

Ethno-Medico-Botanical Studies From Rayalaseema Region Of Southern Eastern Ghats, Andhra Pradesh, India

Dowlathabad Muralidhara Rao ,* U.V.U.Bhaskara Rao,# and G.Sudharshanam#

*Natural Products Research Division
Department of Biotechnology
SriKrishnadevaraya University(SKU)Herbarium Anantapur INDIA

#Department of Botany
SriVenkateswara University
Tirupati,A.P.INDIA
muralidhararao@yahoo.com
rao.muralidhara@gmail.com

Issued 11 August 2006

ABSTRACT

This paper deals with Ethno- Medico botanical Studies of Rayalaseema Region, Andhra Pradesh, India. An ethnobotanical survey was carried out in Seshachalam hills of Chittoor District, Palakondas and Lankamalais of Kadapa District, Errmalais and Nallamalai hills of Kurnool District and some other isolated hill ranges in Ananthapur District are Kalasamudram-Nigidi forest range, Amagondapalem hills and Kikati forest.

INTRODUCTION

Rayalaseema region lies between $12^{\circ} 41^1$ and $16^{\circ} 21^1$ N and $17^{\circ} 45^1$ and $81^{\circ} 1^1$ E. The area bounded on the south by Tamilnadu state on the East Guntur and Nellore district of Andhra Pradesh as also the Bay of Bengal sea coast and west by the Karnataka state, Mahaboobnagar districts as north side. The region accounts or 26% of total area of the Andhra Pradesh state. The district wide split up area is Kurnool, Ananthapur, Kadapa and Chittoor respectively. The area in the Rayalaseema especially covers southern most part of the Eastern Ghats. The principle hill ranges in Rayalaseema region are Nallamalais, Erramalais, Veligondas, Palakondas, Lankamalais, Horsely Hills and Seshachalam hills. Apart from this there are some isolated hill ranges in Ananthapur district are Kalasamudram – Nigidi forest range, Amagondapalem hills and Kikati forest area.

Tirumala hills which are popularly known as the seven hills Lord Sri Venkateswara are geographically located between $79^{\circ} 19^1$ to $70^{\circ} 23^1$ East longitude and $13^{\circ} 37^1$ to $13^{\circ} 43^1$ North latitude. Quite interesting in the report of occurrence of seven *endemic taxa* on Tirumala hills.

Climatically the region is characterized by a dry and agreeable climate. The climate is semi-arid and salubrious with many sunny days during the year.

There are no perennial rivers and most of the rivers in this region remain dry for a major part of the year. One of the rivers flowing in this region are the Papaghni, Pincha, Penna, Koundinya, Palar, Ponnei, Arani, Bahuda, Kalyani, Swarnamukhi and Thungabhadra. The main crops in this region are the food crops such as Paddy, Jowar, Bajra and Ragi and commercial crops like Sugarcane, Groundnut and Cotton. All the dry land crops such as Groundnut, Jowar, Redgram, Blackgram etc., depend on the monsoons.

The types of vegetation in Rayalaseema are determined by climatic, edaphic and biotic factors coupled with altitude whenever it is high. The total area under forest is about 22.8% of the total Rayalaseema land area. In Kadapa District 30% of the land area is covered by forest. In Ananthapur District only 10.09% is the forest area. Kurnool District has 28.4% of forest in the total land area. Chittoor District has 30.3% of forests in total area. The vegetation of the area under study can be classified into Dry deciduous type, Moist deciduous, *Hardwickia binata* type, Thorny scrubs type and Dry evergreen forest.

The Rayalaseema region consists of about 9.6 million of population out of which 0.238 millions belong to tribal communities. There are 18 scheduled tribes in Rayalaseema comprising 2.48% of the total population. For the present study the predominant tribes of Rayalaseema region of Andhra Pradesh viz., the Chenchus, the Yanadis, the Yerukulas and the Sugalis are selected. The tribes belong to the protoaustraloid racial stock and speak dialects of the Dravidian family.

METHODOLOGY

The Ethnobotanical survey was carried out in Rayalaseema region during 1998-2004. The data was collected after discussion with tribal physicians (Natu Vaidyas), aged tribals and further confirmed with experienced herbalists. The specimens are preserved in the herbarium of Department of Botany, Sri Venkateswara University, Tirupati, Andhra Pradesh, India.

RESULTS AND DISCUSSION:

Ethnic communities mostly depend on forest products for their livelihood. The tribal inhabitants from Rayalaseema area collect different non-timber forest products based on their ethnobotanical knowledge passed from their ancient culture and ethnic practices. Many of the tribals depend for their economy mainly on forest products. These are inter-connected with their habits such as gathering of tubers, medicinal herbs, animal and mineral based products. However, due to urbanization and tremendous increase in population there is an urgent need to conserve these ethno-botanical and non-timber forest products for human welfare.

