



**ETHNOVETERINARY PRACTICES IN MULUGU REVENUE DIVISION OF
JAYASHANKAR BHUPALPALLY DISTRICT, TELANGANA**

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ABSTRACT

The present communication paper deals with some important medicinal plants used by Koya tribal community to treat common veterinary diseases in Mulugu revenue division in Jayashankar Bhupalapally districts of Telangan, India. 36 healers were interviewed and recorded the medicinal plants and method of preparation of the drug. The herbal medicine is presented disease wise alphabetically and the information including mode of administration along with scientific name of the plant. For the ethnoveterinary practices, 57 species representing 57 genera and belonging to 40 families were identified. The common veterinary ailments in this region are snake bite, Bone fracture, Anti-helminthiasis, Broken Horns, Conjunctivitis, Diarrhoea, Dog bite, Fever, Foot diseases, Inflammation, Tick infection, Swelling of abdomen, Wounds and Sores, etc.

KEYWORDS: Koya Tribe. Mulugu revenue division, Anti-helminthiasis, veterinary diseases.

INTRODUCTION

Over a long period of time and through trial and error, the ethnic and rural folk have developed a wealth of domestic animal health care practices. Such indigenous knowledge is based on experience, while the practices are time-tested.^[10] Quarter part of the population of these area lives in remote area and is possession of a heath of domesticated animal stock, which they maintain largely, using the traditional medicine.^[2,6] The koya and Lambada are major tribes in this area. Their knowledge of ethnoveterinary medicine can be used elsewhere to cure common diseases of the livestock. The available information on ethnoveterinary medicine in Telangana is scanty.^[6-9] The Present paper enumerates plant based ethnoveterinary curative techniques found in Mulugu revenue division area of Jayashankar Bhupalapally district. The district is spread over an area of 6,175 square kilometer (2,384 sq mi). It is bounded on north and north east by Gadchiroli district and Bijapur district of Maharashtra and Chhattisgarh respectively, on east by Bhadradi district, on south by Mahabubabad district and Warangal district, on west by Hanamkonda and Peddapalli district. The district comprises 20 mandals and 2 revenue divisions are Bhupalpally and Mulugu.

MATERIALS AND METHODS

Several field trips were under taken during the period 2015-2017 to the ethnic villages of study area. The data

have been collected personally from the tribal villages. The resource persons including aged ethnic people cum owners of cattle, besides local vaidyas. The methodology was adopted as described by Jain.^[3-5] Each medicinal practice was cross checked with at least 3 or 4 informants, Ethnoveterinary data are collected for documentation. The botanical specimens of all ethnoveterinary plants were collected, identified with help of flora and deposited at the herbarium of Government Degree College, Mulugu, for further reference.^[1]

RESULT AND DISCUSSIONS

The information was gathered from thirty male (83.3%) and six female (16.6%) informants for the study purpose. Out of thirty six informants, ten (27.7%) of the informants are found between the age 19-39, fourteen (38.8%) informants were between the ages 40-59, eight (22.2%) informants were between the ages 60-79 and the remaining 04 (11.1%) of the informants were between the ages 80-100. Much knowledge of traditional medicine obtained from elder informants. 57 plant species were collected and identified. Of these, 57 species were used by ethnic villages of the Mulugu Revenue Division to treat animal ailments. 57 species belonging to 57 genera and 40 families find their application in veterinary medicines. Almost all parts of the plants find their way into 72 preparations aim at curing 24 diseases related to animals.

Table 1: Medicinal plants used for treating the diseases of Animals.

