



ETHNOVETERINARY MEDICINAL PRACTICES IN RAYALA SEEMA REGIONS OF ANDHRA PRADESH, INDIA

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ABSTRACT

The present communication deals with the plants used to treat common diseases in cattle and pet animals in the Rayalaseema region of Andhra Pradesh, India. For the purpose of the ethnoveterinary practices, 183 plant species belonging to 158 genera and 70 families were identified. Among the 183 plant species 165 are dicotyledons, 17 species are belongs to monocotyledons and one is pteridophyte. the top 10 dominant ones are Euphorbiaceae represented by 14 species (7.65%) followed by Fabaceae with 12 species (6.56%); Apocynaceae, Lamiaceae, Malvaceae and Solanaceae 7 species (3.82%) of each; Asclepiadaceae, Asteraceae, Liliaceae, Mimosaceae 6 species (3.28%) of each; Annonaceae and Rutaceae 5 species (2.73%) each. The present study on 'Ethnomedicine Veterinary practices of Rayalaseema region, Andhra Pradesh helps in documentation and preservation of the traditional knowledge of the ethnic groups and provides certain important clues for understanding the complex heritage of tribal communities and their relationship with environment.

Keywords: medicinal plants, remedy, usage, animals, Rayalaseema.

INTRODUCTION

Ethnoveterinary medicine is a broad field encompassing people's beliefs, skills, knowledge and practices related to veterinary health care, [1] Medicinal plants traditionally used in the treatment of animal

diseases play a crucial role in local health modalities. Specifically, phytotherapeutics often represent the primary form of therapy in rural veterinary care as allopathic modalities remain inaccessible, especially in the developing world [2] However, traditional ethnoveterinary knowledge is still mainly orally transmitted from generation to generation (i.e., in the form of traditional remedies, poems, drawings stories, folk myths, proverbs and songs). Due to the nature of oral transmission, this form of local knowledge remains fragile and threatened, and presents an urgent need for being recorded and documented. The Utilization of medicinal plants goes back to early people, who discovered a wealth of therapeutic agents in the Plant Kingdom and exploited their healing potential as a remedy for several animal ailments. In the recent years ethno pharmacology played a vital role in the undeveloped and developing countries of the Globe.

Animal husbandry is the backbone of the rural sector of the Rayalaseema region and development of this sector may improve the living standard of rural communities. Despite the fact that traditional knowledge is very much important for the livestock health and productivity, the documentation of this knowledge is very much neglected in majority of the remote areas of Rayalaseema. This traditional knowledge has been passed orally from generation to generation but it may be extinct or may be endangered due to the current rapid socio economic, environmental, and technological changes Therefore, the documentation of such knowledge is very crucial before its extinction for future developments. In



this region the animals have been effecting in seasonally from different diseases like Septic wounds, Eye problems, Bloat, Tympany, Worms, Newcastle diseases, Retained after birth, Fertility, Gout/Inflammation, Snake bite, Delayed Parturition, Ephemeral fever, Poor milk flow, Fractures, Foot and Mouth disease, Galactagogue, Haematuria, Bronchitis, Renderpest, Cold and Cough, Maggot wounds, Helmenthiasis, Trypanosomiasis, Lice/Tics, Fleas, Septicemia, Anthrax, Bacterial diseases, Pneumonia, Yoke galls, Reproductive disorders and Diarrhoea. These diseases have controlled by the tribal people by using several traditional medicinal plants but lacking in proper documentation. Very limited studies[3,4] have been carried out so far on the traditional system of health care practiced by local communities in the livestock sector of the Rayalaseema region in particular and Andhra Pradesh in general.

MATERIAL AND METHODS

The methodology and mode of approach for this study is adopted from the classical works of [5,6,7,8,9]. Emphasis was given mainly to intensive field work in the selected tribal pockets. The field trips were planned in such a way so as to cover the selected pockets in every month of a year. Each field trip was of 5-7 days duration covering 4-5 pockets in a day. In each forest range area 2-4 days were spent at a time. The very first field trip of the study in the area was completely devoted to acquaintance with the local chiefs, priests, vaidyas, herbal doctors,

headman's, elderly people and educated students and also gather information on customs, beliefs, taboos, religious rites, food habits, agricultural practices etc., and these were cross-checked, critically analyzed and documented. The aborigines and others meant subsequent field trips were mainly devoted to gather the information on ethnoveterinary practices. Four types of informants were chosen by selected sampling and random sampling methods, they are

- ❖ The village native doctors and Medicine men
- ❖ Village Headman's, Priests, prominent persons, their wives and other women, those who are aware in the concerned.
- ❖ Man and women in working in the fields and Shandies (santha's) and other common places with fifty years old.

Identification of specimens

After completing the plant collection from the fields the specimens were identified by comparing with the authentic certified specimens at the Andhra University herbarium, Department of Botany. Later these identifications were checked again at the regional herbarium or in the laboratory with help of Floras, Monographs and other relevant literature and the correct name was provided to each plant. Each plant was critically studied and identified using the 'Flora of Presidency of Madras' [10] 'Flora of Andhra Pradesh' [11] and with the available authenticated literature.