The Ethno-medicinal plants are classified in 32 groups based on their uses. The total 240 species of medicinal plants are enumerated with their uses. The dominant families are Fabaceae (15), Euphorbiaceae (11), Verbenaceae (11), Acanthaceae (10), Rubiaceae (9), Combretaceae (8), Asclepiadaceae (7) species. Non-Timber Forest products 199 species with in 86 families. The dominant families are Fabaceae (21) Species, Verbenaceae (7), Rubiaceae (7), Caesalpiniaceae (7), Combretaceae, Euphorbiaceae, Lamiaceae (6) Species. They include important non-timber products and ethnomedicinal products. Under each group the plants are arranged alphabetically and given comprehensive picture for the use of practical plant users of the concerned area.

The diseases wise categorization, ailments for the treatment of which a large number of medicinal plants are used are antidotes (10), stomach-ache (11), jaundice (4), diarrhoea (7), skin diseases (21), ear-ache (9), dysentery (13), wounds (21), boils (11), ulcers (3), fevers (13), rheumatism (6), epilepsy (2), head-ache (11), blood motions (1), tooth-ache (10), asthma (5), psoriasis (1), cold (9), fractures (8), blisters (7), indigestion (2), cough (8), lice eradication (4), eczema (2), anthelmintic (3), constipation (6), stomach disorders (2), menstrual problems (4), leucoderma (5), intestinal worms (4), cuts (8), muscle pains (5), urinary disorders (3), chest pain (1), sores (3), hair tonic (7), bronchitis (4), body-ache (1), joint pains (1), diabetes (3), lactagogue (1), piles (3), helminthiasis (2), elephantiasis (1), vermifuge (1), kidneys (1), throat pain (1), fissures (1), swellings (1), hydrophobia (1), abdominal pains (1), gastric troubles (1), chicken pox (1), intoxication (1).

NON-TIMBER FOREST PRODUCTS (NTFPS)

Table 1. Medicinal Plants.

S. No.	Species	Family	Part used	Uses
1	<i>Abrus precatorius</i> L.	Fabaceae	leaf	leucoderma
2	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	leaf	jaundice, blood motions
3	<i>Acacia caesia</i> (L) Willd.	Mimosaceae	bark	skin diseases
4	<i>Acalypha alnifolia</i> Klein ex Willd	Eupherbiaceae	leaf	dysentery
5	<i>Achyranthes aspera</i> L	Amaranthaceae	leaf	tooth infection
6	<i>Acorus calamus</i> L	Araceae	rhizome	stomach-ache
7		Actinopeteridaceae	leaf (frond)	rheumatism
8	<i>Actinopteris radiatus</i> (Sw.)Link.	Acanthaceae	leaf	asthma, psoriasis
9	<i>Adhatoda zeylanica</i> Medic	Adiantaceae	leaf (frond)	scorpion sting
10	<i>Adiantum capillus – veneris</i> L	Rutaceae	leaf	cold
11	<i>Aegle marmelos</i> (L) Correa	Amaranthaceae	leaf	head-ache
12	<i>Aerva lanata</i> (L) Juss	Amaranthaceae	root	head-ache
13	<i>Aerva sanguinolenta</i> (L) Blume	Apocynaceae	root	fever
14	<i>Aganosma dichotoma</i> K.Schum.	Alangiaceae	leaf	fractures
15	<i>Alangium salvifolium</i> (Lf.) ang.in.Engler	Liliaceae	leaf	boils, blisters, wounds
16	<i>Aloe vera</i> (L.) Burm.	Amaranthaceae	root	indigestion
17	<i>Alternanthera sessilis</i> (L.)R.Br.	Lythraceae	leaf	skin diseases
18	<i>Ammannia baccifera</i> L.	Acanthaceae	whole plant	snake bite & scorpion bite
19	<i>Andrographis echinoides</i> (L.)Nees in Wall	Acanthaceae	leaf	fevers, cuts & wounds
20	<i>Andrographis paniculata</i> (Burm.f.) Wall	Acanthaceae	leaf	cough & cold
21	<i>Andrographis serpyllifolia</i> (Rottl.ex vahl) Wight	Lamiaceae	leaf	wounds
22	<i>Anisochilus carnosus</i> .(L.f.) Wall	Lamiaceae	leaf, root	fever, evil spirits
23	<i>Anisomeles indica</i> (L.) O.Kuntze	Annonaceae	seed	lice eradication
24	<i>Annona reticulata</i> L.	Annonaceae	seed	lice eradication
25	<i>Annona squamosa</i> L.	Combretaceae	leaf	snake bite
26	<i>Anogeissus latifolia</i> (Roxb.ex Dc.) Wall ex	Convolvulaceae	leaf	boils & blisters
27	GuilL	Aristolochiaceae	leaf	tooth-ache, eczema, wounds
28	<i>Argyreia nervosa</i> (Burm.f.) Boj.	Aristolochiaceae	leaf, root	leucoderma
29	<i>Aristolochia bracteolata</i> Lam.	Liliaceae	tuber	stomach-ache & cold
30	<i>Aristolochia indica</i> L.	Meliaceae	leaf	anthelmintic
31	<i>Asparagus racemosus</i> Willd.	Scrophulariaceae	whole plant	epilepsy
32	<i>Azadirachta indica</i> A.Juss.	Caesalpiniaceae	tuber	throat ulcers
33	<i>Bacopa monnieri</i> (L) Wettst.	Elatinaceae	leaf	constipation & stomach disorders
34	<i>Bauhinia racemosa</i> Lam.	Bixaceae	root	fever
35	<i>Bergia ammannioides</i> Roxb.	Nyctaginaceae	root	stomach-ache
36	<i>Bixa orellana</i> L.	Nyctaginaceae	root	fever
37	<i>Boerhavia diffusa</i> L.	Bombucaceae	seed	to promote virility & pregnancy
38	<i>Boerhavia erecta</i> L.	Bursereaceae	resin	fever