S.No,	Botanical Name	Family	P.U	diseases Treated	Preparation & Application
1	<i>Abrus precatorius</i> L.	Fabaceae	Rt, Sd	Dysentery,/ cleaning stomach after delivery	Root paste along with boiled rice,/ Seed powder
2	<i>Acacia chundra</i> (Roxb. ex Roth.) Willd.	Mimosaceae	SB	Ephemeral fever	Stem bark decoction
3	<i>Acalypha indica</i> . L.	Euphorbiaceae	Rt, Lf	Deworms	Root and leaves are crushed in 1:2 ratio and administered
4	<i>Achyranthes aspera</i> L.	Amaranthaceae	Lf	Wounds	Paste of leaves (100 gms.) mixed with butter and is applied to wounds for healing
5	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Lf	Wounds and Ulcers	The leaf paste mixed with turmeric is applied on the Wounds and Ulcers
6	<i>Ailanthus excelsa</i> Roxb	Simaroubaceae	Lf	Fever,/ remove the maggots from the wounds	Decoction of the leaves taken orally,/ Decoction of the leaves
7	<i>Alangium salvifolium</i> (L.f.) Wang.	Alangiaceae	Rt, Lf	Dog bite Wounds,/ opacity of cornea	Root ground with 20 seeds of piper nigrum and a pinch of mustard oil,/ leaf juice poured into the eye of cattle
8	<i>Andrographis paniculata</i>	Acanthaceae	WP, Lf	Skin Ailments,/ Snake bite	Whole plant paste mixed with coconut oil is applied on skin,/ The leaf juice mixed with water is given orally
9	<i>Annona squamosa</i> L.	Annonaceae	Sd	Tick infection and maggot wounds	Paste of seeds and leaves is applied on the skin
10	<i>Argemone mexicana</i> L.	Papaveraceae	Lt	Ulcerous wounds	Latex
11	<i>Aristolochia indica</i> L.	Aristolochiaceae	Lf	Snake bite,	Decoction of leaves
12	<i>Asparagus racemosus</i> Willd.	Liliaceae	Rt (tuber)	Enhance milk yield	Tuberous roots crushed and mixed with water given to milch animals
13	<i>Azadirachta indica</i> A.Juss.	Meliaceae	Lf	Broken Horns	Leaves of Azadirachta indica and Boerhavia diffusa , castor oil, calcium carbonate and sugar are mixed and the paste is tied around horns to cure fracture.
14	<i>Barleria prionitis</i> linn.	Acanthaceae	SB	Diarrhoea.	Decoction of bark
15	<i>Bauhinia racemosa</i> Lamk.	Caesalpinaceae	SB, Lf	Discharge the placenta,/ Redness of eye	Bark juice is fed to cattle to help discharge the placenta after delivery,/ Leaf juice applied over forehead
16	<i>Bombax ceiba</i> L.	Bombacaceae	Rt , Fl	Urinary troubles, / Dysentery	Root decoction , / Decoction of flowers
17	<i>Buchanania lanzan</i> Spreng.	Anacardiaceae	Gm , SB, Lf	Bone fracture	Gum mixed with water administered orally and Also tied with the stem bark of Litsea glutinosa on fracture area
18	<i>Butea monosperma</i> (Lam.) Taub.	Fabaceae	Sd	Intestinal worms	Seed paste is doses 100 grams once a day administered
19	<i>Calotropis gigantea</i> (L.) R.Br.	Asclepiadaceae	Rt, Veg.Bd	Yoke sore,/ Dysentery,/	Roots burnt and made into a paste with sesame oil,/ Seven

				Tuberculosis	vegetative birds are wrapped in a one castor leaf, baked and fed.
20	<i>Capparis zeylanica</i> L.	Capparaceae	Lf	Bone fracture	Leaves crushed with water mixed with 250 ml edible oil and applied to cattle in bone fracture.
21	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Lf	Fever	Leaves are ground with pepper and garlic, made in to a paste and given to cure fever
22	<i>Cassia fistula</i> L.	Caesalpinaceae	Ft, SB	Asthma./ Conjunctivitis	Dried pod powder is given orally./ Stem bark along with black pepper and leaves of Ocimum tenuiflorum ground to paste and applied to the eye of cattle
23	<i>Celosia argentea</i> L.	Amaranthaceae	Sd ,	Urinary disorder	Paste of fresh seeds is fed with ghee
24	<i>Chloroxylon swietenia</i> DC.	Flindersiaceae	SB,/ Lf	Yoke gall./ Wounds	Stem bark ash mixed with coconut oil is applied locally./ Leaves are ground turmeric and the paste is applied
25	<i>Cissus quadrangularis</i> L.	Vitaceae	WP	Bone fracture	Extract of whole plant is given orally in bone fracture
26	<i>Cleome viscosa</i> L.	Capparaceae	Lf	Killing maggots in sores	Decoction of leaves applied on sores for killing maggots in sore
27	<i>Cocculus hirsutus</i> (L.) Diels.	Menispermaceae	Lf	Killing maggots in sores	Leaves crushed with sugar administered with water to control blood motions
28	<i>Cochlospermum religiosum</i> (L.)	Cochlospermaceae	SB, Lf	Infertility	Decoction of leaf and stem bark is administered
29	<i>Cuscuta reflexa</i> Roxb.	Cuscutaceae	WP	Bone fracture	Whole plant is given orally
30	<i>Datura metel</i> L.	Solanaceae	Sd, Lf	Skin Diseases./ Tumour	Seed powder is used./ warmed leaves are rubbed over the affected parts in external tumours
31	<i>Dendrophthoe falcata</i> (L.f.) Enttingsh.	Loranthaceae	Lf	Inflammation	About 100 gms crushed leaves mixed with 25 gms of powdered rhizome of curcuma longa , slitly common salt, alum and 100 ml water. The mixture is boiled and made into a paste. The paste is applied tropically around affected area
32	<i>Dillenia pentagyna</i> Roxb.	Dilleniaceae	SB	Anti-helminthiasis	Bark pounded with tubers of Puraria tuberosa , later fermented with rice soaked water and administered half a litre per a day
33	<i>Dodonaea viscosa</i> (L.) Jacq.	Sapindaceae	Lf	Bone fracture	Leaf is exposed to heat directly and mixed with red soil then tied along the fractured area
34	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Lt	Wounds	Latex is applied on wounds
35	<i>Ficus benghalensis</i> L.	Moraceae	SB	Diarrhoea	50 gms of stem bark added same quantity of neem stem