Table 1. Plants and Plant Parts Used in Different Veterinary Diseases

S.No	Name of the Species	Habit	Part used	Disease
1	<i>Abrus precatorius</i> L.	Climber	Leaves	Insect bite
			Stem bark	Anthrax
2	<i>Abutilon indicum</i> (L.) Sweet	Shrub	Leaves	Diarrhoea
			Leaves	Dysentery
			Leaves	Helminthiasis
			Leaves	Sore eye
			Stem bark	Ephemeral fever
3	<i>Acacia chundra</i> L.	Tree	Stem bark	Ulcers and Wounds
			Stem bark	Trypanosomiasis
			Stem bark	Indigestion
4	<i>Acacia nilotica</i> (L.) Del.	Tree	Seeds	Fertility
			Stem bark	Dysentery
			Flower	Jaundice
			Pods	Lactation
			Leaves	Skin disease
5	<i>Acalypha indica</i> L.	Herb	Leaves	Wounds
			Root and Leaves	Intestinal worms
			Leaves	Opacity of carnea
6	<i>Achyranthes aspera</i> L.	Herb	Whole Plant	Diuretic
			Leaves	Eye injury
			Roots	Insect bite
			Whole Plant	Removal of Placenta



			Leaves	Wounds
			Whole Plant	Snake bite
			Leaves	Dogbite
7	<i>Aegle marmelos</i> (L.) Correa	Tree	Fruit	Tympany
			Leaves	Opacity of carnea
			Leaves	Bone fracture
			Fruit	Diarrhoea
			Fruit	Mouth Disease
			Leaves	Retained Placenta
			Fruit	Internal injury
8	<i>Aerva lanata</i> (L.) Juss. ex.	Herb	Root	Constipation
			Whole Plant	Malarial Fever
9	<i>Agave americana</i> L.	Herb	Leaves	Wounds
10	<i>Ailanthus excelsa</i> Roxb.	Tree	Stem bark	Skin disease
			Stem bark	Swelling
			Leaves	Lice
11	<i>Alangium salvifolium</i> L.F.	Tree	Root	Wounds
			Root	Snake bite
			Stem bark	Snake bite
12	<i>Albizia lebbek</i> (L.) Willd.	Tree	Stem bark	Trypanosomiasis
			Stem bark	Fever
13	<i>Allium cepa</i> L.	Herb	Bulb	Food poisoning
			Bulb	Flatulence
			Bulb	Tongue infection
			Bulb	Hoof disease
			Bulb	Cough
			Bulb	Insect bite
			Bulb	Dogbite
14	<i>Allium sativa</i> L.	Herb	Clove	Food poisoning
			Bulb	Mastitis
			Bulb	Indigestion
15	<i>Aloe vera</i> L.	Herb	Pulp	Mastitis
			Pulp	Insect bite
			Whole Plant	Burns
			Leaves	Sterility
			Pulp	injuries
			Whole Plant	Skin disease
16	<i>Alstonia scholaris</i> (L.) R.Br.	Tree	Stem bark	Diarrhoea
			Latex	Dysentery
			Stem bark	Fever
			Stem bark	Skin disease
17	<i>Alstonia venenata</i> R. Br.	Tree	Stem bark	Galactagogue
18	<i>Amaranthus spinosus</i> L.	Herb	Whole Plant	Swelling
			Whole Plant	Galactagogue
19	<i>Amaranthus viridis</i> L.	Herb	Seeds	Tympany
20	<i>Amorphophallus paeoniifolius</i>	Herb	Corn	Helminthiasis
21	<i>Andrographis paniculata</i>	Herb	Root	Insect bite
			Whole Plant	Fever
			Leaves	Ephemeral fever
			Leaves	Epilepsy
			Leaves	Wounds
22	<i>Anisomeles indica</i>	Herb	Leaves	Ephemeral fever
23	<i>Annona reticulata</i> L.	Tree	Fruit	Bone fracture



			Leaves	Worms
			Leaves	Maggot
			Fruit	Ticks
24	<i>Annona squamosa</i> L.	Tree	Leaves	Wounds
			Flower	Ephemeral fever
			Fruit	Insect bite
			Leaves	Worms
			Leaves	Dysentery
			Leaves	Ectoparasites
			Seeds	Insect bite
25	<i>Anogeissus latifolia</i>	Tree	Seeds	Snake bite
			Stem bark	Tympany
			Stem bark	Skin disease
			Stem bark	Horn cancer
			Stem bark	Fever
			Stem bark	Cataplasm
			Leaves	Arthritis
26	<i>Argemone mexicana</i> L.	Herb	Leaves	Swelling
			Leaves	Insect bite
27	<i>Aristolochia indica</i> L.	Cl;imber	Root	Insect bite
			Root	Snake bite
			Root	Tympany
28	<i>Asparagus racemosus</i> Willd.	Shrub	Root	Insect bite
			Stem	Dysentery
			Fruit	Galactagogue
			Whole Plant	Increase milk
			Whole Plant	Diarrhoea
29	<i>Atylosia scarabaeoides</i> (L.)	Climber	Leaves	Dysentery
			Whole Plant	Estrus
			Leaves	Ephemeral fever
30	<i>Azadirachta indica</i> A. Juss.	Tree	Stem bark	Ephemeral fever
			Stem bark	Anthrax
			Leaves	Black quarter Disease
			Stem bark	Blisters
			Leaves	Eczema
			Leaves	Fever
			Leaves	Chronic bronchitis
31	<i>Azima tetracantha</i> Lam.	Shrub	Leaves	Foot and Mouth
			Seeds	Placenta
32	<i>Balanites aegyptiaca</i> (L.) Del	Tree	Stem bark	Snake bite
			Seeds	inflammation
			Roor bark	injuries of eye
			Leaves	Dysentery
33	<i>Bambusa arundinacea</i>	Tree	Stem	Bone fracture
			Whole Plant	Wounds
34	<i>Barleria prionitis</i> L.	Herb	Whole Plant	Wounds
35	<i>Barringtonia acutangula</i>	Tree	Root bark	Rheumatism
			Leaves	Dysentery
36	<i>Bauhinia vahlli</i> Wight	Lian	Stem bark	Bone fracture
37	<i>Boerhaavia diffusa</i> Linn.	Herb	Whole Plant	Diuretic
			Leaves	Ear ache
38	<i>Bridelia retusa</i> (L.) Spreng.	Tree	Stem bark	Abortion
			Leaves	Desability
39	<i>Butea monosperma</i> Taub.	Tree	Root	Wounds



