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EXPERIMENTAL PAPER

Ethnobotanical study of traditional herbal plants used by local people of Seshachalam Biosphere Reserve in Eastern Ghats, India

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Summary

Introduction: Ethnobotany is the study of medicinal plants used by local people, with particular importance of old-styled tribal beliefs and information. Ethnobotanical studies focus on ethnic knowledge of Adivasi people and development of data bases on ethnic knowledge but also focuses on preservation and regeneration of traditional beliefs and maintenance of traditional knowledge.

Objective: The aim of present study is to highlight the traditional actions of herbal plants used by inborn Yanadi community of Seshachalam Biosphere Reserve, Eastern Ghats of Andhra Pradesh, India.

Methods: The ethnobotanical field survey was conducted according to the methods adopted by some authors. In-depth interviews, interactions were conducted with tribal physicians of Yanadi, Nakkala and Irula as well as other tribes practicing and experiencing the use of plant-based medicine. A normal inquiry form was used to gather the appropriate data on herbal plants and their usage of inborn people's lifestyle. Extensive consultations among local people and detailed documentation of the usage of plants were carried out

in 2014–2017. The aged outmoded opinions and imposts of indigenous people conceded on by word of opening were documented.

Results: A total of 266 medicinally used plant species belonging to 216 genera and 88 families were recognized with help of inborn herbal healers. The study also chronicled the mode of herbal arrangements, mode of the use of herbal plants in various disorders. The study exposed that native people of Seshachalam Biosphere Reserve have good medicinal information and also have preserved plant-based medicinal system of their ascendants used all their diseases. Most of medicinal plants are used in the treatment of indigestion, snake bite and skin diseases. The authors feel that this type of study certainly helps identify ethnic leads for drug development in future.

Conclusions: The ethnobotanical investigation of Seshalam Biosphere area has revealed that the tribes possess good knowledge on plant-based medicine but as they are towards in advanced exposure to transformation, their information on traditional uses of plants is slowly getting eroded. The authors plead for intensive cross-cultural studies involving all ethnic tribes in the country for prioritizing or short listing of ethnic leads for various disorders for ultimately developing global level drugs for human welfare and economy development.

Key words: *ethnomedicine, Yanadis, Seshachalam Biosphere Reserve, Eastern Ghats, herbal plants, drug development*

Słowa kluczowe: *medycyna ludowa, Yanadis, Rezerwat Biosfery Seshachalam, Wschodni Ghats, rośliny zielarskie, opracowywanie leków*

INTRODUCTION

Ethnobotany is the study of medicinal plants used by local people, with a particular importance on old-style tribal beliefs and information. The World Health Organization (WHO) estimates that unevenly, 80% of the people from developed and developing countries depend on traditional medicines, especially on plant-based medicine in primary healthcare. The current pharmacopoeia has at least 25% drugs derived from medicinal herbs and others which are synthetic compounds isolated from herbs. The day to day demand for herbal plants is growing both in developed and developing countries, the recognition of natural harvests is growing, due to the fact that they have small side-effects and are easily accessible at reasonable prices. They are the main source in primary healthcare of poor people. The Indian people have incredible desire for herbal plants and use them in the wide range of applications from cold to mortal diseases.

The recent estimates show that there are about 25 000 active plant-based preparations used in traditional medicine and known to remote communities all over from India and the records stated that nearly 10 000 medicated formulations are available in the Aboriginal medicinal texts [1].

The indigenous facts concerning herbal plants and their used by traditional healers by way of crude drug development in the present is not only suitable for

preservation of cultural diversity and biodiversity for community health care for all the local people.

Nowadays, there is an increasing trend of erosion of traditional knowledge and associated biodiversity due to various reasons, particularly the programs on the upliftment of the Adivasi people throughout the country. A serious lack of protecting the old traditional knowledge as well as the unique flora in the region is observed in this and other study areas of Eastern Ghats. Thus, the present ethnobotanical investigation plays significant role for maintenance and documentation of the traditional knowledge of Yanadi tribe forests of Andhra Pradesh and also advocates the sustainable utilization of these herbal plants.

The anthropology of the region is also interesting. The major ethnic communities of the Seshachalam Biosphere reserve and surrounding areas are Yanadi, Nakkala and Irula and folklore of some village communities. The Yanadis are generally considered into 4 endogamous sub-groups on the basis of livelihoods, i.e. Paki yanadis, Reddi yanadis, Challa yanadis, Adavi yanadis. The yanadis are inland fishermen. They watch and ward the fields of higher caste. Generally, they are settled near canals and tank bunds. The past ethnobotanical works in Seshachalam Biosphere reserve were carried out in 1985–2000 [2-8] and the present study is one more in this direction. It lists many additional ethnobotanical uses in the region. Also, ethonobotanically

the surveyed area has not been adequately codified and no comprehensive ethnobotanical account on Yanadi, Nakkala and Irula folklore survey are available on the use of medicinal plants.

The present study was carried out in 2014–2017. The senior author has focused mainly on new applications of traditional medicines and arriving at ethnic leads that may form the foundation for future drug development. Nowadays, there is a need for rapid listing and arranging the ethnic leads for exact ailment by criss-crossing of information through multicultural studies among dissimilar folkloric tribes within a country and then comparing the same with the developed and developing countries in the region for penetrating bio-prospecting and drug development. This calls for collaborative research programs aiming at drug development by all developing countries having rich heritage of ethnic knowledge within the framework of the Rio Convention. The use of a specific species for the same ailment by different unrelated ethnic groups certainly may indicate that the efficacy of probable plants for drug development. Though, scarcity of field taxonomists and ethnobotanists, inadequate financial support for ethnobotanical investigations, lack of co-operation between biotechnologists and ethnobotanists in Bio-prospecting programs on ethnobotanical leads, lack of complete ethnobotanical databases among biodiversity rich countries for proportional ethnobotanical study are shown to be some of the major restrictions in this direction. Therefore, the impending ethnobotanical studies must focus not only on inventories of ethnic knowledge of Adivasi people and development of data bases on ethnic knowledge (for purposes of sharing royalties, if any) but also focus on preservation and regeneration of the traditional beliefs, maintenance of the traditional knowledge against mismanagement.

MATERIALS AND METHODS

Study area

Seshachalam Biosphere reserve with 4756 km² external area is located between 13°30' and 14°11' N and 79°0'30" and 79°30' E with an altitude reaching from 135 to 1187 m on southern plateaus of Tellaralla Penta (fig. 1). The variety of wildlife as well as diverse environments and landscapes, the area was selected as Seshachalam Biosphere reserve at 20th Sep, 2011. Seshachalam Biosphere reserve comprises world famous sacred shrines collectively called as Tirumala hills are

the abode of Lord Venkateswara or Balaji. These hills are situated at 900 m above MSL. The *sanctum sanctorum* is situated on the top of seven adjoining hills, which are believed to be an incarnation of Ananta Sesha, the serpent god. Tirumala hills cover about 365 theerthams consisting of seasonal and perennial waterfalls and springs. Talakona is the highest waterfall (270 ft tall) in the State of Andhra Pradesh.

The topography, deep unreachable valleys, and upright cliffs are among the attractive landscapes and physical formations of Seshachalam Biosphere Reserve. The soils are formed of lateritic, gneissic and quartzite material. Much of the hilly area is composed of granite complex. Usually the entire hill range has a dry climate. The higher elevation of the hill ranges is comparatively cooler than the foot hills. During summer, the climate in places like on the top of the Talakona and Tirumala is cool and pleasant. Hot season is in March and May. The monthly average minimum temperature varies from 18°C to 22.67°C, the lowest in January; maximum 33.36°C to 36.21°C, the highest in May. The Seshachalam Biosphere reserve was experienced with the North-East monsoon (October-December) and Southwest monsoon (June-September). The annual rainfall varies between 569.43 and 1230.81 mm.