					bark grind together and make bolus twice daily for three days to cure diarrhoea.
36	<i>Grewia hirsuta</i> Vahl.	Tiliaceae	Rt,	quick removal of placenta	50 ml. of root decoction is given orally to the affected animal
37	<i>Holarrhena pubescens</i> Wall.ex G.Don	Apocyanaceae	SB	Helminthiasis	10 gms of stem bark paste mixed in a glass of water is administered
38	<i>Lannea coromandelica</i> (Houtt.) Herrill.	Anacardiaceae	SB	Fever	Stem bark is ground with ginger and garlic and the paste is given
39	<i>Leucas aspera</i> L.	Lamiaceae	Lf	Fever	Two handful of leaves of Lucas aspera with three handfuls of Momordica cherantia leaves and twice of one lemon and two handful of rice powder are mixed in water and ground
40	<i>Manilkara hexandra</i> (Roxb.) Dub.	Sapotaceae	SB	Throat	Stem bark crushed with that of Cissus quadrangularis and garlic is crushed and the decoction is given
41	<i>Martynia annua</i> L	Pedaliaceae	Lf	Wounds and Sores	The leaf paste applied on the wounds and sores
42	<i>Pergularia daemia</i> (Forsk.) Chiov.	Asclepiadaceae	Lf	Foot diseases	Leaves of Pergularia daemia , Champhor and naphthalene are ground well and the paste is applied externally
43	<i>Phyllanthus amarus</i> Schumach&Thonn.	Euphorbiaceae	Rt, Lf	Indigestion,/ Wounds	Powder of roots (20gms) is given to animals suffering indigestion,/ Juice of leaves is applied to wounds
44	<i>Phyllanthus reticulatus</i> Poir.	Euphorbiaceae	Lf	Dysentery	Leaf juice is administered
45	<i>Physalis minima</i> L.	Solanaceae	St	Swelling of abdomen	Twigs of the plants (200 m.l) is mixed with leaves of Clerodendrum viscosum (100 gms) and is administered
46	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Rt	Inflammation	Root paste is externally applied on local inflammation caused by injury
47	<i>Senna occidentalis</i> (L) Link.	Caesalpinaceae	Lf	Helminthiasis	Leaf soaks in water and drench for helminthiasis
48	<i>Sida acuta</i> Burm.f.	Malvaceae	Lf	Wounds	The leaves of <i>sida acuta</i> and Azadirachta indica are applied on cut wounds
49	<i>Solanum surattense</i> Burm. f	Solanaceae	Ft	Eye infection	Fruit juice and apply 2-3 drops on affected eye
50	<i>Strychnos potatorum</i> L.F.	Loganiaceae	Sd,	Eye infection	Seed paste with honey is poured into the eye of cattle for eye infection
51	<i>Syzygium cumini</i> (L.) Skeels.	Myrtaceae	SB	Dysentery	Stem bark is mixed with curd and made in to a paste and given
52	<i>Tephrosia purpurea</i> (L.) Pers	Fabaceae	Rt	Wounds	Stem bark is mixed with curd and made in to a paste and given
53	<i>Terminalia bellirica</i>	Combretaceae	SB	Tumours and	Paste of bark applied tumours