39	<i>Bombax ceiba</i> L.	Burseraceae	bark	toothache
40	<i>Boswellia ovalifoliolata</i> BaLet.Henry.	Brassicaceae	seed	diarrhoea
41	<i>Boswellia serrata</i> Roxb.ex Colebr.	Euphorbiaceae	leaf	rheumatism
42	<i>Brassica nigra</i> L.	Anacardiaceae	bark	boils
43	<i>Breynia vitis-idea</i> (Burm.f.) Fischer	Capparaceae	leaf	indigestion
44	<i>Buchanania axillaris</i> (desr.) Raman.	Fabaceae	leaf	stomach-ache
45	<i>Cadaba fruticosa</i> (L.) Druce in Bot.	Fabaceae	leaf	dysentery
46	<i>Cajanus cajan</i> (L.) Mill	Clusiaceae	fruit	tooth-ache
47	<i>Cajanus scarabaeoides</i> (L.) du Petit	Asclepiadaceae	leaf	skin diseases
48	<i>Calophyllum inophyllum</i> L.	Asclepiadaceae	leaf	stomach-ache
49	<i>Calotropis gigantea</i> (L.) R.Br.in Ait	Combretaceae	root & leaf	ulcers, intestinal worms
50	<i>Calotropis procera</i> (Ait.) R.Br.	Fabaceae	root	enlargement of liver
51	<i>Calycopteris floribunda</i> Lam.	Rubiaceae	bark	fever
52	<i>Canavalia gladiata</i> (Jacq.)DC.	Capparaceae	root, bark	ear-ache
53	<i>Canthium dicoccum</i> (Gaertn) Teijsm & Binn.	Sapindaceae	leaf	burns
54	<i>Capparis zeylanica</i> L.	Apocynaceae	leaf, root	fever, wounds of cattle
55	<i>Cardiospermum halicacabum</i> L.	Caesalpiniaceae	leaf	eczema & herpes
56	<i>Carissa spinarum</i> L.	Caesalpiniaceae	leaf	skin diseases
57	<i>Cassia alata</i> L.	Caesalpiniaceae	leaf	fractures
58	<i>Cassia fistula</i> L	Caesalpiniaceae	leaf	constipation, cuts, wounds & boils
59	<i>Cassia occidentalis</i> L	Lauraceae	stem	muscle pains
60	<i>Cassia senna</i> L	Rubiaceae	bark	dysentery & diarrhoea
61	<i>Cassytha filiformis</i> . L	Celastraceae	seed	rheumatism
62	<i>Catunaregam spinosa</i> (Thumb.) Tirveng.	Apiaceae	leaf	skin diseases
63	<i>Celastrus paniculatus</i> Willd.	Asclepiadaceae	tuber	digestive stimulant
64	<i>Centella asiatica</i> (L) Urban in Mart.	Liliaceae	leaf	scorpion sting
65	<i>Ceropegia candelabrum</i> L	Flindersiaceae	gum	urinary disorders
66	<i>Chlorophytum tuberosum</i> (Roxb.) Baker in J.	Meliaceae	leaf	cold
67	<i>Chloroxylon swietenia</i> DC.	Menispermaceae	tuber	chest pain, stomach-ache
68		Vitaceae	leaf	to kill bed bugs
69	<i>Cipadessa baccifera</i> (Roth) Miq	Vitaceae	stem	fevers, headache
70	<i>Cissampelos pareira</i> L	Eupherbiaceae	bark & fruit	fish poison
71	<i>Cissus pallida</i> (Wight & Arn.) Planch.	Ranunculaceae	leaf	lice eradication
72	<i>Cissus quadrangularis</i> L	Cleomaceae	leaf	ear-ache
73	<i>Cleistanthus collinus</i> (Roxb.)Benth.	Cleomaceae	leaf	wounds, tooth-ache
74	<i>Clematis gouriana</i> Roxb.ex DC.	Verbenaceae	leaf	skin diseases
75	<i>Cleome gynandra</i> L	Verbenaceae	bark	ear-ache
76	<i>Cleome viscosa</i> L	Verbenaceae	root	asthma
77	<i>Clerodendrum philippinum</i> Schauer in DC.	Fabaceae	seed	constipation
78	<i>Clerodendrum phlomidis</i> Lf.	Menispermaceae	leaf	headache
79	<i>Clerodendrum serratum</i> (L) Moon Cat	Cochlospermaceae	bark	fractures
80	<i>Clitoria ternatea</i> L	Burseraceae	resin	supernatural forces
81	<i>Cocculus hirsutus</i> (L) Diels in Pfreich.	Costaceae	rhizome	wounds, cold, cough
82	<i>Cochlospermum religiosum</i> (L.) Alston	Fabaceae	root	chicken pox
83	<i>Commiphora caudata</i> (Wight & Arn) Engler in	Fabaceae	seed	scorpion sting
84	DC	Fabaceae	leaf	skin diseases
85	<i>Costus speciosus</i> (Koenig) Sm.	Periplocaceae	latex	cuts & boils
86	<i>Crotalaria calycina</i> Schrank	Zingiberaceae	rhizome	paronychia
87	<i>Crotalaria laburnifolia</i> L	Hypoxidaceae	tuber	cuts, diarrhoea
88	<i>Crotalaria verrucosa</i> L	Cycadeaceae	bark	sores
89	<i>Cryptostegia grandiflora</i> R.Br.	Poaceae	whole plant	wounds
90		Solanaceae	leaf	burns
91	<i>Curcuma longa</i> Duchesne ex Lam.	Periplocaceae	root	constipation
92	<i>Curculigo orchoides</i> Gaertn.	Malvaceae	leaf	skin diseases

