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Research Article

TRADITIONAL PHYTO-THERAPEUTIC PRACTICES AMONG SUGALIS OF KRISHNA DISTRICT, ANDHRA PRADESH, INDIA

Nageswara Rao Naik B¹., Vishnuvardhan Z² and Rosaiah G²

¹Department of Environmental Sciences, Acharya Nagarjuna University, Guntur A.P (India)

²Department of Botany & Microbiology, Acharya Nagarjuna University, Guntur A.P (India)

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ABSTRACT

An ethnobotanical field survey was conducted from October 2016 to June 2017 to document the ethnomedicinal practices among Sugali tribes in Krishna district, Andhra Pradesh. 60 knowledgeable tribal informants drawn from 24 tribal villages contributed the information for this study. Sugalis use 57 medicinal plants to treat 56 diverse ailments. These 57 species are responsible for 120 different remedies and in majority of them leaf was predominantly (76.67%) used, followed by root (5%), latex (5%), fruit (4.17%), stem (3.33%), stem bark (3.33%), whole plant (1.67%) and flower (0.83%). The phytotherapeutic practices of Sugali tribe resemble with other tribes in the Andhra Pradesh state as well as in other states of India. Such resemblance and coincidence of plant species for a specific ailment provide an useful lead to pharmacologists. This study recognizes the need for a data base of ethnomedicinal plants of different states and tribes to make use of it in prospective pharmacological studies.

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INTRODUCTION

Many tribal communities in the country largely depend on traditional herbal medicines for their primary health care. Lack of modern medical facilities in the vicinity of tribal villages, inability to meet the treatment cost involved and deep rooted belief in traditional knowledge system and health care practices make the aboriginals and tribes to depend on cost effective, easily accessible, ethnomedicinal and folk lore medicines.

The traditional knowledge, belief and practices are usually handed down to generations by an unbroken tradition and culture. In the third world countries like India such traditional system is still alive even today. The research investigations on ethnomedicinal and folk-medicinal practices provide useful information to select plants for experimental pharmacological studies (Bigoniya 2008). Therefore the documentation of phytomedicinal therapeutic practices of Sugalis of Krishna district (Andhra Pradesh) forms the objective of the present report.

Study Area

Sugalis of Krishna district in Andhra Pradesh

The study was conducted in the three selected mandals (Konduru, Nuzvid and Vissanapet) of Krishna district covering

24 Sugali thandas. Krishna district is one of the 13 districts of Andhra Pradesh state and situated between 15° 43' and 17° 10' North latitude and 80° 00' and 81° 33' Eastern longitudes. It is bounded by Khammam district of Telangana state on the North, the Bay of Bengal on the South, Guntur and Nalgonda districts on the West and west Godavari district and Bay of Bengal on the East. According to 2011 census, the tribal population of Krishna district constitutes about 2.93% of the district population, in Andhra Pradesh. Of the 33 tribes of Andhra Pradesh Sugali tribe represents the largest and moderately advanced tribe locally referred to as Sugali or Lambadi or Banjaras. The dwelling areas of the tribes are generally referred to as 'Thandas'. The forest cover of Krishna district is about 4.26% of the total geographical area. The major rivers flowing in the district are Krishna, Keesara, Tammilerre and Budameru. The total tribal population in the three selected mandals is about 20,709.

METHODOLOGY

In order to document the plant based medicinal remedies used by Sugalis an intensive visits to the tribal villages were made during October 2016 to June 2017. The information on medicinal plants has been obtained from experienced tribals that include herbal medicine practitioners and knowledgeable elders.

*Corresponding author: Nageswara Rao Naik B

Department of Environmental Sciences Acharya Nagarjuna University, Guntur A.P (India)

A total of 60 informants (2 to 3 from each village) from 24 tribal villages were interviewed through a questionnaire. They have been asked to explain different plant based therapies that they use for the various ailments. They have also been taken to the field to locate the plants mentioned by them.

The plants were photographed and collected as herbarium specimen. The common name of the plant and mode of administration of drug was recorded. The medicinal use of the plant is verified with the other informants. The plant specimens collected were used to identify them by their botanical name and family name, with the help of key provided in different floras.