The forests of the Seshachalam Biosphere reserve can be broadly categorized into three types: dry deciduous mixed type with patches of moist deciduous forests and scrub type [9]. Dry deciduous forests dominate in the study area. The most dominant species in the Reserve are *Anogeissus latifolia*, *Chloroxylon swietenia*, *Decaschistia crotonifolia*, *Pterocarpus santalinus*, *Phoenix sylvestris*, *P. loureiroi*, *Syzygium alternifolium*, *Terminalia pallida* etc. The study area encompasses two protected areas: Sri Venkateswara Wildlife Sanctuary and Sri Venkateswara National Park and large number of sacred groves.

Methodology

The entire area of Seshachalam Biosphere Reserve is thoroughly studied by repeated surveys in different seasons of the year from 2014 to 2017 covering pre-monsoon, monsoon and post-monsoon seasons. The ethnobotanical field survey was conducted according to the methods adopted by [10-12]. In-depth interviews interactions were conducted with the tribal physicians of Yanadi, Nakkala and Irula and other tribes who practice and experience plant-based medicine in use. A total of 86 informers interviewed were 32 women and 54 men, aged

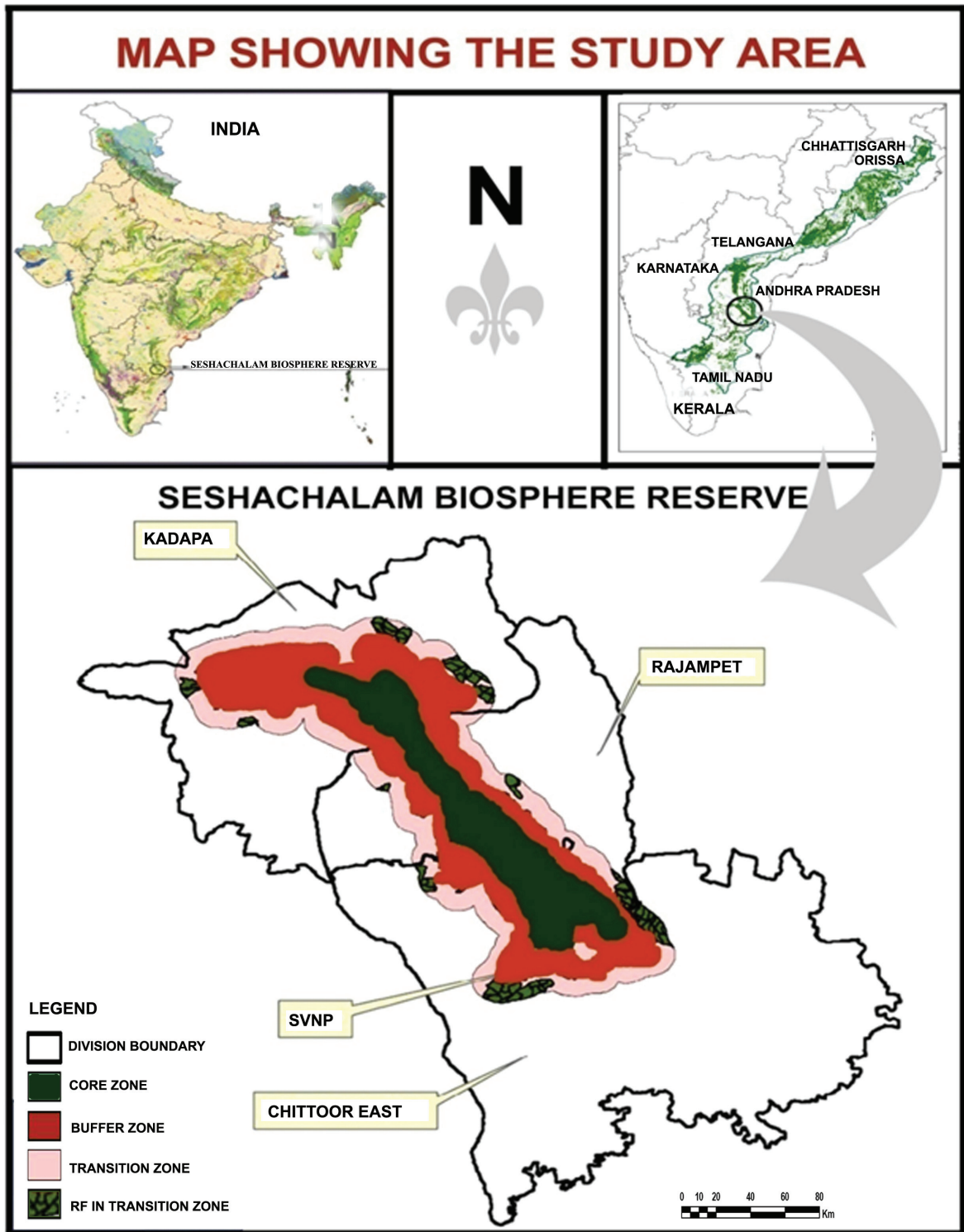


Figure 1

Study area

50 to 75 in their villages. The information recorded was about the use of medicinal plants, preparation and mode of administration in and around of Seshachalam Biosphere Reserve. The information on these plant species were gathered with reference to the local names. Plant specimens were collected processed for herbarium and identified in accordance with the methodology provided by [13]. The collected specimens were identified with the help of the regional and local floras [14, 15]. The voucher specimens were deposited in the Herbarium, Department of Botany, Yogi Vemana University, YSR Kadapa (Dist.), Andhra Pradesh, India for future reference.

Enumeration

In the enumeration of the ethnobotanically important medicinal plants, the species names are alphabetically arranged. This is followed by family name (according to APG classification) in parenthesis, habit, common name, detailed data on traditional uses as provided in table1.

Ethical approval: The conducted research is not related to either human or animal use.

Table 1

Significant medicinal plants of Seshachalam Biosphere Reserve in Eastern Ghats

No	Botanical name	Family	Habit	Vernacular name	Medicinal uses
1	<i>Abrus precatorius</i> L.	<i>Fabaceae-F</i>	climber	Gurivinda	anti-inflammatory
2	<i>Abutilon hirtum</i> (Lam.) Sweet	<i>Malvaceae</i>	shrub	Nela benda	nervous debility, aphrodisiac
3	<i>Abutilon indicum</i> (L.) Sweet	<i>Malvaceae</i>	shrub	Duvvenakaya/ Tutturubenda	haematuria
4	<i>Acacia catechu</i> (L.f.) Willd.	<i>Fabaceae-M</i>	tree	Chandra, Sandra	diabetes, cough, cold, leucoderma
5	<i>Acacia leucophloea</i> (Roxb.) Willd.	<i>Fabaceae-M</i>	tree	Tella tumma	diuretic
6	<i>Acalypha indica</i> L.	<i>Euphorbiaceae</i>	herb	Muripinda	intestinal worms, stomach aches, rheumatism, bronchitis, asthma, scabies and skin diseases
7	<i>Achyranthes aspera</i> L.	<i>Amaranthaceae</i>	herb	Uttareni	diuretic, piles
8	<i>Actinopterys radiata</i> (Sw.) Link.	<i>Actinopteridaceae</i>	herb	Mayuri shika	skin diseases
9	<i>Adiantum caudatum</i> L.	<i>Adiantaceae</i>	herb	Raja hamsa	diabetes
10	<i>Aegle marmelos</i> (L.) Corrêa	<i>Rutaceae</i>	shrub	Maredu/Bilva	dysentery
11	<i>Aerva lanata</i> (L.) Juss.	<i>Amaranthaceae</i>	herb	Pindikura	urinary diseases
12	<i>Ageratum conyzoides</i> (L.) L.	<i>Asteraceae</i>	herb	Goat weed	nervine tonic
13	<i>Alangium salviifolium</i> (L. f.) Wangerin	<i>Cornaceae</i>	tree	Udaga / Ankolamu	dog bite
14	<i>Albizia odoratissima</i> (L.f.) Benth	<i>Fabaceae-M</i>	tree	Chinduga	leprosy
15	<i>Albizia thompsonii</i> Brandis	<i>Fabaceae-M</i>	tree	Vellugu Chinta.	skin diseases, ulcers
16	<i>Albizia amara</i> (Roxb.) B.Boivin	<i>Fabaceae-M</i>	tree	Cheekireni	inflammation
17	<i>Albizia lebbeck</i> (L.) Benth.	<i>Fabaceae-M</i>	tree	Dirsenmu, Dirasana	bites and stings, blood purification, skin problems
18	<i>Alstonia scholaris</i> (L.) R. Br.	<i>Apocynaceae</i>	climber	Edakulapala	galactagogue, asthma
19	<i>Andrographis paniculata</i> (Burm. f.) Nees	<i>Acanthaceae</i>	herb	Nelavemu	fever
20	<i>Anisomelea malabarica</i> (L.)	<i>Lamiaceae</i>	shrub	Moga-Bira	eczema, diarrhea
21	<i>Annona squamosa</i> L.	<i>Annonaceae</i>	tree	Sitapalem	abortifacient
22	<i>Anogeissus latifolia</i> (Roxb. ex Dc.) Wall. ex Guillem. & Perr.	<i>Combretaceae</i>	tree	Chirimanu/Elama	piles, snake bite
23	<i>Argemone mexicana</i> L.	<i>Papaveraceae</i>	herb	Kusuma / Brahmadandi	syphilis