93	<i>Cycas beddomei</i> W.T.T.Dyer in Trans	Bambucaceae	leaf	eye sores
94	<i>Cynodon dactylon</i> (L) Pers.	Loranthaceae	bark	wounds, menstrual troubles
95	<i>Datura metel</i> L	Mimosaceae	leaf	skin diseases
96	<i>Decalepis hamiltonii</i> Wight & Arn.	Dilleniaceae	fruit	hair wash
97	<i>Decaschistia crotonifolia</i> Wight & Arn	Ebenaceae	fruit	fracture
98	<i>Dendrocalamus strictus</i> (Roxb.) Nees in Linn	Ebenaceae	fruit	wounds, ulcers
99	<i>Dendrophthoe falcate</i> (Lf.) Etting . in denkschr.	Sapindaceae	bark	muscle pains
100	<i>Dichrostachys cinerea</i> (L) Wight & Arn	Asteraceae	leaf	hair tonic, head-ache
101	<i>Dillenia indica</i> L	Acanthaceae	leaf	cough
102	<i>Diospyros melanoxylon</i> Roxb.	Euphorbiaceae	seed	asthma & bronchitis
103	<i>Diospyros ebenum</i> Koen . ex Retz	Acanthaceae	root	body-ache
104	<i>Dodonaea viscosa</i> (L) Jacq	Fabaceae	leaf	joint pains
105	<i>Eclipta prostrata</i> (L) L	Erythroxlaceae	leaf	intestinal worms
106	<i>Elytraria acaulis</i> (Lf.) Lindan in EngL & Prant	Asteraceae	leaf	cold
107	L	Euphorbiaceae	leaf	dysentery
108	<i>Emblica officinalis</i> L	Convolvulaceae	leaf	jaundice, cold
109	<i>Eranthemum capense</i> L	Moraceae	latex	boils & blisters
110	<i>Erythrina variegata</i> L	Moraceae	root bark	wounds
111	<i>Erythroxyllum monogynum</i> Roxb.	Moraceae	stem bark	diarrhoea
112	<i>Eupatorium glandulosum</i> HBK	Moraceae	leaf	skin diseases
113	<i>Euphorbia hirta</i> L	Rubiaceae	bark	gastric troubles
114	<i>Evolvulus alsinoides</i> (L) L	Zingiberaceae	tuber	eye sores, head for cooling effect
115	<i>Ficus benghalensis</i> L	Liliaceae	tuber	rheumatism
116	<i>Ficus microcarpa</i> L	Verbenaceae	fruit	dandruff, wounds
117	<i>Ficus racemosa</i> L	Amaranthaceae	root	cough
118	<i>Ficus religiosa</i> L	Tiliaceae	root bark	dysentery
119	<i>Gardenia gummifera</i> L	Tiliaceae	root bark	stomach-ache
120	<i>Globba bulbifera</i> Roxb.	Periplocaceae	root	diabetes, lactogogue
121	<i>Gloriosa superba</i> L	Orchidaceae	tuber	stomach-ache
122	<i>Gmelina asiatica</i> L	Sterculiaceae	leaf	hairwash
123	<i>Gomphrena decumbens</i> Mart.Beitr.	Periplocaceae	root	stomach ulcers
124	<i>Grewia abutilifolia</i> Vent.ex Juss.	Adiantaceae	leaf (frond)	wounds & ulcers of cattle
125	<i>Grewia hirsuta</i> Vahl	Apocynaceae	bark	dysentery, bronchitis
126	<i>Gymnema sylvestre</i> (Retz.) R.Br.	Ulmaceae	leaf	boils & blisters
127	<i>Habenaria roxburghii</i> (Pers.) R.Br.	Asclepiadaceae	root	dysentery
128	<i>Helicteres isora</i> L	Linaceae	root bark	snake bite, inflammatory swellings
129	<i>Hemidesmus indicus</i> (L) R.Br.Ait.	Poaceae	root	piles
130	<i>Hemionitis arifolia</i> (Burm.f.) Moore	Fabaceae	leaf	skin diseases
131	<i>Holarrhena antidysenterica</i> (Buch-	Rubiaceae	root	abdominal pains, leucorrhoea &
132	Ham.)WalL	Oleaceae	leaf	bronchitis
133	<i>Holoptelea integrifolia</i> (Roxb.) Planch.	Euphorbiaceae	latex	ear-ache
134	<i>Holostemma ada-kodien</i> Schult.	Euphorbiaceae	latex	burns
135	<i>Hugonia mystax</i> L	Acanthaceae	root	tooth-ache
136	<i>Imperata cylindrica</i> (L) Raeus.	Anacardiaceae	stem bark	muscle pains
137		Verbenaceae	leaf	bone fracture
138	<i>Indigofera mysorensis</i> RottLex Dc.	Lythraceae	leaf	cuts & skin diseases
139	<i>Ixora pavetta</i> Andr.	Lamiaceae	leaf	hair tonic & headache
140	<i>Jasminum sambac</i> (L.) Ait.	Asclepidaceae	latex	diarrhoea
141	<i>Jatropha curcas</i> L.	Lamiaceae	leaf	cold , skin diseases
142	<i>Jatropha gossypifolia</i> L.	Rutaceae	leaf	skin irritation
143	<i>Justicia betonica</i> L	Oleaceae	inflorescence	vomiting, constipation hair wash
144	<i>Lanea coromandalica</i> (Houtt.) Merr.	Oleaceae	root	asthma
145	<i>Lantana camara</i> L	Lauraceae	stem bark	menstrual disorders
146	<i>Lawsonia inermis</i> L	Lygodiaceae	rhizome	bone fracture