			Stem bark	Babesiosis
			Seeds	Deworming
			Flower	Paralysis
			Root	Tympany
40	<i>Calotropis gigantea</i> R.Br.	Shrub	Leaves	Swelling
			Flower	Ephemeral fever
			Leaves	Arthritis
			Root	Wounds
41	<i>Calotropis procera</i> (Ait.)	Shrub	Root	Epitaxis
			Flower	intestinal worms
			Root bark	Cracking of teats
			Stem	Wounds
			Stem bark	Swelling
			Latex	Skin disease
			Root	Lice
			Latex	Wounds
42	<i>Canthium parviflorum</i> Lam.	Shrub	Stem bark	Insect bite
			Leaves	Bone fracture
43	<i>Caralluma adscendens</i>	Herb	Leaves	Bloat
44	<i>Cardiospermum halicacabum</i>	Climber	Leaves	Ephemeral fever
			Root	Insect bite
			Leaves	Rheumatism
			Whole Plant	Parasitic
			Leaves	Diarrhoea
45	<i>Carissa spinarum</i> Linn.	Shrub	Stem bark	Ephemeral fever
			Root	Maggot
			Root	Wounds
46	<i>Cassia fistula</i> L.	Tree	Root	Throat swelling
			Stem bark	Diarrhoea
			Fruit	Swelling
			Stem bark	Ephemeral fever
			Leaves	Dysentery
			Seeds	Snake bite
			Fruit	Asthma
47	<i>Cassia tora</i> Linn.	Shrub	Seeds	Galactagogue
			Seeds	increase weight
			Seeds	Skin disease
48	<i>Cassytha filiformis</i> L.	Clibber	Whole Plant	Bone fracture
49	<i>Ceiba pentandra</i> (L.) Gaertn.	Tree	Leaves	Trypanosomiasis
50	<i>Chloroxylon swietenia</i> DC.	Tree	Stem bark	Ephemeral fever
			Leaves	Ulcers and Woonds
			Stem bark	Yokegall
51	<i>Cipadessa baccifera</i> (Roth)	Tree	Stem bark	Dysentery
			Stem bark	Fever
52	<i>Cissus quadrangularis</i> L.	Cliber	Stem bark	Bone fracture
			Stem	Dysentery
			Leaves	Ephemeral fever
			Stem	Cough
			Stem	Bone fracture
53	<i>Cleistanthus collinus</i> (Roxb.)	Tree	Root bark	Foot and Mouth
			Stem bark	Skin disease
54	<i>Cocculus hirsutus</i> (L.) Diels.	Climber	Leaves	Urinary disorder
			Leaves	Epitaxis



			Leaves	Blood motions
55	<i>Cochlospermum religiosum</i> L.	Tree	Stem bark	Jaundice
56	<i>Commelina benghalensis</i> Linn.	Herb	Leaves	Eye injury
			Whole Plant	Yokesores
			Whole Plant	constipation
			Whole Plant	Helminthiasis
57	<i>Costus speciosus</i> (koen.) Sm.	Shrub	Rhizome	Jaundice
58	<i>Croton bonplandianum</i> Baill.	Herb	Leaves	Lice
59	<i>Cryptolepis buchanani</i> Roem.	Climber	Leaves	Lactation
			Leaves	Babesiosis
			Leaves	Galactagogue
60	<i>Cuminum cyminum</i> L.	Herb	Seeds	Indigestion
			Seeds	Acidic indigestion
			Seeds	Tympany
61	<i>Curculigo orchioides</i> Gaertn.	Herb	Root	Impaction
			Stem	Impaction
			Root	Ophthalmic
62	<i>Curcuma longa</i> L.	Herb	Rhizome	Wounds
			Rhizome	Mouth blisters
			Whole Plant	Wounds
			Rhizome	Swelling
			Rhizome	Eye injury
			Rhizome	Bone fracture
			Rhizome	Swelling of teats
63	<i>Cuscuta reflexa</i> Roxb.	Climber	Stem	Maggot
			Whole Plant	Poultry disease
			Whole Plant	Bone fracture
64	<i>Cynodon dactylon</i> L.	Herb	Whole Plant	Internal wounds
			Rhizome	Internal injury
			Plant Juice	Haematuria
			Whole Plant	Mastitis
65	<i>Dalbergia latifolia</i> Roxb.	Tree	Stem bark	Gout
			Stem bark	Lice
66	<i>Dalbergia sissoo</i> Roxb.	Tree	Leaves	Diarrhoea
			Leaves	Blisters
			Leaves	Ureatic
			Leaves	Diarrhoea
67	<i>Datura metal</i> L.	Shrub	Leaves	Snake bite
68	<i>Dendrocalamus strictus</i> Roxb.	Shrub	Leaves	Anthrax
			Leaves	Easy delivery
			Leaves	Panting
			Tender shoot	Expulsion of Placenta
			Tender shoot	Poisoing
			Leaves	Anthrax
			Stem	Bone fracture
69	<i>Dillenia pentagyna</i> Roxb.	Tree	Leaves	Anthrax
			Stem bark	Wounds
			Stem Bark	Narcotic
			Whole Plant	Bone fracture
70	<i>Diospyros melanoxylon</i> Roxb.	Tree	Root bark	Helminthes
			Leaves	Mastitis
			Stem bark	Paralysis