24	<i>Aristolochia bracteolata</i> Lam.	<i>Aristolochiaceae</i>	herb	Gadidagadapa	eczema, leprosy
25	<i>Aristolochia indica</i> L.	<i>Aristolochiaceae</i>	herb	Easwari	snake bite
26	<i>Asparagus racemosus</i> Willd.	<i>Asparagaceae</i>	herb	Sathavari	diabetes, leucorrhoea
27	<i>Atalantia monophylla</i> DC.	<i>Rutaceae</i>	shrub	Munukudu	antiseptic, fever
28	<i>Azadirachta indica</i> A. Juss.	<i>Meliaceae</i>	tree	Vepa	skin diseases
29	<i>Azima tetracantha</i> Lam.	<i>Salvadoraceae</i>	shrub	Tella uppili	leprosy, eczema
30	<i>Baccharoides anthelmintica</i> (L.) Moench (= <i>Vernonia anthelmintica</i> L.)	<i>Asteraceae</i>	herb	Adavi jeelakarra	digestion
31	<i>Bacopa monnieri</i> (L.) Wettst.	<i>Plantaginaceae</i>	herb	Brahmi	memory booster
32	<i>Balanites aegyptiaca</i> (L.) Delile	<i>Zygophyllaceae</i>	tree	Gara	anthelmintic, asthma, dysentery, epilepsy
33	<i>Basella alba</i> L.	<i>Basellaceae</i>	climber	Bachali	constipation
34	<i>Bauhinia racemosa</i> Lam.	<i>Fabaceae-C</i>	tree	Are fibres	malaria, fever
35	<i>Bauhinia purpurea</i> L.	<i>Fabaceae-C</i>	tree	Deva Kanchana	asthma, cold, cough, rheumatic pain
36	<i>Benincasa hispida</i> (Thunb) Cogn.	<i>Cucurbitaceae</i>	tree	Gummadi	urinary dysfunction, summer fevers
37	<i>Biophytum sensitivum</i> (L.) DC.	<i>Oxilidaceae</i>	herb	Puli chinta	antidote, snake bite, antidiabetic, antilithic
38	<i>Bixa orellana</i> L.	<i>Bixaceae</i>	tree	Jabaru kaya	gonorrhoea, fever, dysentery jaundice
39	<i>Blumea axillaris</i> (Lam.) DC.	<i>Asteraceae</i>	herb	Kukkapogaku	dropsy, throat infection
40	<i>Boerhavia diffusa</i> L.	<i>Nyctaginaceae</i>	herb	Attamamidi	urinary disorders
41	<i>Bombax ceiba</i> L.	<i>Malvaceae</i>	tree	Adavi Buruga	diabetes, diuretic
42	<i>Borassus flabellifer</i> L.	<i>Arecaceae</i>	tree	Tati	oedema, constipation
43	<i>Boswellia ovalifoliolata</i> N. P. Balakr. & A. N. Henry	<i>Burseraceae</i>	tree	Sambrani	stomach ulcers, dysentery
44	<i>Boswellia serrata</i> Roxb. ex Colebr.	<i>Burseraceae</i>	tree	Sambrani	arthritis
45	<i>Buchnanania axilaris</i> (Desr.) Ramamoorthy	<i>Anacardiaceae</i>	tree	Sara	boils, cardio tonic, wounds
46	<i>Butea monosperma</i> (Lam) Taub.	<i>Fabaceae-F</i>	tree	Moduga	jaundice, astringent
47	<i>Byttneria herbacea</i> Roxb.	<i>Malvaceae</i>	herb	Magasirigadda	swelling of legs
48	<i>Cadaba fruticosa</i> (L.) Druce	<i>Capparaceae</i>	shrub	Adamorinika	indigestion, fever
49	<i>Caesalpinia bonduc</i> (L.) Roxb.	<i>Fabaceae-F</i>	shrub	Gacha	leucorrhoea, hydrocele
50	<i>Calophyllum inophyllum</i> L.	<i>Clusiaceae</i>	tree	Ponna	rheumatism, astringent
51	<i>Capparis divaricata</i> Lam.	<i>Capparaceae</i>	tree	Guda remidi	antiseptic, asthma, post deliver complaints
52	<i>Capparis grandis</i> L. f.	<i>Capparaceae</i>	tree	Adavi Booda Remidi	aphrodisiac, wounds, ulcer, scorpion sting
53	<i>Capparis sepiaria</i> L.	<i>Capparaceae</i>	shrub	Nalla uppili	febrifuge
54	<i>Capparis zeylanica</i> L.	<i>Capparaceae</i>	shrub	Adonda	antihelmenthic, sedative
55	<i>Caralluma adscendens</i> (Roxb.) R. Br.	<i>Apocynaceae</i>	herb	Kundeti chevi	ear infections, applied to teeth to treat caries, bites and stings
56	<i>Cardiospermum halicacabum</i> L.	<i>Sapindaceae</i>	climber	Buddakakara	rheumatism, nervous disorders
57	<i>Careya arborea</i> Roxb.	<i>Lecythidaceae</i>	tree	Budda darimi	eye diseases, skin sores
58	<i>Carissa carandas</i> L.	<i>Apocynaceae</i>	shrub	Vaka	diabetes, stomachic
59	<i>Cassia fistula</i> L.	<i>Fabaceae-C</i>	tree	Rela	diabetes
60	<i>Cassia italica</i> (Mill.) Lam. ex F.W. Andrews	<i>Fabaceae-C</i>	herb	Nelatangedu	bone fracture