147	<i>Leonotis nepetifolia</i> (L) R.Br.	Sapotaceae	seed	intoxication
148	<i>Leptadenia reticulata</i> (Retz.) Wight & Arn.	Euphorbiaceae	fruit	hairwash
149	<i>Leucas aspera</i> (Willd.) Link	Anacardiaceae	gum/resin	anthelmintic
150	<i>Limonia acidissima</i> L	Euphorbiaceae	rhizome	cuts
151	<i>Linociera ramifera</i> L.	Sapotaceae	fruit	sores
152	<i>Linociera zeylanica</i> L.	Celastraceae	leaf & seed	worm infestation
153	<i>Litsea deccanensis</i> Gamble	Melastomaceae	leaf	hard boils, testes in pains
154	<i>Lygodium flexuosum</i> (L.) Sw.Schrad.	Meliaceae	seed	wounds
155	<i>Madhuca indica</i> Gmel	Melastomaceae	root bark	helminthiasis
156	<i>Mallotus philippensis</i> (Lam.) Muell- Arg.	Convolvulaceae	whole plant	leucorrhoea
157	<i>Mangifera indica</i> L.	Magnoliaceae	root	bone fracture, piles
158	<i>Manihot esculenta</i> Crantz.	Sapotaceae	flower	terminate early pregnancy
159	<i>Manilkara zapota</i> (L) P.Royen	Rubiaceae	stem bark	wounds
160	<i>Maytenus heyneana</i> (Roth.) Raju & Babu	Rubiaceae	root & leaf	dysentery
161	<i>Melastoma malabathricum</i> L	Fabaceae	root	diarrhoea & dysentery
162	<i>Melia azadarach</i> L	Fabaceae	leaf	skin diseases, elephantiasis
163	<i>Memecylon umbellatum</i> Burm.	Rutaceae	leaf	fish poison
164	<i>Merremia tridentata</i> (L) G.L.Shah	Apocynaceae	root bark	intestinal worms, constipation
165	<i>Michelia champaka</i> L	Oleaceae	leaf	worm infections, skin diseases
166	<i>Mimusops elengi</i> L	Ochnaceae	stem bark	fever
167	<i>Mitragyna parvifolia</i> (Roxb.) Korth.	Lamiaceae	leaf	snake bite
168	<i>Morinda pubescens</i> J.E.Smith in Rees.	Lamiaceae	leaf	ear-ache
169	<i>Mucuna pruriens</i> (L) DC.	Cactaceae	fruit	lice eradication, ear-ache
170	<i>Mundulea sericea</i> (Willd.) A.Chaval in Compt.	Hydrocharitaceae	leaf	whooping cough
171	<i>Naringi crenulata</i> (Roxb.) Nicolson	Oxalidaceae	leaf	fever
172	<i>Nerium oleander</i> Mill	Periplocaceae	latex	dysentery
173	<i>Nyctanthes arbortristis</i> L	Passifloraceae	leaf	cuts & wounds
174	<i>Ochna obtusata</i> DC.	Malvaceae	leaf	head-ache, skin diseases
175	<i>Ocimum basilicum</i> L	Pedaliaceae	seed	vermifuge
176	<i>Ocimum tenuiflorum</i> L.	Periplocaceae	latex	joint pains
177	<i>Opuntia stricta</i> (Haw.) Syn.	Acanthaceae	leaf	boils and blisters
178	<i>Ottelia alismoides</i> (L.) Pers.	Verbenaceae	leaf	fractures, snake bite
179	<i>Oxalis corniculata</i> L.	Euphorbiaceae	whole plant	kidneys
180	<i>Oxystelma esculentum</i> (L.) R.Br.ex Schult.	Solanaceae	leaf	tooth-ache, jaundice
181	<i>Passiflora foetida</i> (L) R.Br.ex Schult	Apiaceae	root	jaundice
182	<i>Pavonia zeylanica</i> (L) Car.	Piperaceae	root	ulcers
183	<i>Pedaliium murex</i> L	Piperaceae	leaf	tooth-ache, cold & cough
184	<i>Pergularia daemia</i> (Forsk.) Chiov.	Piperaceae	root	bronchitis
185	<i>Perisrtophe bicalyculata</i> (Retz.) Nees in Wall	Lamiaceae	leaf	asthma
186	<i>Phyla nodiflora</i> (L) Greene	Plumbaginaceae	leaf	cough
187	<i>Phyllanthus amarus</i> Schum.	Polygalaceae	leaf	wounds
188	<i>Physalis minima</i> L	Fabaceae	seed	constipation
189	<i>Pimpinella tirupatiensis</i> BaL & Subr	Myrtaceae	leaf	skin diseases
190	<i>Piper attenuatum</i> . Buch – Ham . ex Miq	Fabaceae	wood	throat pain
191	<i>Piper betel</i> L	Asteraceae	leaf	diabetes, intestinal disorders in cattle
192	<i>Piper longum</i> L	Apocynaceae	root	head-ache
193	<i>Plectranthus amboinicus</i> (Lour.) Spreng.	Convolvulaceae	root	fever
194	<i>Plumbago zeylanica</i> L	Sansevieriaceae	rhizome	labour pains
195	<i>Polygala elongata</i> Klein Klein ex Willd.	Santalaceae	stem bark	head-ache
196	<i>Pongamia pinnata</i> (L) Pierre	Sapindaceae	fruit & seed	wounds, head-ache
197	<i>Psidium guajava</i> L	Asclepiadeceae	latex	hairwash, head-ache
198	<i>Pterocarpus santalinus</i> L	Anacardiaceae	seed	boils & blisters
199	<i>Pulicaria wightiana</i> (DC.) Clarke	Asteraceae	leaf	fissures
200	<i>Rauvolfia tetraphylla</i> L	Pedaliaceae	seed	emollient & vulnerary