71	<i>Eclipta prostrata</i> L.	Herb	Stem bark	Diarrhoea
			Leaves	Rheumatism
			Fruit	Foot and Mouth
72	<i>Elephantopus scaber</i> Linn.	Herb	Leaves	Diarrhoea
			Leaves	Loose Motions
			Root	Wounds
73	<i>Entada pursaetha</i> DC.	Lian	Seeds	Vermifuge
			Seeds	Diarrhoea
74	<i>Eucalyptus globulus</i> L	Tree	Oil	Wounds
75	<i>Euphorbia hirta</i> L.	Herb	Leaves	Horn cancer
			Stem	Galactagogue
			Whole Plant	Cough
			Whole Plant	Loose Motions
76	<i>Ficus benghalensis</i> L.	Tree	Root	Diarrhoea
			Latex	Maggot
			Root	Dysentery
77	<i>Ficus hispida</i> L.f.	Tree	Leaves	Expulsion of Foetus
			Leaves	Diarrhoea
			Leaves	Expulsion of Placenta
78	<i>Ficus racemosa</i> L.	Tree	Stem bark	Skin disease
			Fruit	Galactagogue
			Stem bark	Render Pest
			Latex	Antiseptic
			Leaves	Dysentery
			Stem bark	Skin disease
			Fruit	Placenta
79	<i>Ficus religiosa</i> L.	Tree	Stem bark	Foot and Mouth
			Leaves	Bronchitis
			Stem bark	Cough
			Leaves	Dysurea
80	<i>Gardenia latifolia</i> Ait.	Tree	Leaves	Wounds
			Stem bark	Trypanosomiasis
81	<i>Gloriosa superba</i> L.	Climber	Root	Anthrax
			Root	Nasal and Ear Drops
			Tuber	Foot and Mouth
			Tuber	Maggot
82	<i>Glycosmis pentaphylla</i> DC	Tree	Whole Plant	Indigestion
			Seeds	Pyrexia
83	<i>Grewia hirsuta</i> Vahl.	Tree	Root	Bone fracture
84	<i>Grewia tiliaefolia</i> Vah.	Tree	Root bark	Dislocated Joints
85	<i>Hedyotis corymbosa</i> L	Herb	Whole Plant	Trypanosomiasis
86	<i>Helianthus annuus</i> L	Herb	Seeds	Reproductive Disorder
87	<i>Hemionitis arifolia</i> (Burm. F.)	Herb	Leaves	Ulcers and Wounds
88	<i>Holarrhena pubescence</i> Wall.	Tree	Stem bark	Helminthiasis
			Stem bark	Wounds
89	<i>Holoptelea integrifolia</i> (Roxb.)	Tree	Leaves	Bronchitis
90	<i>Hyptis suaveolens</i> (L.) Poit.	Shrub	Leaves	conjunctivitis
91	<i>Indigofera tinctoria</i> L.	Shrub	Whole Plant	Rabies
92	<i>Ixora pavetta</i> Andr.	Shrub	Stem bark	Ephemeral fever
93	<i>Jatropha curcas</i> L.	Shrub	Leaves	Wounds
			Latex	Eye injury
			Root	Bronchitis
			Root	Tympany



