Heart wood	Cardiac diseases, tuberculosis
<i>Sapindus emarginatus</i> Vahl.	Sapindaceae	Kunkudu	Fruit	Asthma and cholera
<i>Sida acuta</i> Burm. F.	Malvaceae	Nelabendaa	Leaf juice and leaves boiled in oil,	Relives chest pain, Elephantiasis and tuberculosis
<i>Sida cordata</i> Borssum	Malvaceae	Gayapaku	Root and leaf Herb	Urinary disorders

<i>Sida cordifolia</i> L.	Malvaceae	Chirubenda	Root	Asthma, cardiac disease
<i>Solanum indicum</i> L.	Solanaceae		plant	Anti Cancer
<i>Solanum nigrum</i>	Solanaceae	Kamanchi	Leaves	Tuberculosis, Asthma, Hydrophobia
<i>Solanum torvum</i> Swartz	Solanaceae	Chundaikai	Root bark	Malaria
<i>Solanum xanthocarpum</i>	Solanaceae	-	-	-
<i>Syzygium cumini</i> Skeels	Myrtaceae	Neredu	Root, bark and leaf	Diabetics
<i>Tabernaemontana divaricata</i> Roem & Schult	Apocynaceae	Nandhivardanam	Root, flowers and leaves	Tooth ache, Skin disease
<i>Tecoma stans</i> H.B.K	Bignoniaceae	Pachagotla	Leaves	Diabetes
<i>Tephrosia purpurea</i> Pers.	Fabaceae	Vempali	Roots	Asthma
<i>Terminalia arjuna</i> Wight & Arn	Combretaceae	Tellamaddi	Bark, leaf, fruits	Asthma, Diabetes
<i>Terminalia bellirica</i> Roxb	Combretaceae	Tani	Fruit	Asthma and cardiac disease
<i>Terminalia datappa</i> L.	Combretaceae	Badam	Leaves, fruit	Skin disorders
<i>Terminalia chebula</i> Retz	Combretaceae	Karagkaiaa	Fruit	Asthma
<i>Thevetia peruviana</i> Merr.	Apocynaceae	Pachaganeru	Seeds	Rheumatism
<i>Tinospora cardifolia</i> Hook. F. & Thoms	Menispermaceae	Tippateega	Plant	Asthma, cardiac disorder, Snake bite, Diabetes
<i>Tuddalia asiatica</i> Lam.	Rutaceae	Kondamirapa	Root bark leaf	Asthma tuberculosis
<i>Tragia involucrata</i> L.	Euphorbiaceae	Theegaduradagunta	Roots	Cold and body pains
<i>Trianthema portulacastrum</i> L.	Aizoaceae	Galijeru	Leaves	Kidney disorders
<i>Tribulus terrestris</i> L.	Zygophyllaceae	Palleru	Root and fruit	Asthma and cardiac disorder
<i>Trichodesma indicum</i> R.Br	Boraginaceae	Guvvagutti	Plant	Snake bite
<i>Tridax procumbens</i> L.	Asteraceae	Gaddi chamanthy	Leaves	Dysentery, Diarrhoea, Anti coagulant.
<i>Tylophora indica</i> Merr.	Asclepiadaceae	Kukkapala	Plant	Asthma, snake bite, hydrophobia
<i>Vernonia cineria</i> Less.	Asteraceae	Ghariti Kamini	Plant	Malaria and scorpion sting
<i>Vitex negundo</i> L.	Verbenaceae	Tella vavili	Root bark leaf flower	Asthma, anti-cancer activity
<i>Withania somnifera</i> Dunal.	Solanaceae	Ashwagandha	Plant	Sedative, Nervous disorders
<i>Wrightia tinctoria</i> R.Br.	Apocynaceae	Ankudu	Leaf	Stomach ache
<i>Xanthium strumarium</i> L.	Asteraceae	Marlu mathangi	Leaves	Cancer treatment and malaria
<i>Ziziphus mauritiana</i> Lam.	Rhamnaceae	Regu	Leaf, fruit and seed	Asthma and chest troubles
<i>Ziziphus oenoplia</i> Mill.	Rhamnaceae	Pariki	Bark, fruit	Healing of wounds and in stomach ache.