201	<i>Rivea hypocrateriformis</i> (Desr)Choisy	Dipterocarpaceae	resin	tooth-ache, piles
202	<i>Sansevieria roxburghiana</i> Schutt. & Schult.	Smilacaceae	tuber	evil spirits
203	<i>Santalum album</i> L	Solanaceae	fruits	throat ulcers
204	<i>Sapindus emarginatus</i> Vahl	Meliaceae	flower	intestinal worms
205	<i>Sarcostemma acidum</i> (Roxb.) Voigt	Rubiaceae	root	ear-ache
206	<i>Semecarpus anacardium</i> . L	Verbenaceae	leaf	tooth infection
207	<i>Senecio tenuifolius</i> Burm.	Stemonaceae	leaf	cuts & wounds
208	<i>Sesamum indicum</i> L	Sterculiaceae	gum	night blindness
209	<i>Shorea tumbuggaia</i> Roxb.	Scrophulariaceae	leaf	dysentery
210	<i>Smilax zeylanica</i> L	Strychnaceae	root bark	diabetes
211	<i>Solanum anguivi</i> Lam.	Strychnaceae	seed	scorpion sting
212	<i>Soymida febrifuga</i> (Roxb.). A. Juss.	Asteraceae	leaf	scorpion sting
213	<i>Spermacoce articularis</i> L	Rubaceae	fruit	ear-ache, sore legs
214	<i>Stachytarpheta jamaicensis</i> (L) Vahl	Fabaceae	root	intestinal worms, dysentery
215	<i>Stemona tuberosa</i> Lour.	Combretaceae	leaf	stomach-ache
216	<i>Sterculia urens</i> Roxb.	Combretaceae	gum	ear-ache
217	<i>Striga asiatica</i> (L) O.Kuntze	Combretaceae	fruit	urinary disorders
218	<i>Strychnos nux – vomica</i> L	Combretaceae	fruit	cough
219	<i>Strychnos potatorum</i> L	Malvaceae	leaf	peptic ulcers
220		Acanthaceae	leaf	swellings
221	<i>Synedrella nodiflora</i> (L) Gaertn	Menispermaceae	tuber	irritation
222	<i>Tarenna asiatica</i> (L) Kuntze	Rutaceae	fruit	stomach ulcers
223	<i>Tephrosia purpurea</i> (L) Pers.	Euphorbiaceae	root	dysentery, influenza
224	<i>Terminalia arjuna</i> (Roxb.ex Dc) Wight	Aizoaceae	leaf	blisters & skin diseases
225	<i>Terminalia bellirica</i> (Goertn.) Roxb.	Zygophyllaceae	whole plant	partial head-ache
226	<i>Terminalia chebula</i> Retz.	Boraginaceae	root	stomach-ache & urinary disorders
227	<i>Terminalia pallida</i> Brand.	Amaranthaceae	whole plant	wounds
228	<i>Thespesia populnea</i> (L) SoLex Correa	Asteraceae	leaf	whooping cough, hydrophobia
229	<i>Thunbergia erecta</i> (Benth.) T.Andres.	Tiliaceae	leaf	eye sores, wounds
230	<i>Tinospora cordifolia</i> (Willd.) Miers	Periplocaceae	leaf	diarrhoea
231	<i>Toddalia asiatica</i> (L) Lam.	Rubiaceae	rhizome	epilepsy
232	<i>Tragia involucrata</i> L	Hydrocharitaceae	leaf	cooling
233	<i>Trianthema portulacastrum</i> L	Asteraceae	leaf	leucorrhoea
234	<i>Tribulus terrestris</i> L	Asteraceae	leaf	skin diseases, anthelmintic
235	<i>Trichodesma zeylanicum</i> (Burm.f.) R.Br.	Poaceae	leaf	abdominal pains
236	<i>Trichuriella monsoniae</i> (Lf.) Towns.	Verbenaceae	leaf	rheumatism
237	<i>Tridax procumbens</i> L	Asclepidiaceae	leaf	rheumatism
238	<i>Triumfetta rhomboidea</i> Jacq.	Sterculiaceae	root	boils
239	<i>Tylophora indica</i> (Burm.f)Merr.	Olacaceae	leaf	inflammations
240	<i>Typha angustata</i> Boy & Chaub.	Rhamnaceae	stem bark	skin diseases
	<i>Vallisneria natans</i> (Lour.)H.Hara			cuts
	<i>Vernonia albicans</i> . Dc.			
	<i>Vernonia cinerea</i> (L) Less.			
	<i>Vetiveria zizanioides</i> (L) Nash.			
	<i>Vitex negundo</i> L			
	<i>Wattakaka volubilis</i> (Lf.) Stapf.in Curtis			
	<i>Waltheria indica</i> L.			
	<i>Xemenia americana</i> L.			
	<i>Ziziphus oenoplia</i> (L) Mill			