	(Gaertn.) Roxb.			Wart	and warts.
54	<i>Tridax procumbens</i> L.	Asteraceae	Lf	Cuts,/Wounds	leaf paste topically applied on cuts and wounds
55	<i>Urena lobata</i> L.	Malvaceae	Lf	Wounds	Paste of leaves applied on wounds
56	<i>Xanthium strumarium</i> L.	Asteraceae	Lf	Chronic Wound	Leaf paste is applied on chronic wound of goats or sheep
57	<i>Ziziphus xylopyrus</i> (Retz) Wild	Rhamnaceae	Rt	Anthrax	Root crushed with Calotropis gigantean stem bark and Pterocarpus marsupium and 10-12 dry chillies is administered for 2-3 days with one litre of water

Key: PU= Parts used (Rt=Root; SB=Stem Bark; St= Stem; Lf=Leaf; Fl= Flower; Ft=fruits; Sd= Seed; Lt= Latex; Tu=Tuber; Gm= Gum; WP= whole plant).

Table 2: Plants arranged Disease- wise/ Therapeutic use-wise.

Sl. No.	Name of the Disease	Name of the Plant	No. of Plants used to cure
1	Anthrax	<i>Ziziphus xylopyrus</i> (Retz) Wild ;	1
2	Antidote for snake	<i>Andrographis paniculata</i> ; <i>Aristolochia indica</i> L. ;	2
3	Anti-helminthiasis	<i>Acalypha indica</i> . L. ; <i>Butea monosperma</i> (Lam.) Taub. ; <i>Dillenia pentagyna</i> Roxb. ; <i>Dodonaea viscosa</i> (L.) Jacq. ; <i>Holarrhena pubescens</i> Wall.ex G.Don ; <i>Senna occidentalis</i> (L) Link. ;	6
4	Bone fracture	<i>Buchanania lanzan</i> Spreng. ; <i>Capparis zeylanica</i> L. ; <i>Cissus quadrangularis</i> L. ; <i>Cuscuta reflexa</i> Roxb. ;	4
5	Broken Horns	<i>Azadirachta indica</i> ;	1
6	Discharge the placenta	<i>Abrus precatorius</i> L. ; <i>Bauhinia racemosa</i> Lamk. ; <i>Grewia hirsuta</i> Vahl ;	3
7	Conjunctivitis (Eye infection)	<i>Alangium salvifolium</i> (L.f.) Wang. ; <i>Bauhinia racemosa</i> Lamk. ; <i>Cassia fistula</i> L. ; <i>Solanum surattense</i> Burm. f ; <i>Strychnos potatorum</i> L.F. ;	5
8	Diarrhoea	<i>Barleria prionitis</i> linn. ; <i>Ficus benghalensis</i> L. ;	2
9	Dog bite	<i>Alangium salvifolium</i> (L.f.) Wang. ;	1
10	Dysentery	<i>Abrus precatorius</i> L. ; <i>Bombax ceiba</i> L. ; <i>Phyllanthus reticulatus</i> Poir. ; <i>Syzygium cumini</i> (L.) Skeels. ;	4
11	Enhance milk yield	<i>Asparagus racemosus</i> Willd. ; <i>Calotropis gigantea</i> (L.) R.Br. ;	2
12	Fever	<i>Acacia chundra</i> (Roxb. ex Roth.) Willd. ; <i>Ailanthus excelsa</i> Roxb ; <i>Cardiospermum halicacabum</i> L. ; <i>Lannea coromandelica</i> (Houtt.) Herrill. ; <i>Leucas aspera</i> L. ;	5
13	Foot diseases	<i>Pergularia daemia</i> (Forsk.) Chiov. ;	1
14	Infertility	<i>Cochlospermum religiosum</i> (L.) ;	1
15	Inflammation	<i>Dendrophthoe falcata</i> (L.f.) Enttingsh. ; <i>Plumbago zeylanica</i> L. ;	2
16	Killing the maggots in wounds	<i>Ailanthus excelsa</i> Roxb ; <i>Annona squamosa</i> L. ; <i>Cleome viscosa</i> L. ;	3
17	skin diseases	<i>Andrographis paniculata</i> ; <i>Datura metel</i> L. ;	2
18	Swelling of abdomen	<i>Physalis minima</i> L.;	1
19	Tick infection	<i>Annona squamosa</i> L.;	1
20	Tumour	<i>Datura metel</i> L. ; <i>Terminalia bellirica</i> (Gaertn.) Roxb. ;	2
21	Ulcers	<i>Aegle marmelos</i> (L.) Corr.;	1
22	Urinary troubles	<i>Bombax ceiba</i> L. ; <i>Celosia argentea</i> L.;	2
23	Wounds	<i>Achyranthes aspera</i> L. ; <i>Aegle marmelos</i> (L.) Corr. ; <i>Argemone mexicana</i> L.;	12