Table 1 Showing the Sugali informants name, age and residence particulars drawn from 24 tribal villages of Krishna district (A.P)

S.No	Name of the informant	Mandal Name	Thanda/Village Name	Age in years
1	Jarapal Babla Naik	Konduru	Kesya thanda	75
2	Bharoth Paringiya Naik	Konduru	Kesya thanda	73
3	Kethavath Hajmera Naik	Konduru	Kesya thanda	65
4	Bharoth Samala Naik	Konduru	Bharoth Thanda	70
5	Eslavath Uchaiya Naik	Konduru	Bharoth Thanda	60
6	Esalvath Megaya naik	Konduru	Mansingh Thanda	76
7	Esalavath Thaveriya Naik	Konduru	Mansingh Thanda	70
8	Jarapala vasaram Naik	Konduru	Pedda thanda	65
9	Popavath Mangiya Naik	Konduru	Pedda thanda	62
10	Jarpal Bhika Naik	Konduru	Pedda thanda	68
11	Nenavath Bhima Naik	Konduru	Gopalpuram Thanda	72
12	Nenavath Baloji Naik	Konduru	Gopalapuram Thanda	68
13	Mudavth Kotiya Naik	Konduru	Kumarrikunta Thanda	58
14	Badavath Thaveriah naik	Konduru	Kumarrikunta Thanda	62
15	Mudavath Sakriya Naik	Konduru	Kumarrikunta Thanda	64
16	Eslavath Pakriya Naik	Konduru	Repudi Thanda	72
17	Banoth Chandriya Naik	Konduru	Repudi Thanda	70
18	Jarapala Munaiya Naik	Konduru	Gyama Thanda	65
19	Kethavath Sakriya Naik	Konduru	Gyama Thanda	60
20	Rupavath Kasan Naik	Konduru	Golamandal Thanda	70
21	Bhukya Vsaram naik	Konduru	Golamadal Thanda	75
22	Dhanavath Kotiya Naik	Konduru	Golamadal Thanda	64
23	Mudvath Devala Naik	Nuzvid	Kothuru thanda	55
24	Badavath Bhima naik	Nuzvid	Kothuru thanda	62
25	Dhravath Laksmudu Naik	Nuzvid	Lion Thanda	60
26	Kethavath Lal singh Naik	Nuzvid	Lion Thanda	58
27	Mudavath Hanuma naik	Nuzvid	Lion Thanda	62
28	Pupavath Haziram Naik	Nuzvid	Hatiya Thanda	68
29	Bhukaya Megiya Naik	Nuzvid	Hatiya Thanda	60
30	Korra thaviriah Naik	Nuzvid	Siddhartha Nagar Thanda	65
31	Sapavth Kasan Naik	Nuzvid	Siddhartha Nagar Thanda	55
32	Bhukaya Harilal Naik	Nuzvid	Harichandra Thanda	68
33	Mudavath Singriah Naik	Nuzvid	Harichandra Thanda	56
34	Bharoth Govinda Naik	Nuzvid	Kukala Thanda	62
35	Banoth Krishna Naik	Nuzvid	Kukala Thanda	55
36	Rupavath Muniya Naik	Nuzvid	Hemala Thanda	66
37	Nenavath Harilal Naik	Nuzvid	Hemala Thanda	60
38	Kelavath Krishna Naik	Nuzvid	Hemala Thanda	58
39	Lavidya Harilal Naik	Vissanapet	Banoth thanda	55
40	Popavath Dhrma Naik	Vissanapet	Banoth thanda	50
41	Nenavath Bhika Naik	Vissanapet	Banoth thanda	55
42	Esalvath Bodaka Naik	Vissanapet	Korra Thanda	62
43	Mudavth Hazmera Naik	Vissanapet	Korra Thanda	50
44	Katroth Hera Naik	Vissanapet	Korra Thanda	55
45	Badavath Nasar Naik	Vissanapet	Pedda Thanda	61
46	Nenavath Thaveriah Naik	Vissanapet	Pedda Thanda	70
47	Popavath Harichand Naik	Vissanapet	Pedda Thanda	65
48	Sapavath Hari Naik	Vissanapet	Kalgara Thanda	68
49	Mudavath Ramulu Naik	Vissanapet	Kalgara Thanda	62
50	Ramavath lalu Naik	Vissanapet	Kalgara Thanda	60
51	Katroth Lacha Naik	Vissanapet	Telladevarapalli Thanda	75
52	Dharavath Lavidiya Naik	Vissanapet	Telladevarapalli Thanda	72
53	Bharoth Govinda Naik	Vissanapet	Telladevarapalli Thanda	65
54	Kethavath Somala Naik	Vissanapet	Vemireddi palli Thanda	62
55	Popavath Badiya Naik	Vissanapet	Vemireddi palli Thanda	70
56	Ramavath Lalu Naik	Vissanapet	Narasapuram Thanda	55
57	Korra Bhiku Naik	Vissanapet	Narasapuram Thanda	59
58	Sapavath Kassin Naik	Vissanapet	Maraymanda Thanda	52
59	Malavath Bhiku Naik	Vissanapet	Marymanda Thanda	60
60	Sapavath sakeriya Naik	Vissanapet	Marymanda Thanda	64