61	<i>Cassine glauca</i> (Rottb.) Kuntze	<i>Celastraceae</i>	tree	Nerdhi	snake bite, dysuria
62	<i>Cassytha filiformis</i> L.	<i>Lauraceae</i>	climber	Sitamma savaralu	dysentery, hair tonic
63	<i>Catunaregam spinosa</i> (Thunb.) Tirveng.	<i>Rubiaceae</i>	shrub	Manga	diarrhea, astringent
64	<i>Centella asiatica</i> (L.) Urban.	<i>Apiaceae</i>	herb	Saraswathi	brain tonic
65	<i>Ceropegia spiralis</i> Wight	<i>Apocynaceae</i>	herb	Nimmatigadda.	indigestion
66	<i>Chamaecrista absus</i> (L.) H. S. Irwin & Barneby (= <i>Cassia absus</i> L.)	<i>Fabaceae-C</i>	herb	Chanupala vittulu	constipation, cough
67	<i>Cheilocostus speciosus</i> (J. Koenig) C. D. Specht (= <i>Costus speciosus</i>)	<i>Costaceae</i>	herb	Adavi allam/ Chengalva cost	dyspepsia, snake bite
68	<i>Chloroxylon swietenia</i> DC.	<i>Rutaceae</i>	tree	Billudu.	epilepsy, scorpion sting, snake bite, wounds, ulcers, mosquito repellent, urinary problems, rheumatism
69	<i>Cipadessa baccifera</i> (Roth) Miq.	<i>Meliaceae</i>	shrub	Ranaberi	diabetes, wounds
70	<i>Cissampelos pareira</i> L.	<i>Menispermaceae</i>	shrub	Visha boddi	dropsy, diabetes
71	<i>Cissus quadrangularis</i> L.	<i>Vitaceae</i>	herb	Nalleru	leucorrhoea, piles
72	<i>Cissus vitiginea</i> L.	<i>Vitaceae</i>	climber	Adavi gummidi	wounds
73	<i>Citrullus colocynthis</i> (L.) Schrad.	<i>Cucurbitaceae</i>	climber	Papara	rheumatism, jaundice
74	<i>Cleome felina</i> L. f.	<i>Cleomaceae</i>	herb	Erra vominta	vermifuge, epistaxis, astringent
75	<i>Cleome gynandra</i> L.	<i>Cleomaceae</i>	herb	Vaminta	leaf headache, infant paralysis
76	<i>Cleome monophylla</i> L.	<i>Cleomaceae</i>	herb	Gaddi vaminta.	restore consciousness, breast ulcer, galactagogue
77	<i>Cleome viscosa</i> L.	<i>Cleomaceae</i>	herb	Kukkavaminta	earache, constipation, fever, diarrhea, headache
78	<i>Coccinia grandis</i> (L.) Voigt	<i>Cucurbitaceae</i>	climber	Kakidonda	diabetes
79	<i>Cocculus hirsutus</i> (L.) W. Theob.	<i>Menispermaceae</i>	climber	Dusari Teega	rheumatism
80	<i>Cochlospermum religiosum</i> (L.) Alston	<i>Cochlospermaceae</i>	tree	Konda gogu	dysentery, gonorrhoea
81	<i>Coldenia procumbens</i> L.	<i>Boraginaceae</i>	herb	Hamsapadu	rheumatism
82	<i>Commiphora caudata</i> (Wight & Arn.) Engl.	<i>Burseraceae</i>	small Tree	Kondamamidi	rheumatism
83	<i>Convolvulus prostratus</i> Forssk. (= <i>Convolvulus pluricalis</i>)	<i>Convolvulaceae</i>	herb	Shankhpushpi	chronic cough, anxiety
84	<i>Corallocarpus epigaeus</i> (Rottler) C. B. Clarke	<i>Cucurbitaceae</i>	climber	Mukkudonda	eczema, dysentery
85	<i>Cordia dichotoma</i> G. Forst.	<i>Boraginaceae</i>	tree	Bankamanu/ Nakkera	bronchial disorders, fever
86	<i>Coriandrum sativum</i> L.	<i>Apiaceae</i>	herb	Dhaniyalu	gastric complaints, small pox, nausea, anemia, fevers, cold and hernias
87	<i>Crateva religiosa</i> G. Forst. (= <i>Crataeva magna</i>)	<i>Capparaceae</i>	tree	Velimirichettu	renal, vesical calculi, bronchitis, gastric problem, skin diseases, fever
88	<i>Crotalaria retusa</i> L.	<i>Fabaceae-F</i>	herb	Sanapusphi	scabies
89	<i>Curculigo orchoides</i> Gaertn.	<i>Hypoxidaceae</i>	herb	Nelathati	diarrhoea, potency
90	<i>Curcuma neilgherrensis</i> Wight	<i>Zingiberaceae</i>	herb	Konda Pasupu	skin diseases, anti-asthmatic, antitumour, stomachic
91	<i>Curcuma pseudomontana</i> J. Graham	<i>Zingiberaceae</i>	herb	Adavi Pasupu	swellings due to wounds
92	<i>Cycas beddomi</i> Dyer.	<i>Cycadaceae</i>	tree	Peritha	aphrodisiac
93	<i>Cymbopogon flexuosus</i> (Nees ex Steud.) W. Watson	<i>Poaceae</i>	herb	Nimma gaddi	citral oil
94	<i>Dalbergia lanceolaria subsp. paniculata</i> (Roxb.) Thoth.	<i>Fabaceae-F</i>	tree	Pachari	filarial swelling

95	<i>Dalbergia latifolia</i> Roxb.	Fabaceae-F	tree	Jittagi / Iridi	ulcers, leprosy
96	<i>Datura metal</i> L.	Solanaceae	herb	Nalla ummetta	epilepsy
97	<i>Datura stramonium</i> L.	Solanaceae	shrub	Ummetta	asthma, narcotic
98	<i>Decalepis hamiltonii</i> Wight & Arn.	Apocynaceae	shrub	Maredu kommulu	haemorrhagia, appetizer
99	<i>Decaschistia crotonifolia</i> Wight & Arn.	Malvaceae	shrub	Adavigogu	hydrocele
100	<i>Decaschistia cuddapahensis</i> T. K. Paul & M. P. Nayar	Malvaceae	shrub	Magasiri	aphrodisiac
101	<i>Deccania pubescens</i> (Roth) Tirveng.	Rubiaceae	tree	Konda manga	sores
102	<i>Derris scandens</i> (Roxb.) Benth.	Fabaceae-F	climber	Nalla teega	snake bite
103	<i>Desmodium triflorum</i> (L.) DC.	Fabaceae-F	herb	Munta mandu	galactagogue, diarrhea
104	<i>Dillenia pentagyna</i> Roxb.	Dilleniaceae	tree	Chinna Kalinga.	hair wash
105	<i>Dioscorea bulbifera</i> L.	Dioscoreaceae	climber	Nookala gadda, Aadasancha	increases sexual vigour
106	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	climber	Injedigadda	dysentery, leprosy
107	<i>Dioscorea pentaphylla</i> L.	Dioscoreaceae	climber	Yeleru tiga	indigestion
108	<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	tree	Tumki	dyspepsia, diuretic
109	<i>Dodonaea viscosa</i> Jacq.	Sapindaceae	shrub	Bandaru	antipyretic, bone fractures
110	<i>Dregea volubilis</i> (L. f.) Benth. ex Hook. f. (= <i>Wattakaka volubilis</i> (L. f.) Stapf)	Apocynaceae	climber	Kallisi	snake bite, body pains
111	<i>Echinops echinatus</i> Roxb.	Asteraceae	herb	MullaBanthi	diuretic, lice eradication
112	<i>Eclipta prostrata</i> (L.) L.	Asteraceae	herb	Gunta galijeru	asthma, jaundice
113	<i>Enicostema axillare</i> (Poir. ex Lam.) A. Raynal	Gentianaceae	herb	Gulividi	scabies, gout, scorpion sting
114	<i>Eriolaena hookeriana</i> Wight & Arn.	Malvaceae	tree	Nara botku, Gurrapputhada	wounds, cuts, pains of eyeballs
115	<i>Erythroxylum monogynum</i> Roxb.	Erythroxylaceae	shrub	Devadari	stomachic, diuretic
116	<i>Euphorbia hirta</i> L.	Euphorbiaceae	herb	Nanabala	cough, dysentery
117	<i>Evolvulus alsinoides</i> (L.) L.	Convolvulaceae	herb	Vistikantha	fever
118	<i>Ficus benghalensis</i> L.	Moraceae	tree	Marri	rheumatism
119	<i>Ficus microcarpa</i> L.f.	Moraceae	tree	Kondajuvvi	wounds, diabetes
120	<i>Firmiana simplex</i> (L.) W. Wight (= <i>Sterculia urens</i> Roxb.)	Malvaceae	tree	Tabasi, Thella poliki	rheumatic pains, ulcers, cooling, dysentery, anti-diabetic, throat infection, tooth disorders
121	<i>Flacourtia indica</i> (Burm. f.) Merr.	Salicaceae	tree	Mulielka, Kanregu	cholera
122	<i>Gardenia gummifera</i> L. f.	Rubiaceae	tree	Bikki	ulcer, constipation
123	<i>Gardenia resinifera</i> Roth	Rubiaceae	tree	Erribikki	constipation, bronchites
124	<i>Givotia moluccana</i> (L.) Sreem	Euphorbiaceae	tree	Tella poliki	dandruff, psoriasis, rheumatism
125	<i>Gloriosa superba</i> L. Sp. Pi.	Colchicaceae	climber	Nabhi/ Nagetigadda	leprosy; abortifacient
126	<i>Glycosmis pentaphylla</i> (Retz.) DC.	Rutaceae	shrub	Gonji	diabetes; eczema
127	<i>Gmelina asiatica</i> L.	Lamiaceae	shrub	Adavi Gummadi	dental problems
128	<i>Grewia damine</i> Gaertn.	Malvaceae	tree	Jana	stomachache for children
129	<i>Grewia flavescens</i> Juss.	Malvaceae	tree	Banka jana	wounds, boils, dysentery
130	<i>Grewia hirsuta</i> Vahl.	Malvaceae	shrub	Adavichamanthi	dysentery, antidote to opium poison