The present study describes the identification and documentation of Ethno-medicinal plants of Rayalaseema region for the first time.

Medicinal values of forest plants were given a special attention because traditional medicines are often cheaper

and easier to access for the local people, than western medicine. Although there is growing interest in the cultivation of some NTFP and medicinal plants, the majority will probably continue to be harvested in the wild to some extent in the foreseeable future. The latest and first hand information on the total number of 250 species of medicinal plants with their uses for different ailments and diseases have been enumerated and documented for the present study. The studies reviewed points to the need for much more long-term monitoring. The present study reveals the families of Fabaceae, Euphorbiaceae, Acanthaceae, Asclepiadaceae, Lamiaceae and Verbenaceae played a dominant role.

The present studies aimed at documenting all Ethnobotanical Products data covering most important eco-sensitive zones of Rayalaseema Forests. The video graphic documentation is more useful in identification of plant species in the field and it may also useful for conservation strategies. Generally, it was noted that Non-Timber Forest Products were under threat, due to decline of forests in various ways and the disappearance of traditional knowledge and values. The endemic and endangered species of Tirumala hills especially *Cycas beddomei* W.T.T.Dyer, *Pterocarpus santalinus*. L., *Terminalia pallida* Brandis, *Boswellia ovalifoliolata* Bal. et. Henry, *Syzygium alternifolium* (Wt.) Walp., *Pimpinella tirupatiensis* Bal.& Subr., *Rhynchosia beddomei* Baker and vulnerable plant species *Terminalia chebula* Retz., have greater significance and need conservation strategies to rescue the plant populations. The further chemotyping studies and biological assays are necessary to develop and discovering new drugs by using this Ethno-medicinal plants data.