Table 2 Family wise distribution of ethnomedicinal plant species

S.No	Name of the family	Name of the species
1	Acanthaceae	1. Andrographis paniculata 2. Barleria prionitis L.
2	Aizoaceae	1. Trianthema portula castrum
3	Amaranthaceae	1. Aerva lanata L. 2. Achirantes aspera L.
4	Annonaceae	1. Annona squamosa Linn.
5	Apocynaceae	1. Catharanthus roseus (L.) G. Don
6	Aristolochiaceae	1. Aristolochia indica
7	Asclepiadaceae	1. Calotropis procera 2. Pergularia daemia (Forssk.) Chiov.
8	Asteraceae	1. Eclipta prostrata (L.) Mout 2. Tridax procumbens L.
9	Capparidaceae	1. Capparis zeylanica L. 2. Cleome gynandra L.
10	Caricaceae	1. Carica papaya
11	Celastraceae	1. Maytenus emarginata (Willd.) Ding Hou
12	Convolvulaceae	1. Ipomoea aquatica Poir. 2. Ipomoea marginata (Desr.)
13	Cucurbitaceae	1. Coccinia grandis J. Voigt
14	Erythroxylaceae	1. Erythroxylum monogynum Roxb.
15	Euphorbiaceae	1. Acalypha indica L. 2. Jatropha glandulifera (Roxb.) 3. Phyllanthus amarus Schum & Thonn 4. Phyllanthus reticulatus Poir.
16	Fabaceae	i). Faboideae - 1. Abrus precatorius L. 2. Prosopis juliflora (Sw.) DC 3. Sesbania grandiflora (L.) Poir. 4. Tephrosia purpurea (Linn.) Pers. ii). Caesalpinioideae - 1. Caesalpinia bonduc (L.) Roxb. 2. Cassia fistula L. 3. Senna ariculata L. (Roxb.) 4. Senna occidentalis (L.) Link. iii). Mimosoideae - 1. Acacia nilotica (L.) Del 2. Acacia torta (Roxb.) Craib. 3. Adenanthera pavonia 4. Mimosa pudica L.
17	Lamiaceae	1. Ocimum tenuiflorum L.
18	Liliaceae	1. Aloe vera (L.) Burm. f.
19	Lythraceae	1. Lawsonia inermis L.
20	Malvaceae	1. Abutilon indicum (L.) Sweet
21	Meliaceae	1. Azadirachta indica A. Juss 2. Melia azadirach L.
22	Moraceae	1. Ficus benghalensis L. 2. Streblus asper Lour.
23	Moringaceae	1. Moringa oleifera Lam.
24	Nictaginaceae	1. Boerhavia diffusa L. (Sonn.)
25	Poaceae	1. Cynodon dactylon (L.) Pers
26	Rhamnaceae	1. Zizyphus mauritiana
27	Rubiaceae	1. Canthium parviflorum Lam.
28	Rutaceae	1. Limonia acidissima L.
29	Sapindaceae	1. Dodonaea viscosa L.
30	Solanaceae	1. Datura stramonium L. 2. Solanum surattense Burm. f.
31	Vitaceae	1. Cissus quadrangularis L.
32	Ulmaceae	1. Holoptelea integrifolia (Roxb.) Palanch
33	Tiliaceae	1. Tinospora cordifolia (Willd.)
34	Zygophyllaceae	1. Tribulus terrestris L.

The herbarium specimens were deposited in the department of Environmental Sciences, Acharya Nagarjuna University, Guntur (A.P).

RESULTS

The names of tribal villages surveyed and also details of informants are given in (Table 1). This study resulted in the enumeration of 57 medicinal plants belonging to 53 genera and 34 families (Table 2). Sugalis used these plants in the therapy of 57 diverse ailments. Fabaceae is the dominant family with 12 species followed by Euphorbiaceae (4 species).