131	<i>Grewia tiliaefolia</i> Vahl.	Malvaceae	tree	Tella jana, Charachi, Tada	aphrodisiac, cough, diarrhoea, spermatorrhoea, antidandruff, skin diseases
132	<i>Gymnema sylvestre</i> (Retz.) R. Br. ex Sm.	Apocynaceae	woody vine	Podapatri	diabetes
133	<i>Gyrocarpus americanus</i> Jacq.	Hernandiaceae	tree	Taniki/Nalla poliki	cancer
134	<i>Habenaria roxburghii</i> Nicolson	Orchidaceae	herb	Leena Gadda	wounds
135	<i>Haldina cordifolia</i> (Roxb.) Ridsdale	Rubiaceae	tree	Rudra ganapa	stomachic
136	<i>Hardwickia binata</i> Roxb.	Fabaceae-F	tree	Yepi	rheumatism
137	<i>Helicteres isora</i> L.	Malvaceae	shrub	Gooba thada	diabetes, dysentery
138	<i>Heliotropium indicum</i> L.	Boraginaceae	herb	Nagadanthi	ulcers, eczema
139	<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult.	Apocynaceae	herb	Sugandhapala	cooling beverage, cardio tonic
140	<i>Hemionitis arifolia</i> (Burm. f.) Moore	Hemionitidaceae	herb	Rama bhanam	antidiabetic
141	<i>Hibiscus platanifolius</i> (Willd.) Sweet	Malvaceae	tree	Kondagogu	diabetes, rheumatism
142	<i>Hibiscus micranthus</i> L. f. (= <i>H.</i> <i>ovalifolius</i> (Forsk.) Vahl.	Malvaceae	herb	Nithyamalli, Geesu.	gonorrhoea, leucorrhoea
143	<i>Hiptage benghalensis</i> (L.) Kurz	Malphigiaceae	climber	Madhavi tega	diarrhea, dysentery
144	<i>Holarrhena pubescens</i> Wall. ex G. Don (= <i>H. antidysenterica</i>)	Apocynaceae	tree	Kola musthi/pala/ kodisapala	diarrhoea, antidysentric
145	<i>Holostemma ada-kodien</i> Schult.	Apocynaceae	climber	Tella jilledu/ Peyyibaddu	gonorrhoea, diabetes
146	<i>Hugonia mystax</i> L.	Linaceae	shrub	Kakibeera	antihelmenthic
147	<i>Hybanthus enneaspermus</i> (L.) F. Muell.	Violaceae	herb	Ratna purusha	leucorrhoea, diabetes
148	<i>Ichnocarpus frutescens</i> (L.) W. T. Aiton	Apocynaceae	climber	Palateega	blood purifier
149	<i>Impatiens balsamina</i> L.	Balsaminaceae	herb	Chilakamukku puvvu, Kasi tumma	cooling, diuretic, improve blood circulation, intestinal neuralgia
150	<i>Ixora pavetta</i> Andr.	Rubiaceae	tree	Korivi/Papidi	dysentery, urinary disorders
151	<i>Jasminum auriculatum</i> Vahl.	Oleaceae	climber	Adavimalli	dropsy
152	<i>Justicia adhatoda</i> L.	Acanthaceae	shrub	Addasaram	diabetes, fever
153	<i>Kydia calycina</i> Roxb.	Malvaceae	tree	Bottuka	skin diseases and ulcers, wounds, cough
154	<i>Lannea coromandelica</i> (Houtt.) Merr.	Anacardiaceae	tree	Gumphena	ulcers, dental diseases
155	<i>Lantana camara</i> L.	Verbenaceae	shrub	Phallikampa	tooth ache, wounds
156	<i>Lawsonia inermis</i> L.	Lythraceae	tree	Gorintaku	diarrhea, diabetes
157	<i>Ledebouria revoluta</i> (L. f.) Jessop (= <i>Scilla hyacinthina</i>)	Liliaceae	herb	Nakkeragadda	leprosy, diuretic
158	<i>Leonotis nepetifolia</i> (L.) R. Br.	Lamiaceae	herb	Ranabheri	rheumatism
159	<i>Lepidagathis cristata</i> Willd.	Acanthaceae	herb	Nakka pidi, Lankapindi	burns, wounds
160	<i>Lepisanthes tetraphylla</i> Radlk.	Sapindaceae	tree	Sali kunkudu	skin diseases
161	<i>Leptadenia reticulata</i> (Retz.) Wight & Arn.	Apocynaceae	climber	Mukkupalateega	abortifacient
162	<i>Limnophila indica</i> (L.) Druce	Plantaginaceae	herb	Sambrani	antiseptic, dysentery
163	<i>Limonia acidissima</i> Groff	Rutaceae	tree	Velaga	stomachic, astringent
164	<i>Madhuca longifolia</i> (J. König ex L.) J. F. Macbr.	Sapotaceae	tree	Ippa	cough, skin diseases