		Chloroxylon swietenia DC. ; Euphorbia hirta L. ; Martynia annua L ; Phyllanthus amarus Schumach&Thonn. ; Sida acuta Burm.f. ; Tephrosia purpurea (L.) Pers ; Tridax procumbens L. ; Urena lobata L. ; Xanthium strumarium L. ;	
24	Yoke sore	Calotropis gigantea (L.) R.Br. ;Chloroxylon swietenia DC. ;	2



Fig.1. Investigator is gathering the information on ethnoveterinary medicinal plants from the informants.



Plant part -wise analysis of the drug preparations indicate the use of 11 plant parts with the dominance of leaf as source of drug followed by root, stem bark, Whole plant, seed, fruit, stem, tuber, flower, gum and root bark. The secondary metabolic products, is in the form of latex and resins also find medicinal applications.

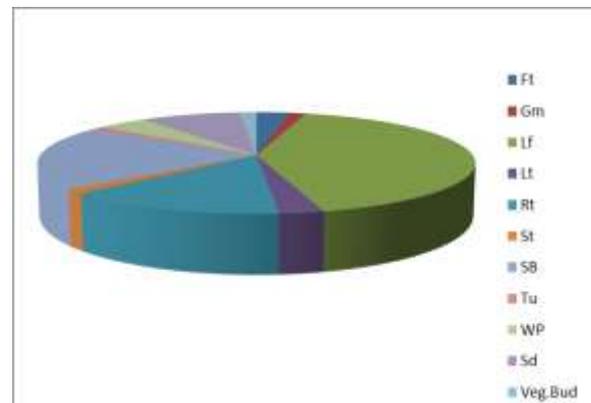


Fig.2: Plant parts used for treating the diseases of animals.

(Ft= Fruit; Gm= Gum; Lf= Leaf; Lt= Latex; Rt= Root; St= Stem; SB= Stem bark; Tu= Tuber; WP= Whole plant; Sd= Seed; Veg.Bud= Vegetative bud).



Of the types of crude drug preparation, paste is the most preferred form though decoctions, extracts and others. Since these preparations are difficult to administered to the animals, they are invariably mixed with cattle-feed, external application in the form of paste is common to animals. Most of the preparations are derived from a single plant. Eleven preparations for animals are made from multiple sources, Chilly, egg, jaggery are used in animal drugs.

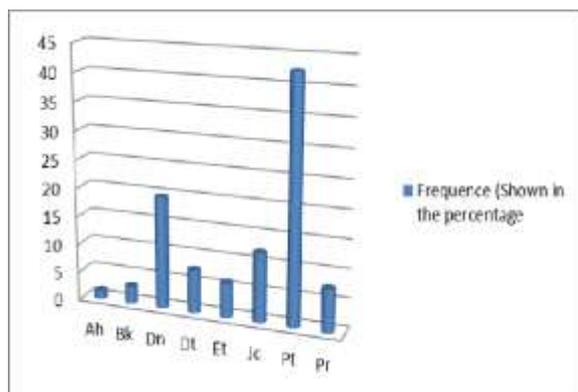


Fig. 3: Preparations used for treating the diseases of animals.

(Ah = Ash; Bk = Baked preparations; Dn = Decoction; Dt = Direct Use; Et = Extract; Jc = Juice; Pt = Paste; Pr = Powder).

Habit-wise analysis of the ethnomedicinal plants for Animals, the herbs constitute the highest species representative by herbs 23 species (40.35%), trees 22 species (38.59%), shrubs 07 species (12.28%), climbers 5 species (8.77%) (Fig. 4).

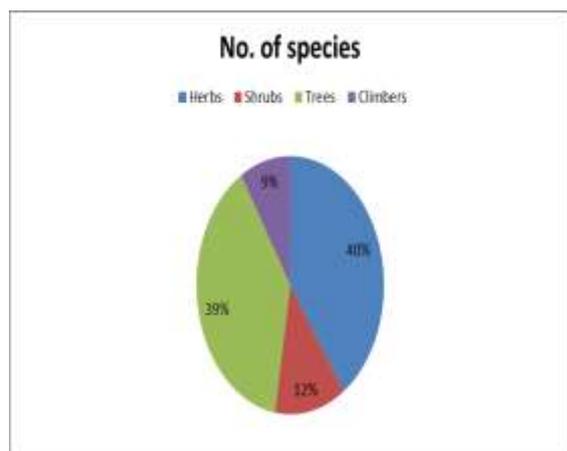


Fig 4: Habit-wise analysis of the ethnomedicinal plants.