Of the remaining of 32 families, 9 families are represented by two species each and other 23 families are with one species each. The 57 plants are used in a total of 120 different remedies for 56 ailments (Table 3). A maximum six plant species are used by sugalis to heal wounds and cuts. They have used five different plant species for ailment such as boils, body heat and knee joint pains. The plant species viz., *Aristolochia indica*, *Senna occidentalis*, *Calotropis procera* and *Pergularia daemia* are used in the therapy of scorpion bite. In the treatment of urinary problems *Tribulus terrestris*, *Phyllanthus amarus schum*, *Ficus benghalensis*, *Abrus precatorius* and *Abutilon indicum* are very useful.

Table 3 List of medicinal plants used by Sugalis of Krishna district (A.P) for the treatment of 56 ailments through 120 remedies

S.No	Botanical Name	Family	Local Name	Part Used	Ailments	Therapy and mode of administration
1	<i>Abrus precatorius L.</i>	Fabaceae	Guriginja	Leaf	Body heat	1. 100ml Leaf juice, mixed with candy sugar is taken internally once a day for two days.
				Leaf	Urinary infection	2. Pills made with leaf paste one pill daily twice for three days are taken orally.
				Leaf	White discharge	3. Fresh leaves mixed with jiggery are crushed and taken internally once in a day for three days.
				Root	Snake bite	4. A few drops of root juice put into eyes, for relief from snake bite.
2	<i>Abutilon indicum (L.) Sweet</i>	Malvaceae	Tutibenda	Leaf	Piles	5. Fresh leaves cooked with turdal curry taken internally thrice in a day for one week.
				Leaf	Urinary infection	6. Decoction of leaves is taken internally twice in a for two days.
				Leaf	Boils	7. Paste of fresh leaves is mixed with turmeric powder and applied externally on the effected area.
3	<i>Acacia torta (Roxb.) Craib.</i>	Mimosaceae	Korintha	Leaf	Hydrocele	8. Fresh leaves paste is externally applied over the effected part and cover with bandage cloth for one week.
4	<i>Acacia nilotica (L.) Del</i>	Mimosaceae	Nallatuma	Leaf	Blood motion	9. Tender leaves are chewed and juice is swallowed twice a day for two days.
5	<i>Acalypha indica L.</i>	Euphorbiaceae	Kumpenta	Leaf	Headache	10. Leaf paste is applied on the forehead for relief from headache.
				Leaf	Sores	11. Leaf paste is applied on sores.
				Leaf	Cuts/wounds	12. Leaf juice is applied on effected area.
6	<i>Achyranthes aspera L.</i>	Amaranthaceae	Uttareni	Leaf	Cuts/wound	13. Leaf paste is applied on effected area.
				Leaf	Sores	14. Leaf paste applied on sores to cure.
				Leaf	Ear	15. Two drops of leaf juice is put in each ear twice for two days to cure ear pain.
7	<i>Adenanthera pavonina L.</i>	Mimosoideae	Bondi guruginja	Leaf	Piles	16. Approximately 10g of leaf paste is taken internally thrice in a day for a few days to cure piles.
				Leaf	Decayed teeth	17. Leaf paste is applied on decayed teeth.
				Leaf	Cuts/wounds	18. Leaf paste is applied externally on effected areas.
8	<i>Aerva lanata (L.)</i>	Amaranthaceae	Konda pindi aku	Leaf	Back pain	19. Leaf juice is applied externally on the areas back pain & knee pain.
				Leaf	Knee pain	20. As above
				Leaf	Kidney stone	21. Pills are made with the paste of crushed leaves and one pill twice in a day for one week is administered.
9	<i>Aloe vera (L.) Burm.f.</i>	Liliaceae	Kalabanda	Leaf	Sores	22. Leaf paste is applied on sores to cure.
				Leaf	Boils	23. Leaf paste is bandaged on boils twice in a day for two days.
10	<i>Andrographis paniculata (Burm.f.) Nees</i>	Acanthaceae	Nelavemu	Whole plant	Legs swelling	24. Leaf juice mixed with turmeric powder is massaged on legs daily twice for two days.
				Whole plant	Diabetes	25. The whole plant is dried and powdered and taken (50gm) internally thrice a day.
11	<i>Annona squamosa L.</i>	Annonaceae	Sithaphalam	Leaf	Gastric problems	26. As above
12	<i>Aristolochia indica L.</i>	Aristolocaceae	Nalla Eswari	Root	Scabies	27. Leaf paste is applied on effected area.
13	<i>Azadirachta indica A. Juss</i>	Meliaceae	Vepa chettu	Leaf	Scorpin Sting	28. Root juice is taken internally for relief from scorpion sting.
				Leaf	Stomach pain	29. 20gm of leaf paste is taken internally thrice a day for three days.
				Bark	In menstruation	30. Decoction of the stem bark is used to kill intestinal worms.
14	<i>Barleria prionitis L.</i>	Acanthaceae	Mulagorinta	Leaf	Vermicide	31. 50ml of leaf decoction mixed with candy sugar is taken internally twice a day for two days.
				Leaf	Fever	32. The decoction of root with salt and pepper powder is taken internally.
				Root	Toothache	33. As above
15	<i>Boerhavia diffusa L. (sonn.)</i>	Nyctaginaceae	Atika mamidi	Root	Joint pain	34. Leaf decoction is taken internally for relief from kidney problems.
				Leaf	Kidney problems	35. Fresh root pieces coated with turmeric paste are tied into a necklace and patient wears it for three weeks.
				Root	Anasarca (Body swelling)	Note:- They do not eat meat, eggs, fish, brinjal, potatoes and not to take alcoholic drinks.