165	<i>Maerua oblongifolia</i> (Forssk.) A. Rich.	Capparaceae	tree	Magasirigadda	aphrodisiac
166	<i>Mallotus philippensis</i> (Lam.) Müll.Arg.	Euphorbiaceae	tree	Sinduri	syphilis, gonorrhoea
167	<i>Manilkara hexandra</i> (Roxb.) Dubard	Sapotaceae	tree	Pala	headache
168	<i>Maytenus emarginata</i> (Ruiz & Pav.) Loes.	Celastraceae	shrub	Danthi	mouth ulcers
169	<i>Melochia corchorifolia</i> L.	Malvaceae	herb	Siltantakoora	snake bite
170	<i>Mentha piperita</i> L.	Lamiaceae	herb	Including in the text	including in the text
171	<i>Mimosa pudica</i> L.	Fabaceae-M	herb	Aathipathi	constipation, leprosy
172	<i>Mimusops elengi</i> L.	Sapotaceae	tree	Pogada	diarrhea
173	<i>Morinda pubescens</i> Sm.	Rubiaceae	tree	Mulugu chettu, Togaru chettu	rheumatic diseases
174	<i>Moringa oleifera</i> Lam.	Moringaceae	tree	Munaga	diarrhea and gastric ulcers, bronchitis, fevers, ear and eye infections
175	<i>Mucuna pruriens</i> (L.) DC.	Fabaceae-F	climber	Pativratha	tumors on body
176	<i>Murraya paniculata</i> (L.) Jack	Rutaceae	tree	Naramusti	snake bite, dropsy
177	<i>Naravelia zeylanica</i> (L.) DC.	Ranunculaceae	climber	Pulla bachala	headache, leprosy, rheumatic, skin diseases, toothache
178	<i>Nelumbo nucifera</i> Gaertn.	Nelumbonaceae	herb	Tamara	diarrhea, cardiac debility, leprosy, aphrodisiac, leucoderme
179	<i>Nymphaea nouchali</i> Burm. f.	Nymphaeaceae	herb	Kaluva	diarrhea, dysentery, cardio tonic, aphrodisiac
180	<i>Ochna obtusata</i> DC.	Ochnaceae	shrub	Errijambi	constipation; asthma
181	<i>Ocimum tenuiflorum</i> L.(=O. sanctum L.)	Lamiaceae	herb	Nalla tulasi	Ringworm, stimulant, stomachic
182	<i>Olax scandens</i> Roxb.	Olaceae	climber	Mekabanda	anaemia; fevers
183	<i>Oldenlandia corymbosa</i> L.	Rubiaceae	herb	Vermela - vemu	diarrhoea; stomache
184	<i>Oxalis corniculata</i> L.	Oxilidaceae	herb	Pulichinta	anaemia, cancer, warts
185	<i>Pavonia zeylanica</i> Cav.	Malvaceae	herb	Adavi puttudu/ Chiru benda	blood motions
186	<i>Pavonia odorata</i> Willd.	Malvaceae	herb	Gugu chettu	nervous debility
187	<i>Pentanema indicum</i> (L.) Ling	Asteraceae	herb	Aggikoora chettu	insect sting
188	<i>Pentatropis capensis</i> (L. f.) Bullock	Apocynaceae	climber	Yedupullateega	refrigerant
189	<i>Pergularia daemia</i> (Forssk.) Chiov.	Apocynaceae	climber	Dushtapaku	jaundice, asthma
190	<i>Phoenix loureiroi</i> Kunth	Arecaceae	tree	Eetha	dysentery, ulcers
191	<i>Phyllanthus amarus</i> Schumach. & Thonn.	Phyllanthaceae	herb	Nelausiri	galactagogue, jaundice
192	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	tree	Nelli/Usiri	febrifuge, astringent
193	<i>Phyllanthus indofischeri</i> Bennet	Phyllanthaceae	shrub	Konda Usirika	dyspepsia, jaundice
194	<i>Phyllanthus urinaria</i> L.	Phyllanthaceae	herb	Uchi usiri	Jaundice, anaemia
195	<i>Physalis angulata</i> L.	Solanaceae	herb	Budda kodisha.	wounds
196	<i>Pimpinella tirupatiensis</i> N. P. Balakr. & Subram	Apiaceae	herb	Konda Kottimeera	scorpion sting
197	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Fabaceae-M	tree	Simachintha	leprosy, diabetes
198	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	herb	Tella chitramulam	scabies, ulcers
199	<i>Polyalthia cerasoides</i> (Roxb.) Benth. & Hook. f. ex Bedd.	Annonaceae	tree		aphrodisiac

200	<i>Polycarpaea corymbosa</i> (L.) Lam.	<i>Caryophyllaceae</i>	herb	Rajuma, Bonnasara	jaundice, kidney diseases
201	<i>Polygala elongata</i> Klein ex Willd.	<i>Polygalaceae</i>	herb	Nelajenumu	bronchitis, constipation
202	<i>Pongamia pinnata</i> (L.) Pierre	<i>Fabaceae-F</i>	tree	Kanuga	diabetes, eczema
203	<i>Portulaca oleracea</i> L.	<i>Portulacaceae</i>	herb	Payalaku.	gastric trouble, tumors, kidney diseases, jaundice, diabetes, cephalalgia, toothache, otalgia
204	<i>Premna tomentosa</i> Willd.	<i>Lamiaceae</i>	tree	Narava/ Namari	dropsy, jaundice
205	<i>Pterocarpus santalinus</i> L. f.	<i>Fabaceae-F</i>	tree	Rakta chandanam	diabetes, astringent
206	<i>Pterospermum xylocarpum</i> (Gaertn.) Oken	<i>Malvaceae</i>	tree	Lolagu, Chinna tada	leucorrhoea, stomachache
207	<i>Pueraria tuberosa</i> (Willd.) DC.	<i>Fabaceae-F</i>	climber	Bhoochakra	asthma, rejuvenator
208	<i>Pupalia lappacea</i> (L.) Juss.	<i>Amaranthaceae</i>	herb	Antudu chettu	toothache
209	<i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz	<i>Apocynaceae</i>	herb	Sarpagandha	Hypertension, psychosis, diabetes, pains, nervous disorders
210	<i>Rhynchosia beddomei</i> Baker	<i>Fabaceae-F</i>	shrub	Adavi Kandi.	abortifacient
211	<i>Rhynchosia minima</i> (L.) DC.	<i>Fabaceae-F</i>	tree	Adavichikkudu	abortifacient
212	<i>Rhynchosia suaveolens</i> (L. f.) DC.	<i>Fabaceae-F</i>	shrub	Karu Kandi	general weakness
213	<i>Rivea hypocrateriformis</i> Choisy	<i>Convolvulaceae</i>	shrub	Boddi teega	parturition
214	<i>Salvadora persica</i> L.	<i>Salvadoraceae</i>	tree	Nalla uppili/ Varagogu	asthma, cough
215	<i>Santalum album</i> L.	<i>Santalaceae</i>	tree	Chandanam, Srigandham	diuretic, skin eruptions
216	<i>Sapindus trifoliatu</i> s L.	<i>Sapindaceae</i>	tree	Kunkuduchetta	soap nuts
217	<i>Sarcostemma acidum</i> (Roxb.) Voigt	<i>Apocynaceae</i>	climber	Pullangi tiga	burning micturition
218	<i>Senna alexandrina</i> Mill. (= <i>Cassia</i> <i>augustifolia</i>)	<i>Fabaceae-C</i>	herb		piles, intestinal worms, indigestion, bronchitis
219	<i>Senna montana</i> (Roth) V. Singh	<i>Fabaceae-C</i>	shrub	Pyditangedu	body pains
220	<i>Senna obtusifolia</i> (L.) H. S. Irwin & Barneby	<i>Fabaceae-C</i>	herb		against vomiting and stomachache
221	<i>Senna occidentalis</i> (L.) Link	<i>Fabaceae-C</i>	shrub	Kasinth	laxative
222	<i>Sesbania grandiflora</i> (L.) Pers.	<i>Fabaceae-F</i>	herb	Avisachetta	boils, corysa
223	<i>Shorea roxburghii</i> G. Don	<i>Dipterocarpaceae</i>	tree	Jalari	astringent, rheumatism
224	<i>Shorea tumbuggaia</i> Roxb.	<i>Dipterocarpaceae</i>	tree	Tamba/Guggilam	ulcers
225	<i>Sida acuta</i> Burm. f.	<i>Malvaceae</i>	herb	Parasukampa, Polikatta	general debility, nervous debility, rheumatism
226	<i>Sida cordifolia</i> L.	<i>Malvaceae</i>	herb	Suvana mokka	diabetes, urinary troubles
227	<i>Solanum americanum</i> Mill. (= <i>S. nigrum</i> L.)	<i>Solanaceae</i>	herb	Kosipalla chetto	vomiting, cough, jaundice
228	<i>Solanum melongena</i> L.	<i>Solanaceae</i>	shrub	Chiruvanga	hypertension, diabetes
229	<i>Solanum virginianum</i> L. (= <i>S.</i> <i>surrattense</i> Burm. f.)	<i>Solanaceae</i>	herb	Errivanga	helminthiasis, tooth problems
230	<i>Soyimida febrifuga</i> (Roxb.) A.Juss.	<i>Meliaceae</i>	tree	Somi	diarrhea, dysentery
231	<i>Sphaeranthus indicus</i> L.	<i>Asteraceae</i>	herb	Bodasaram	aphrodisiac, anthelmenthic
232	<i>Stemona tuberosa</i> Lour.	<i>Stemonaceae</i>	climber	Kanapatige	night blindness, aphrodisiac, headache, cough, bodyache
233	<i>Sterculia foetida</i> L.	<i>Malvaceae</i>	tree	Thapasi	diabetes