ACKNOWLEDGMENT

The authors gratefully acknowledged sincere thanks to all forest field staff of the Rayalaseema Region and also Girijan Cooperative Corporation Limited for rendering their kind cooperation during the field work. The help extended by the local people is also acknowledged. DowlathabadMuralidhar Rao is highly thankful to Andhra Pradesh Netherlands Biotechnology Programme (APNLBT), Prof.Pakki Reddy and Prof.T.Pulliah, Department of Boatany for their help.

REFERENCES

- Agarwal, S.R. (1981). Trees, flowers and fruits in Indian folk-songs, folk-proverbs and folk-tales. In Jain, S.K.(ed) Glimpses of Indian Ethnobotany. 3-12 Oxford & IBH Publishing Co., New Delhi.
- Ahmedullah M. & Nayar M.P. (1986). 'Endemic Plants of the Indian Region' Vol.I – Botanical Survey of India, Calcutta.
- Aiyappan, A. (1948). *Report on the socio-economic studies Jon aboriginal Tribes of the province of Madras*. Govt. Press, Madras.
- Aruneekumar and Niteswar, K. (1990). *Medicinal Plants of Kakinada (East Gopdavari District, Andhra Pradesh)*. Indian Medicine. 2(2-4) : pp. 229-232.
- Caius, J.F. (1938). *Medicinal and poisonous plants of India*. 40 : 45: pp. 576-586.
- Ellis, J.L. (1966). A contribution to the vascular Flora of Balapalle range of Sheshachalam reserve forest, Kadapa District, Andhra Pradesh.
- Ellis, J.L. (1968). The flora of Nallamalais on the Eastern Ghats of India – 1-A- Preliminary list.
- Ellis, J.L. (1982). Wild Plant Resources of Nallamalais on the Eastern Ghats. *Proc. Seminar on Resources, Development and Environment in the Eastern Ghats*. Proc. Andhra University, Waltair. pp.65-69.

- Harasreeramulu, S. (1980). Some useful medicinal plants from Srikakulam District, Andhra Pradesh. *J. Indian Bot. Soc.* 59 (Suppl) : 168 (abstract)
- Hemadri, K., Sarma, C.R.R. and Rao, S.S. (1987). Medicinal plant wealth of Andhra Pradesh, Part-II. *Anc. Sci. Life* 7(1) : pp. 55-64.
- Jain, S.K. (1991). Dictionary of Indian Folk Medicine & Ethnobotany, Deep Publications, New Delhi.
- Jain, S.K. 1981 (Ed.) Glimpses of Indian Ethno botany, Oxford & IBH Pub. Co., New Delhi.
- Jeevanram, A. & Venkataraju, R.R. (2001). *Certain potential crude drugs used by tribals of Nallamalais, Andhra Pradesh, for skin diseases.* *Ethnobotany* 13(1 & 2) pp. 110-115.
- Reddy, R.V., Hemambara Reddy, M. & Venkataraju, R.R. (1996). *Ethnobotany of less known tuber yielding plants from Andhra Pradesh, India.*
- Shiva M.P. – ‘*State Forest Resources Yielding Both Wood & NTFP/MFP – Series No.1* – Published by Centre of Minor Forest Products (COMFORPTS), Dehradun, India.
- Shiva M.P. & Mathur R.B. (1996). ‘Management of Minor Forest Produce for Sustainability’. Oxford of IBH Publishing Co. Pvt. Ltd., New Delhi – Calcutta.
- Shiva M.P. (1998). ‘*Value addition and Marketing of Bhabar Grass*’ A Case study in U.P. *Shivaliks* – Center of Minor Forest Products (COMFORPTS), Dehradun, India.
- Sudarsanam, G. (1987). *Ethnobotanical Survey and Phytopharmaco-Chemical-screening of selected medicinal plants of Chittoor, A.P., Ph.D. Thesis, S.V.University, Tirupati, India.*
- Muralidhara Rao, D. & Pullaiah, T. (2001). *Ethno-Medico-Botanical studies in Guntur District of Andhra Pradesh, India.* *Ethnobotany* 13(1 & 2), pp. 40-44.
- Muralidhara Rao D. and T. Pullaiah. 2002. Identity, nomenclature and distribution of Some interesting Flowering plants of Eastern Ghats .*EPTRI Proceeding*
- Muralidhara Rao.D. and T.Pullaiah .2002. Spiral ginger - A Rare Medicinal Herb. MFP NEWS ,Vol.XII,No.3,2002
- Vedavathi, S. & Mrudula, V. (1996). Herbal Folk Medicine of Yanadis of Andhra Pradesh. *Ethnobotany*, 8 : pp. 109-111
- Pullaiah T. and D.Muralidhara Rao(2002) *Flora of Eastern Ghats vol 1. Ranunculaceae- Moringaceae* . Regency Publications. New Delhi.
- Yasodamma, N. (1983). *Flora of Ananthapur District, Andhra Pradesh, India, Ph.D. Thesis, S.K.University, Ananthapur, A.P., India*