16	<i>Caesalpinia bonduc</i> (L.)Roxb.	Caesalpinaceae	Gacha	Leaf	Hydrocele	36. Leaf paste is covered over the hydrocele twice a day for five days.
17	<i>Calotropis procera</i> (Ait.)Ait.f.	Asclepiadaceae	Jilledu	Latex	Scorpion sting	37. Latex is applied on the spot of scorpion bite.
18	<i>Canthium parviflorum</i> Lam.	Rubiaceae	Balusu	Leaf	Gastric problems	38. Leaves are cooked as leafy vegetable and taken internally for one week.
19	<i>Capparis zeylanica</i> L.	Capparidaceae	Aredonda tega	Leaf	Bone fracture	39. A fine paste made with fresh leaves is mixed with sesame oil and chicken blood and applied externally over the fractured part. A cloth bandage is tightly wound around it to heal it. The leaf juice added with goat milk, or cow milk and pepper powder is also orally administered for 2-3 weeks.
				Leaf	Chest pain	40. Fresh leaves and pepper seed are crushed to get juice which is taken orally with goat milk or cow milk twice in a day for three days.
20	<i>Carica papaya</i> L.	Caricaceae	Bopyi	Latex	Ring worms	41. Leaf latex is applied externally over infected area.
21	<i>Cassia fistula</i> L.	Caesalpinioideae	Rela chettu	Leaf	Laxative	42. Leaves are used as curry leaf and eaten along with rice in lunch and dinner, once in a week.
				Leaf	Safe delivery	43. The decoction made with fresh leaves and pepper is administered orally during delivery time.
22	<i>Catharanthus roseus</i> (L.)G.Don	Apocynaceae	Billaganeru	Leaf	Honey bee/wasp sting	44. Leaf paste is applied on bitten spot to get relief from pain and swelling.
				Root	Diabetes	45. Decoction made with root and pepper seed is taken internally controls the sugar level.
23	<i>Cissus quadrangularis</i> L.	Vitaceae	Nalleru	Stem	Bone Strength	46. Chetiny or curry made with fresh stem is into a taken orally improve the bone strength, kill the intestinal worms and improve digestion.
				Stem	Vermicide	47. As above
24	<i>Cleome gynandra</i> L.	Capparidaceae	Tella vamenta	Leaf	Indigestion	48. As above
				Leaf	Migraine	49. 2 or 3 drop of Leaf juice is put into ear. Note:- For right side headache, leaf juice is put in left ear and vise versa.
25	<i>Coccinia grandis</i> J.voigt	Cucubbitaceae	Donda	Leaf	One side Neck and Back pain	50. Leaf juice obtained along with leaves of Pergularia daemia(forssk)Chiov. and Achyranthes aspera L. is applied externally over the parts of pain for 3 days.
26	<i>Cynodon dactylon</i> (L.)Pers	Poaceae	Garika gaddi	Leaf	Knee pain	51. Leaf extract mixed with sesame oil is applied on knee twice a day for one week.
				Root	Gastric problems	52. The root material is fried in sesame oil and taken internally twice a day.
27	<i>Datura stramonium</i> L.	Solanaceae	Ummetha	Root	Indigestion	53. As above
				Leaf	Knee pain	54. Leaves are gently heated over the flame and tied on to the knee.
28	<i>Dodonaea viscosa</i> L.	Sapindaceae	Adavi bandera	Leaf	Paronychia	55. Leaf Paste made with two cloves, garlic and turmeric is applied on effected parts for three days.
				Fruit	Bone fracture	56. Around the fractured bone the leaf paste mixed with jiggery is applied and cloth bandage is tied for one week time. Repeat this for 2 nd week also.
29	<i>Eclipta prostrata</i> (L) Mout	Asteraceae	Guntagalraku	Leaf	Alopecia areata (patchy hair loss)	57. Leaf paste is massaged over head to control alopecia.
				Leaf	Boils	58. Leaf paste added with turmeric powder is applied externally on boils twice a day for two days.
30	<i>Erythroxylum monogynum</i> Roxb.	Erythroxylaceae	Adavi devadari	Fruit	Stomach ache	59. The decoction of fruit is taken orally to cure the stomach pain and free motions.
				Leaf	Laxative Sores	60. As above
31	<i>Ficus benghalensis</i> L.	Moraceae	Marri	Leaf	Cuts/wounds	61. Leaf juice is applied on sores /cuts/wounds.
				Leaf	Hair tonic	62. As above
32	<i>Holoptelea intergrifolia</i> (Roxb.) Palanch	Ulmaceae	Nemali	Leaf	Stomach ache	63. Leaf paste is massaged over the hair weekly twice to control grey hair.
				Leaf & Bark	Vermicide	64. Fresh leaves are cooked and taken internally to cure the stomach pain and to kill intestinal worms.
33	<i>Ipomoea aquatic</i> poiret.	Convolvulaceae	Thuti	Leaf	Urinary infection	65. As above
				Leaf & Latex	Boils	66. Fruit juice is taken internally control urinary infection.
						67. Leaf paste is tied around the legs to cure swelling of legs.
						68. The paste of bark also used as bandase to control swellings.
						69. Fresh leaves are slightly heated over the flame added with castor oil and made into paste and applied on boils.
						70. Leaf latex is applied on affected area with boils, twice a day for three days.