94	<i>Jatropha gossypifolia</i> Linn.	Shrub	Root	Injuries
			Leaves	Cold and Cough
95	<i>Justicia adhatoda</i> L.	Shrub	Leaves	Bronchitis
			Leaves	Blisters
96	<i>Kalanchoe pinnata</i> (Lam.)	Herb	Leaves	Skin disease
			Leaves	Insect bite
97	<i>Lannea coromandelica</i> Murr.	Tree	Stem bark	Anthrax
98	<i>Lawsonia inermis</i> L.	Tree	Leaves	Loose Motions
			Leaves	Foot and Mouth
99	<i>Leonotis nepetaefolia</i> (L.)	Shrub	Leaves	Ephemeral fever
			Root	Mastitis
100	<i>Leucas cephalotes</i> (Roth.) Spr.	Herb	Whole Plant	Malarial Fever
			Leaves	Old Boils
			Leaves	Ulcers and Wounds
101	<i>Macaranga peltata</i> (Roxb.)	Tree	Stem bark	Deworming
			Leaves	Maggot
102	<i>Madhuca longifolia</i> (Koen.)	Tree	Flower	Kill Worms
			Seeds	Pains and Stiffness
103	<i>Mallotus philippensis</i> (Lam.)	Tree	Seeds	Diarrhoea
			Seeds	Wounds
			Seeds	Kill Worms
104	<i>Malvastrum coromandelianum</i> (L.) Garcke	Shrub	Leaves	Insect bite
			Leaves	Mosquitobites
105	<i>Mangifera indica</i> L.	Tree	Seeds	Vermifuge
			Stem bark	Wounds
			Stem bark	Healing Fracture
			Stem bark	Diarrhoea
			Seeds	Dysentery
106	<i>Manilkara hexandra</i> (Roxb.)	Tree	Stem bark	Throat swelling
107	<i>Martynia annua</i> Linn.	Shrub	Seeds	Wounds
			Leaves	Ulcers and Wounds
			Leaves	Epilepsy
108	<i>Melia azedarach</i> L.	Tree	Leaves	Ephemeral fever
			Leaves	Swelling
			Leaves	Lice
109	<i>Miliusa tomentosa</i> Roxb.	Tree	Stem bark	Trypanosomiasis
110	<i>Mimosa pudica</i> L.	Herb	Leaves	Oestrus
111	<i>Mollugo nudicaulis</i> Lam.	Herb	Leaves	Ripen Abscesses
112	<i>Momordica charantia</i> L.	Herb	Leaves Herb	Placenta
			Leaves Climber	Skin disease
			Whole Plant	Wounds
113	<i>Moringa oleifera</i> Lam.	Tree	Root bark	Rheumatism
			Stem bark	Arthritis
			Leaves	Injury
			Leaves	Wounds
			Leaves	Anthrax
114	<i>Murraya koenigii</i> (L.) Spreng.	Tree	Leaves	Fertility
			Whole Plant	Fever
115	<i>Murraya paniculata</i> (Linn.)	Tree	Leaves	Bone fracture
			Leaves	Rheumatic Pains
116	<i>Nicotiana tabacum</i> Linn.	Shrub	Leaves	Parasitic
			Leaves	Wounds
			Leaves	Foot and Mouth



			Seeds	Foot and Mouth
117	<i>Ocimum americanum</i> Linn.	Herb	Leaves	Wounds
			Whole Plant	Lice
118	<i>Ocimum basilicum</i> L.	Herb	Leaves	Eczema
			Leaves	Snake bite
119	<i>Ocimum tenuiflorum</i> L.	Herb	Whole Plant	Cough
			Leaves	Constipation
			Leaves	Skin disease
120	<i>Oroxylum indicum</i> (Linn.)	Tree	Stem bark	Maggot
			Seeds	Wounds
			Root bark	Wounds
121	<i>Oxalis corniculata</i> L.	Herb	Whole Plant	Increase milk
122	<i>Pedaliium murex</i> L.	Herb	Fruit	Diuretic
123	<i>Pergularia daemia</i> (Forsk.)	Climber	Leaves	Ephemeral fever
			Leaves	Tympany
			Leaves	Anthrax
			Tender shoot	Impaction
			Leaves	Gout
			Leaves	Muscular pain
124	<i>Phyllanthus amarus</i> L.	Herb	Leaves	Dysentery
125	<i>Phyllanthus emblica</i> L.	Tree	Fruit	Anthrax
			Fruit	Rheumatism
			Stem bark	Fever
			Leaves	Bone fracture
126	<i>Physalis minima</i> L.	Herb	Whole Plant	Swelling
127	<i>Piper longam</i> L.	Climber	Fruit	Mouth blisters
			Fruit	Wounds
128	<i>Plumbago zeylanica</i> L.	Climbing Shrub	Leaves	Ephemeral fever
			Whole Plant	Sores
			Leaves	Bone fracture
			Leaves	Indigestion
			Leaves	Constipation
			Root	Diarrhoea
129	<i>Plumeria alba</i> L.	Tree	Latex	Scabies
130	<i>Polyalthea cerasoides</i> Bedd.	Tree	Stem bark	Ephemeral fever
131	<i>Polygala arvensis</i> Willd.	Herb	Leaves	Snake bite
132	<i>Pongamia pinnata</i> (Linn.)	Tree	Seeds	Indigestion
			Stem bark	Dysentery
			Stem bark	Trypanosomiasis
			Leaves	Skin disease
			Seeds	Ringworm
			Leaves	Wounds
133	<i>Prosopis cineraria</i> (L.) Druce	Tree	Root	Beberiosis
			Leaves	Insect bite
134	<i>Psidium guajava</i> L.	Tree	Leaves	Helminthiasis
135	<i>Pterocarpus marsupium</i>	Tree	Stem bark	Deworming
136	<i>Pterolobium hexapetalum</i> (Roth) Sant. & Wagh.	Tree	Stem bark	Dyspepsia
			Root	Tapeworms
			Leaves	Lice
			Stem bark	Cough
137	<i>Ricinus communis</i> L.	Tree	Seeds	Indigestion
			Leaves	Placenta