234	<i>Strychnos nux-vomica</i> L.	<i>Loganiaceae</i>	tree	Musthi	kidney stones
235	<i>Strychnos potatorum</i> L. f.	<i>Loganiaceae</i>	tree	Chilla	stomachache
236	<i>Suregada lanceolata</i> (Willd.) Kuntze (= <i>S. augustifolia</i> Baill.)	<i>Euphorbiaceae</i>	shrub	Sapranchi	astringent
237	<i>Syzygium alternifolium</i> (Wight) Walp.	<i>Myrtaceae</i>	tree	Mogi	joint paints
238	<i>Syzygium cumini</i> (L.) Skeels	<i>Myrtaceae</i>	tree	Neredu	diarrhoea, cough
239	<i>Tamarindus indica</i> L.	<i>Fabaceae-C</i>	tree	Chinta	indigestion, fever
240	<i>Tarenna asiatica</i> (L.) Kuntze ex K. Schum.	<i>Rubiaceae</i>	shrub	Kommi	indigestion
241	<i>Tephrosia purpurea</i> (L.) Pers.	<i>Fabaceae-F</i>	herb	Vempali	diabetes, ulcers, fever
242	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	<i>Combretaceae</i>	tree	Arjuna/Tella maddi	blood motions
243	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	<i>Combretaceae</i>	tree	Thandra/Tani	dysentery
244	<i>Terminalia chebula</i> Retz.	<i>Combretaceae</i>	tree	Karaka	cough, piles
245	<i>Terminalia pallida</i> Brandis	<i>Combretaceae</i>	tree	Tella karaka	diarrhoea
246	<i>Thespesia lampas</i> (Cav.) Dalzell & A. Gibson	<i>Malvaceae</i>	shrub	Kondapatti, Adavi patti	gonorrhoea, antidiabetic, stomachache
247	<i>Thespesia populnea</i> (L.) Sol. ex Corrêa	<i>Malvaceae</i>	tree	Gangaravi	boils, ring worms
248	<i>Tinospora cordifolia</i> (Willd.) Miers.	<i>Menispermaceae</i>	climber	Tippa teega, Bael tiga	gonorrhoea, skin diseases, fever, wounds
249	<i>Tribulus terrestris</i> L.	<i>Zygophyllaceae</i>	herb	Palleru	aphrodisiac, leprosy
250	<i>Trichosanthes cucumerina</i> L.	<i>Cucurbitaceae</i>	climber	AdaviPotla	diabetes
251	<i>Trichosanthes tricuspidata</i> Lour.	<i>Cucurbitaceae</i>	climber	Papara	sores, headache
252	<i>Trichuriella monsoniae</i> (L. f.) Bennet	<i>Amaranthaceae</i>	herb	Jerrykau	scorpion sting, headache, boils, sores wounds, cooling agent
253	<i>Tridax procumbens</i> (L.) L.	<i>Asteraceae</i>	herb	Gaddi chamanthi	dysentery, wounds
254	<i>Tylophora indica</i> (Burm. f.) Merr.	<i>Apocynaceae</i>	climber	Kakkupala	asthma, epilepsy
255	<i>Urena lobata</i> L.	<i>Malvaceae</i>	shrub	Peddabenda, Nallabenda	piles, aphrodisiac, diabetes
256	<i>Vanda tessellata</i> (Roxb.) Hook. ex G. Don.	<i>Orchidaceae</i>	herb	Veduru bhadhanika	bone fracture
257	<i>Ventilago denticulata</i> Willd.	<i>Rhamnaceae</i>	climber	Surati/Surudu	sprains, malarial fever
258	<i>Vernonia cinerea</i> (L.) Less.	<i>Asteraceae</i>	herb	Saha devi	fever
259	<i>Viscum articulatum</i> Burm. f.	<i>Santalaceae</i>	shrub	Badanika	ulcers, febrifuge
260	<i>Vitex altissima</i> L. f.	<i>Lamiaceae</i>	tree	Nemaliadugu	leprosy
261	<i>Walsura trifoliolata</i> (A. Juss.) Harms	<i>Meliaceae</i>	tree	Valudu	emmenagogue
262	<i>Wrightia tinctoria</i> R. Br.	<i>Apocynaceae</i>	tree	Reppala	cough, aphrodisiac
263	<i>Ximenia americana</i> L.	<i>Olacaceae</i>	shrub	Nakkera	diarrhea, skin diseases, ulcers
264	<i>Zingiber officinale</i> Roscoe	<i>Zingiberaceae</i>	herb	Allamu	diabetes, cough, asthma
265	<i>Ziziphus jujuba</i> Mill.	<i>Rhamnaceae</i>	tree	Regu	scorpion sting, diarrhoea
266	<i>Ziziphus xylopyrus</i> (Retz.) Willd.	<i>Rhamnaceae</i>	tree	Gotti	asthma, aphrodisiac

RESULTS AND DISCUSSION

The study revealed that medicinal properties of 266 species of 216 genera belonging to 88 families used by Yanadi tribe inhabiting parts of Seshachalam Biosphere Reserve (fig. 2, 3). *Malvaceae* is the dominant family (26 species), followed by *Fabaceae-F* (18), *Apocynaceae* (18), *Fabaceae-C* (10), *Asteraceae* and *Rubiaceae* (9 species each), *Fabaceae-M* (8), *Capparaceae* & *Lamiaceae* (7 species each),

Cucurbitaceae, *Rutaceae* & *Solanaceae* (6 species each). The remaining 59 families underwritten are of one or two species each. The dominated species are trees (99) followed by herbs (90) shrubs (43) and climbers (34). Of the 266 species, some species like *Albizia thompsoni*, *Boswellia ovalifoliata*, *Ceropegia spiralis*, *Cycas beddomi*, *Pimpinella tirupatiensis*, *Pterocarpus santalinus*, *Rhynchosia beddomei*, *Shorea tumbergaia*, *Syzygium alternifolium* and *Terminalia pallida* are endemic and threatened