34	<i>Ipomoea marginata</i> (Desr.)	Convolvulaceae	Gorray jiddu aku	Leaf	Bone Fracture	71. Fresh leaves mixed with turmeric powder and made into paste is used for bandage and covered with cloth on effected area weekly once for a two weeks.
35	<i>Jatropha glandulifera</i> (Roxb.)	Euphorbiaceae	Dundiga	Stem bark	Toothache	72. Stem bark paste is massaged over gums and teeth to keep away from teeth pain.
36	<i>Lawsonia inermis</i> L.	Lythraceae	Gorintaku	Leaf	Dandruff	73. Leaves of this plant along with leaves of Hibiscus-rosasinensis L. made into a paste and applied on head weekly twice to control dandruff.
37	<i>Limonia acidissima</i> L.	Rutaceae	Velaga	Leaf	Safe delivery	74. Leaf decoction is given orally to the women to effect easy and safe delivery.
				Fruit	Laxative motion	75. Ripened fruit is eaten directly for effecting free motions.
38	<i>Maytenus emarginatus</i> (willd.) Ding Hou	Celastraceae	Danthi	Leaf	Cough and Phlegm	76. Pill made with leaf paste are taken orally, thrice a day for a three days to control cough and phlegm.
				Leaf	Mouth ulcer	77. Leaves are chewed and juice consumed orally.
				Leaf	Menstrual cycle pains	78. Decoction of leaves is taken internally to get relief from menstrual cycle pains.
39	<i>Melia azadarach</i> L.	Meliaceae	Adavivepa	Leaf	Dandruff	79. Leaf paste added with turmeric powder is applied externally over the head, weekly twice to control dandruff.
40	<i>Mimosa pudica</i> L.	Mimosaceae	Athipathi	Leaf	Snake bite	80. Leaf paste is applied over snake bite area.
				Leaf	Ring worms	81. Leaf paste is applied externally on the affected area.
				Leaf	Sprains	82. Leaves are slightly warmed in Castor oil and tied around the sprain or pain affected spot.
41	<i>Moringa oleifera</i> Lam.	Moringaceae	Munaga	Leaf	Indigestion	83. Boiled leaves are taken internally to cure indigestion.
				Flower	Eye infections	84. A few drops of flower juice added with a pinch of salt is put in eyes.
				Leaf	Cough	85. Leaf juice obtained from leaves chewed controls cough in 3 days.
42	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Thulasi	Leaf	Ear pain	86. 2-3 drops leaf juice from this plant and <i>Achyranthes aspera</i> L. mixed with a few drops arrack is put into ear to control pain.
				Leaf	Body pains	87. Leaf paste mixed with turmeric powder is applied over the body to cure body pains.
					Cuts/wounds	88. Latex is externally applied on wounds/cuts.
					Scorpion sting	89. Leaf paste is applied on the affected area.
43	<i>Pergularia daemia</i> (Forssk.) Chiov.	Asclepiadaceae	Juttupaku	Latex	Scorpion sting	90. Leaf paste is massaged on effected area.
				Leaf	Legs sprain	91. Five fresh leaves are crushed and added 50g of jiggery and taken internally, daily once for three days before breakfast and during active menstrual period, for three days.
				Leaf	Pregnancy retentions	Note:- During these three days eat curd rice without salt.
				Leaf	Urinary infection	92. Fresh boiled leaves are dried and made in to powder 30gm of leaf powder with one table spoon of honey is taken twice a day for three days.
44	<i>Phyllanthus amarus schum&Thonn</i>	Euphorbiaceae	Nela usiri	Leaf	Knee pains	93. Leaf paste mixed with sesame oil is applied on the knee twice in a day.
				Leaf	Ear pain	94. 2 or 3 drops of leaf juice is put into ear twice a day for three days cures the ear pain.
45	<i>Phyllanthus reticulatus</i> Poiret.	Euphorbiaceae	Pulchera chettu	Leaf	White discharge	95. Leaf juice mixed with sugar candy is taken orally twice a day for three days.
				Leaf	Body heat	96. Leaf juice mixed with sugar is taken internally twice a day for three days controls body heat.
46	<i>Prosopis juliflora</i> (Sw.)Dc	Fabaceae	Pichitumma	Leaf	Knee pains	97. Fresh tender leaves are boiled in water and tied around the knee twice a day for five days.
47	<i>Senna auriculata</i> L.(Roxb.)	Caesalpinioideae	Tangedu	Leaf	Body heat	98. Leaf paste is massaged over the body to control the body heat.
				Leaf	Swellings	99. Fresh leaf paste, mixed with salt is applied on sores and swellings.
48	<i>Senna occidentalis</i> (L.) Link.	Caesalpinioideae	Kasinda	Leaf	Sores	100. As above
				Leaf	Scorpion sting	101. Leaf paste is applied on the area of scorpion bite.
				Leaf	Body heat	102. Leaf paste is applied over body to control body heat.
49	<i>Sesbania grandiflora</i> (L.)Poiret.	Faboideae	Avisha	Leaf	Mumps	103. Leaf paste mixed with turmeric powder is applied twice a day for 3 days to cure mumps.
50	<i>Solanum surattense</i> Burm.f.	Solanaceae	Vakudu chettu	Fruit	Eye infections	104. 2 or 3 drops of Fruit juice is put into eyes to cure pus layers and eye infection.
51	<i>Streblus asper</i> Lour.	Moraceae	Barinka	Latex	Loose teeth	105. Latex is massaged over the gums cures the loose teeth.
				Twigs	Toothache	106. Fresh twigs are used as that tooth brush controls toothache.