			Seeds	Gas proramme
			Seeds	Horn cancer
			Leaves	Increase milk
			Latex	Scabies
			Leaves	Constipation
138	<i>Sansevieria roxburghiana</i>	Herb	Leaves	Trypanosomiasis
139	<i>Schleichera oleosa</i> (Lour.)	Tree	Seeds	Wounds
			Seeds	Maggot
140	<i>Securinega leucopyros</i> Muell.	Shrub	Leaves	Wounds
141	<i>Semecarpus anacardium</i> L.	Tree	Fruit	Foot sore
			Seeds	Foot and Mouth
			Seeds	Cough
			Seeds	Wounds
142	<i>Sesbania grandiflora</i> (L.) Poir.	Tree	Fruit	Dysentery
			Leaves	Opacity of carnea
			Seeds	Tympany
143	<i>Sida acuta</i> L.	Herb	Leaves	Skin disease
			Leaves	Diarrhoea
144	<i>Sida cordifolia</i> Linn.	Herb	Leaves	Rheumatism
145	<i>Smilax zeylanica</i> Linn.	Climber	Roots	Amoebiasis
			Roots	Dysentery
			Roots	swelling
146	<i>Solanum nigrum</i> L.	Herb	Leaves	Gastritis
147	<i>Solanum surattense</i> Burm.F.	Herb	Flower	Ophthalmic
			Leaves	Expectorant
			Whole Plant	Bone fracture
148	<i>Solanum torvum</i> Sw.	Herb	Fruit	Diarrhoea
149	<i>Soymida febrifuga</i> A. Juss	Tree	Stem bark	Trypanosomiasis
150	<i>Sterculia urens</i> Roxb.	Tree	Stem bark	Bone fracture
151	<i>Strychnos nux-vomica</i> L. (Musini)	Tree	Seeds	Insect bite
			Seeds	Anaemia
			Stem bark	Rheumatism
152	<i>Strychnos potatorum</i> Linn. f.	Tree	Seeds	Eye infection
			Seeds	Sexual stimulent
153	<i>Syzygium cumini</i> (L.) Skeels	Tree	Stem bark	Stomach troubles
			Stem bark	Maggot
			Leaves	Foot and Mouth
			Stem bark	Flatulence
			Root bark	Diarrhoea
			Leaves	Wounds
154	<i>Tamarindus indica</i> L.	Tree	Seeds	Bone fracture
			Leaves	Odema
			Fruit	Bruises
			Leaves	Wounds
155	<i>Tephrosia purpurea</i> (L.) pers.	Herb	Whole Plant	Skin disease
156	<i>Terminalia bellirica</i> (Gaertn.)	Tree	Fruit	Diarrhoea
			Fruit	Colic
			Stem bark	Wounds
			Fruit	Foot and Mouth
			Stem bark	Anthrax
157	<i>Terminalia chebula</i> Retz.	Tree	Fruit	Wounds
			Fruit	Anthrax
			Fruit	Foot and Mouth



			Leaves	Eye diseases
			Fruit	Dysentery
158	<i>Thespesia lampas</i> (Cav.) Dalz.	Shrub	Fruit	Eye diseases
			Stem	Fever
159	<i>Tinospora cordifolia</i> Hook.f.	Climber	Stem	Dysentery
			Whole Plant	Vomiting
			Leaves	swelling
			Aerial Parts	Foot and Mouth
160	<i>Toddalia asiatica</i> (L.) Lam.	Shrub	Leaves	Dyspepsia
			Root	Galactagogue
161	<i>Trianthema portulacastrum</i> L.	Herb	Root	Eye diseases
			Leaves	Sores
162	<i>Tribulus terrestris</i> Linn.	Herb	Fruit	Diarrhoea
			Stem	Wounds
163	<i>Trichodesma indicum</i> L. R. Br.	Herb	Root	Tapeworms
			Leaves	Bone fracture
164	<i>Trichosanthes tricuspidata</i> L.	Climber	Leaves	Fever
			Tubers	Dysentery
			Root	Poisoing
			Tubers	Tympany
165	<i>Tridax procubens</i> L.	Herb	Whole Plant	Wounds
			Leaves	Haematuria
166	<i>Triumfetta pentandra</i> A. Rich.	Shrub	Root	Placenta
			Leaves	Tympany
167	<i>Tylophora indica</i> (Burm. f.)	Climber	Whole Plant	Anthrax
			Leaves	Insect bite
168	<i>Urena lobata</i> Linn.	Herb	Leaves	Wounds
169	<i>Vernonia cinerea</i> (L.) Less.	Herb	Whole Plant	Worms
170	<i>Vigna mungo</i> (L.) Hepp.	Herb	Seeds	Constipation
			Seeds	Bone fracture
171	<i>Vigna radiata</i> (L.) R. Wilcz	Herb	Seeds	Cough
			Leaves	Wounds
			Seeds	Bone fracture
172	<i>Vitex negundo</i> L.	Shrub	Seeds	Cough
			Leaves	Wounds
173	<i>Wattakaka volubilis</i> (L.F.)	Climber	Stem bark	Yokegall
174	<i>Withania somnifera</i> L. Dunal	Shrub	Root	Weakness
			Fruit	Fever
175	<i>Woodfordia fruticosa</i> (L.)	Shrub	Leaves	Sores
			Flower	Wounds
176	<i>Wrightia arborea</i> (Dennst.)	Tree	Stem bark	Arthritis
177	<i>Wrightia tinctoria</i> (Roxb.)	Tree	Leaves	Trypanosomiasis
			Stem bark	Ephemeral fever
			Leaves	Tympany
178	<i>Xanthium strumarium</i> Linn.	Herb	Whole Plant	swelling
			Leaves	Maggot
			Leaves	Wounds
179	<i>Zea mays</i> L.	Herb	Corn	Reproductive Disorder
180	<i>Zingiber officinale</i> Rosc.	Herb	Rhizome	Diarrhoea
			Rhizome	Constipation
			Rhizome	Stomach troubles
			Rhizome	Anorexia
181	<i>Ziziphus jujuba</i> L.	Tree	Leaves	Burns