The 57 ethnomedicinal plants were curing 24 Animal ailments of the total plants, the highest number of plant species (12) are used for wounds followed by Anti-helminthiasis (6 Species), conjunctivitis and fever (05 species), bone fracture and Desentery (04 species), etc.

On the study area, especially elders have deep knowledge about their surroundings. During the study knowledge difference was observed among the age groups. Regarding the age group, a rich knowledge of traditional medicine is mainly found among the elder members, young people do not have much knowledge compared with elders that is an indication of decline of the knowledge of traditional medicine in addition to secrecy. This might be related to the disinterest of young generation on traditional medicine. Medicinal plant knowledge has been affected by modernization like

access of modern education and health care services. Ethnomedicinal people keep secret about medicinal plants. There is strong belief that herbal medicines loss their healing capacity if non-healer know them. There is also a belief on medicinal plants collection time, storage, and time of administration for instance, people of believe medicinal plants, which collected early in morning before working anything, have high efficacy. Informants claimed that they use mostly fresh plant parts because they believe that using fresh material increase efficacy compared with the dry one. This is the fact that the content or ingredients may be lost or reduced when the plants become dry. However, it has contribution on threat of medicinal plants.

CONCLUSIONS

The result of the study revealed that there is high diversity of medicinal plants and traditional knowledge about the use, preparation and application. In the study area Euphorbiaceae, Fabaceae, Caesalpinaceae, Solanaceae, Malvaceae were leading families derive their medicine for treatment of various ailments, herbs stood first in the study area derive their remedy. People of study area mostly prepare the remedy from leaves and utilization of more leaves than other plants parts do not put medicinal plant under pressure compared with using of root or whole plants. Large numbers of medicinal plants are collected from wild areas. This shows, as there is lack of conserving medicinal plants in home gardens. Healers run to the wild to collect medicinal plants when the need arises. Knowledge of medicinal plants in the study area varies among age much of knowledge of medicinal plants are handled by elders who were between the ages of 40-59 years. The result of study also revealed that many wild species of medicinal plants are under pressure from various human induced factors. In addition disinterest of the young generation on traditional medicine. Since younger generation show lack of interest to use or to know medicinal plants from elders, the knowledge of traditional might be eliminated in the future unless proper documentation is made. Moreover, creation of awareness on young generation about medicinal plants uses.

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REFERENCES

1. Gamble JS & Fischer, CEC (1915-1935) Flora of Presidency of Madras, (Adland & Son Ltd., London), 1915-1930; Re-Printed.edn (Botanical Survey of India, Calcutta), 3 Vols, 1957.
2. Hemadri K, Shastravettalanum Akashistunna Girijana Vaidyam (Tribal Pharmacopoeia). (Tribal Cultural Research and Training Institute, Hyderabad)., 1994.
3. Jain, S.K the role of botanist in folklore research, folklore., 1964; 4: 145-150.

4. Jain, S.K Directory of ethnoveterinary plants of India , Scientific Publishers, Jodhpur; (ed.), 1987.
5. Jain S K, Directory of Directory of ethnoveterinary plants of India, Deep publication, New Delhi; 1999.
6. Reddy K N, Bhanja M R & Raju V S, Plants used in ethnoveterinary practices in Warangal District, Andhra Pradesh, India, *Ethnobot*, 10 1998; 75.
7. Reddy C S, Nagesh k, Reddy, K N & Raju V S, Plants used in ethnoveterinary practices by Gonds of Karimnagar district, Andhra Pradesh, India, *J Econ Tax Bot*, 27 2003; 631.
8. Sudhakar Reddy, Ch and Raju, V.S Folk biomedicine for common veterinary diseases in Nalgonda district, Andhra Pradesh. *Ethnobotany*, 2000; 12: 113-117.
9. Suneetha, J., Prasanthi, S. and Seetharami Reddi, T.V.V Plants in ethnoveterinary practices in East Godavari district, Andhra Pradesh. *Journal of Non-Timber Forest Product.*, 2012; 19(1): 63-68.
10. Warren D M, Indigenous knowledge: A definition, *CIKARD News*, 1, 1989; 5.