52	<i>Tephrosia purpurea</i> (Linn.)Pers.	Faboideae	Vempali	Leaf	Body pains	107. Fresh leaves crushed along with turmeric powder to make into paste and applied on body, and on swellings relive pains and swellings.
				Leaf	Swellings	108. As above
53	<i>Tinospora cordifolia</i> (willd.)	Tiliaceae	Tippa teega	Leaf	Fever	109. Decoction of leaves is taken internally thrice a day for two days control fever.
				Leaf	Hydrocele	110. Leaf paste is applied around the effected part and bandaged with cloth over the hydrocele twice a day.
54	<i>Trianthema portulacastrum</i> L.	Aizoaceae	Billa aku	Leaf	Gastric Problems	111. Leaves are cooked and taken internally with boiled rice weekly twice
				Leaf	Indigestion	112. As above
55	<i>Tribulus terrestris</i> L.	Zygophyllaceae	Palleru	Leaf	Urinary infection	113. Fresh leaves immersed in water that result in leaching of substances into water that appear sticky. Sugar is added to it and taken internally twice in a day for three days, to control urinary infection and body heat and to enhance sperm production.
				Leaf	Body heat	114. As above
				Leaf	Increase in sperm production	115. As above
				Seed	Problems of uterus	116. Dried seeds are made into powder and mixed with honey and taken internally one table spoon twice a day for one week.
56	<i>Tridax procumbens</i> L.	Asteraceae	Balapaku	Leaf	Piles	117. 10 to 15 leaves are chewed directly and swallowed twice a day for two week to get relief from piles.
				Leaf	Cuts/wounds	118. Leaf paste is applied on effected area of the cuts. 119. Leaf juice is applied externally over the ring worms affected part.
57	<i>Zizyphus mauritiana</i>	Rhamnaceae	Regu	Leaf	Ring worms	120. Leaves are chewed and swallowed juice twice in a day for three days.
				Leaf	Toothache	