182	<i>Ziziphus xylopyras</i> L.	Shrub	Fruit	Skin disease
			Root	Anthrax
			Seeds	Wounds
183	<i>Ziziphus oenoplia</i> (L.) Mill.	Shrub	Leaves	Dysentery
			Stem bark	Horn cancer
			Stem bark	Bone fracture

Figure 1. Spectrum of taxa of ethnobotanical plants

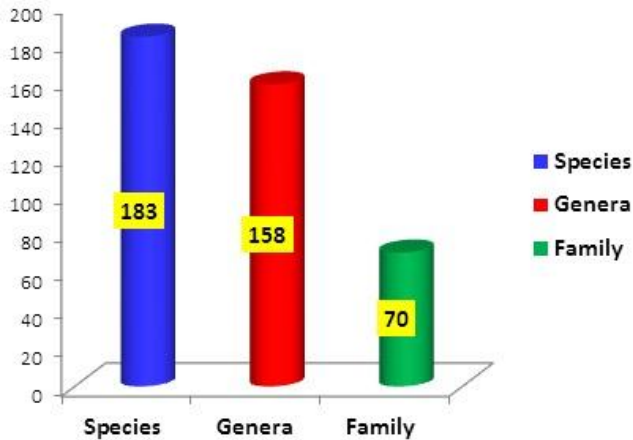


Figure 2. Taxa-wise classification of ethnoveterinary plants

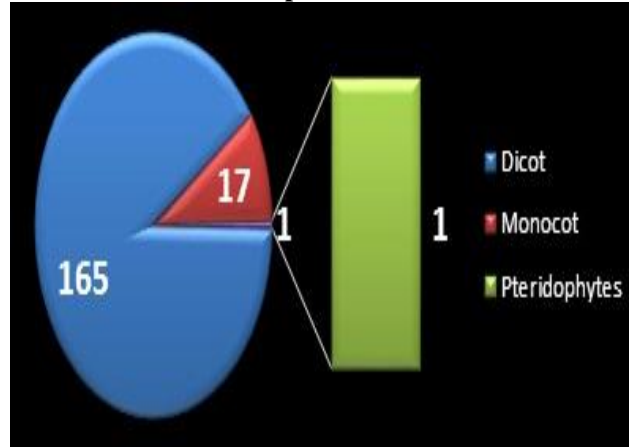


Figure 3: Habit-wise classification of ethnobotanical plants

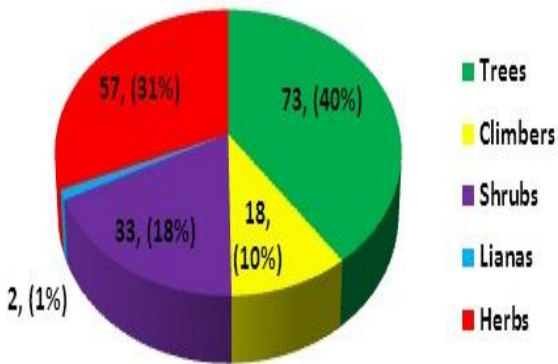


Figure 4. Top ten families of ethnoveterinary use

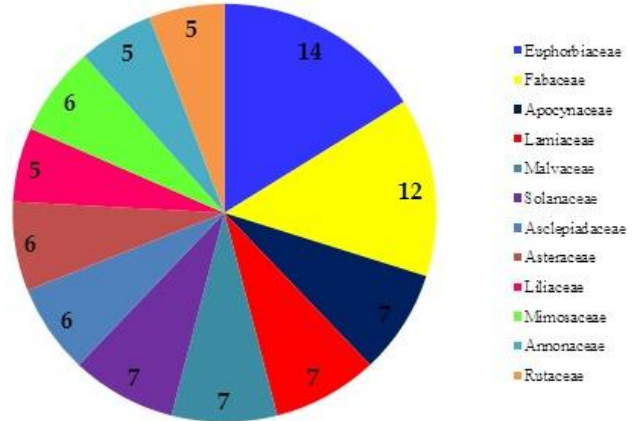
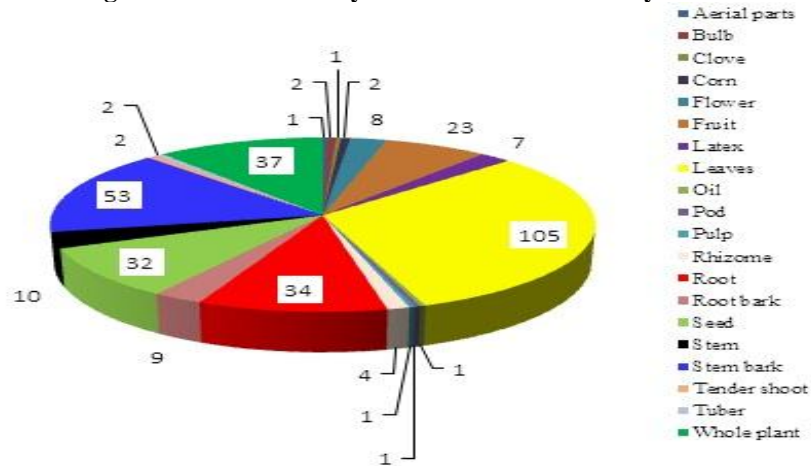