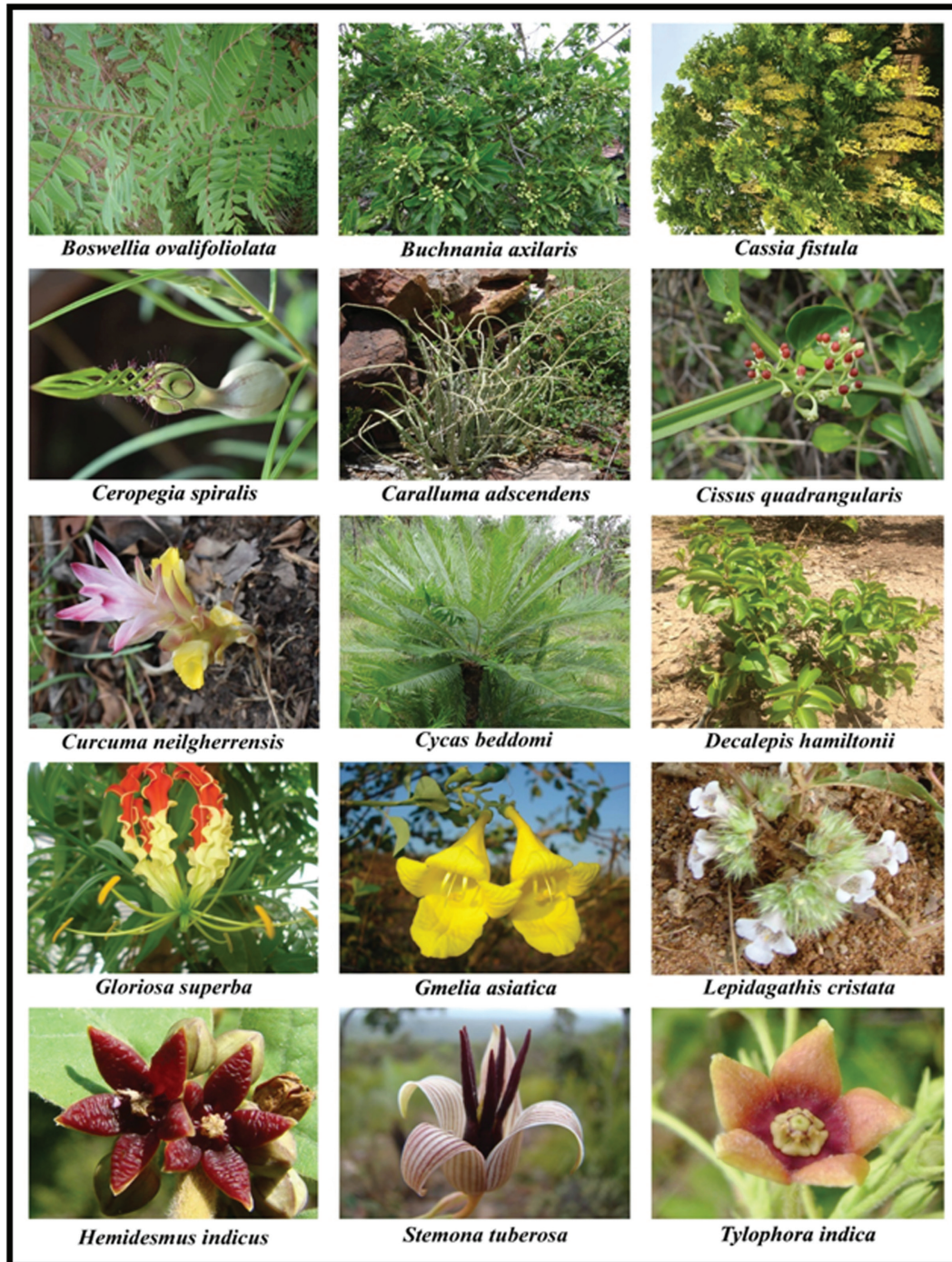


Figure 2

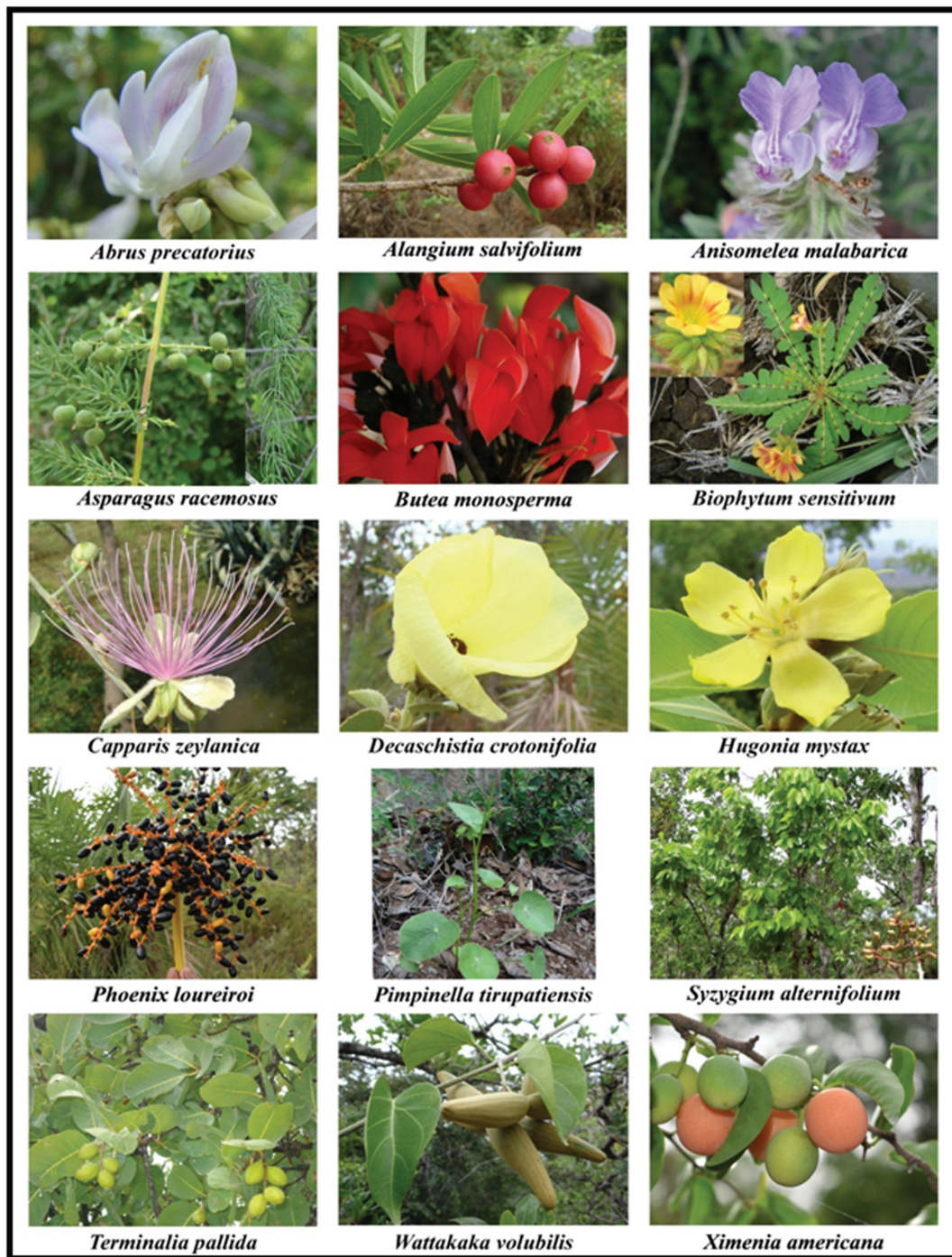


Figure 3

Medicinal Plants of Seshachalam Biosphere Reserve

these are in Red Data Book of Indian Plants. Fascinatingly, in the present study 56 endemic species of southern India are found and are used as traditional herbal plants [6].

The uses of therapeutic plants as remedies for treatment of 64 types of ailments are observed in the study area. The main diseases in the present study area are as follows: rheumatism, ear-ache, dyspepsia, jaundice, paralysis, boils, cough,

scorpion sting, skin diseases, snake bite, diabetes, dysentery, gastric troubles, fever, foot cracks, general debility, gout, insects ting, mouth ulcers, stomach-ache, tooth-ache and wounds. The most of medicinal plants are used for the treatment of indigestion, snake bite and skin diseases. The mainstream of medicines has been taken orally and in external application (applied topically on skin). To recover the suitability of certain oral remedies, additives

are frequently used. The herbal preparation in the area are drawn from a single plant, mixtures may be used rarely. The plant parts used in the study area are leaves, root, bark and whole plant.

CONCLUSIONS

The medico-botanical investigation of the Ses-halam Biosphere area has revealed that the tribes possess good knowledge on plant-based medicine but as the people are towards in advanced exposure to transformation, their information on traditional uses of plants is slowly getting eroded. Therefore, it is significant to study and record the uses of plants by different tribes and sub-tribes on priority aimed at future investigation for product development. These studies may also afford some clues to natural products scientists for phytochemical analysis for any novel molecules or chemicals for treating various ailments.

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