Figure 5. Part wise analysis of the Ethnoveterinary Plants



RESULTS AND DISCUSSIONS

In the present study a total of 183 species of plants included 158 genera and 70 families (Fig.-1) were recorded which are exploited by the tribals for their animal healthcare practices. Among the 183 plant species 165 are dicotyledons, 17 species are belongs to monocotyledons and one is pteridophyte (Fig.-2). The habit-wise analysis showed the richness of Trees (73) followed by herbs (57), Shrubs (33) climbers (18), and Lianas (2) (Fig.-3). For ethnoveterinary purposes a total 183 plant species were recorded. The family-wise analysis of ethnoveterinary data revealed that of the 70 families the top 10 dominant ones are Euphorbiaceae represented by 14 species (7.65%) followed by Fabaceae with 12 species (6.56%); Apocynaceae, Lamiaceae, Malvaceae and Solanaceae 7 species (3.82%) of each; Asclepiadaceae, Asteraceae, Liliaceae, Mimosaceae 6 species (3.28%) of each; Annonaceae and Rutaceae 5 species . (2.73%) each; others ranging from 4-1 species (Fig.-4).The morphological plant parts used for EVMPs purposes are classified into Aerial parts, Bulb, Clove, Corn, Flower, Fruit, Latex, Leaves, Oil, Pod, Pulp, Rhizome, Root, Root bark, Seed, Stem, Stem bark, Tender shoot, Tuber and Whole plant. Depending upon the plant part(s) used, leaf constitutes the highest percentage 105 (31.51%) of utilization and Aerial, Clove, Pod, Oil, Pod and pulp are the lowest (0.55%) while others falling in between these two. The leaves stood in highest position in usage with 105 (57.37%), Stem bark is used at a quantum of 53 (28.96%) in curing ailments followed by whole plant 37(20.21%), root 34 (18.58%), seed 32 (17.49%), fruit 23(2.57%), stem 10(5.46%), Root bark 9(4.92%), Flowers 8(4.37), Latex 7 (3.82%), rhizome 4 (2.18%), latex (2.52%), bulb, corn, tender shoot and tuber 2 (1.09%) of each (Fig.-5).The detailed. 183 species are used in curing 124 different ailments/diseases either single or in combination. In addition some of the species acts as health promoters. The number of ailments by which a single species is used to cure diseases ranges from 1-5. Of the 183 species, of which each of the 50 plants (27.32%) cures single ailments, followed by 41 plants (22.40%) each curing 2 ailments, 36 plants (19.67%) each curing 3 ailments, 26 plants (14.21%) each curing 4 ailments, 12 plants (6.56%) each curing 5 ailments, 5 plants (2.73%) each curing 6 ailments and 9 plants (4.92%) each curing 7 ailments , 3 plants (1.64) each cure 8 ailments and one plant (0.55%) cure 11 ailments. (Table.1). In the present study, the stem

bark of *Abrus precatorius* is used for anthrax. The root is for dysentery and wounds in Rayalaseema region of Andhra Pradesh [12] leaves for insect bite and retained placenta [13,14] and seeds for yoke gall [15,16] *Acacia nilotica*, pod and stem bark is for lactation, indigestion and gas problems. The spine for colic pain [17] stem bark for intestinal problem [18] and fruits for enhancing milk production [19] *Alangium salvifolium*, root for wounds caused by dog bite. Stem bark for snakebite the same part used for renderpest [17] *Aloe vera*, leaf is used to treat mastitis. leaf for septicemiasis ([17] and for fowi typhoid [18]. Whole plant of *Amaranthus spinosus* used for galactagogue and wounds [18] *Andrographis paniculata*, whole plant for fever. Leaves are used to cure epilepsy ([16] roots for insect bite and ephemeral fever [14] *Aristolochia indica*, whole plant for dyspepsia. Root and leaf for insect bite [11-15] *Azadirachta indica*, leaf for Ephemeral fever. Stem bark for anthrax ([15], for stomach pain [19], leaf for skin diseases and ephemeral fever [14,17] and whole plant for trypanosomiasis [18]

CONCLUSION

There is an urgent need for follow-up ethnopharmacologicals creening based on tribal claims and beliefs and formulate and standardize some herbal medicines based on ethnotherapeutics either with single plant or in combination for their safe and sustained use for human welfare. However, the present study on 'Ethno medicine Veterinary practices of Rayalaseema region, Andhra Pradesh helps in documentation and preservation of the traditional knowledge of the ethnic groups and provides certain important clues for understanding the complex heritage of tribal communities and their relationship with environment. Author hopes that the present study would be a good source of information to the institutes like Botanical Survey of India, research institutes of Council of Scientific and Industrial Research (CSIR), Indian Council of Agricultural research, and academic institutions such as schools, colleges and Universities. Further, it is also helpful for industries based on herbal products and pharmaceutical industries.

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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