Table 4 Name of the disease, number of remedies and scientific name of the plants

S.No	Name of the Disease/Ailment	No.of remedies/Therapies	Number plant species used in the therapy & their names
1	Back pain	1	(1)Adenanthera pavonina L
2	Blood motion	1	(1)Acacia nilotica (L.) Del
3	Body heat	5	(1)Abrus precatorius L.,(2) Sesbania grandiflora (L.) (3)Senna auriculata L(Roxb.), (4) Phyllanthus reticulatus Poiret., and (5)Tribulus terrestris L
4	Body pains	2	(1)Pergularia daemia(Forsk.) Chiov., and (2) Tephrosia purpurea (Linn.)Pers.
5	Body swellings	1	(1)Boerhavia diffusa L.(Sonn.)
6	Boils	4	(1) Datura stramonium L.,(2) Ipomaea aquatic Poiret. (3)Abutilon indicum (L.)Sweet, and(4) Aerva lanata L.
7	Bone fractures	3	(1)Capparis zeylanica L.,(2) Datura stramonium L., and (3)Ipomoea marginata(Desr.)
8	Bone strength	1	(1)Cissus quadrangularis L.
9	Chest pain	1	(1) Capparis zeylanica L.
10	Cough/Phlegm	2	(1)Maytenus emarginatus(willd.) Ding Hou, and (2)Ocimum tenuiflorum L.
11	Cuts/Wounds	6	(1)Achyranthes aspera L.(2) Acalypha indica L(3) Eclipta prostrata(L) Mout(4) Tridax procumbens L.(5) Pergularia daemia(Forsk.) Chiov.and (6) Adenanthera pavonina L
12	Dandruff	2	(1) Lawsonia inermis L. and (2) Hibiscus rosa-sinensis L.
13	Decayed teeth	1	(1)Achyranthes aspera L.
14	Diabetes	2	(1)Andrographis paniculata (Burm.f.)Nees and (2) Catharanthus roseus(L.)G.Don
15	Ear pain	3	(1)Phyllanthus reticulatus Poiret.,(2) Ocimum tenuiflorum L., and (3)Achyranthes aspera L.
16	Eye infections	2	(1)Solanum surattense Burm.f. and (2) Moringa oleifera Lam.
17	Fever	2	(1)Barleria prionitis L., and (2) Tinospora cordifolia (willd.)
18	Gastric problems	4	(1)Andrographis paniculata (Burm.f.)Nees, (2) Trianthema portulacastrum L.,(3) Cynodon dactylon(L.)Pers, and (4)Canthium parviflorum Lam.
19	Hair tonic	1	(1)Eclipta prostrata(L) Mout
20	Head ache	1	(1)Acalypha indica L
21	Honey bee/wasp sting	1	(1)Catharanthus roseus(L.)G.Don
22	Hydrocele	3	(1)Caesalpinia bonduc (L.) Roxb.,(2) Tinospora cordifolia (willd.), and (3)Acacia torta (Roxb.) craib
23	Indigestion	4	(1)Cissus quadrangularis L.,(2) Trianthema portulacastrum L., (3)Cynodon dactylon(L.)Pers and(4) Moringa oleifera Lam.
24	Joint pains	1	(1)Barleria prionitis L.
25	Kidney problems	1	(1)Boerhavia diffusa L.(sonn.)
26	Kidney stones	1	(1)Aerva lanata (L.)
27	Knee pains	5	(1)Cynodon dactylon(L.)Pers, and (2) Daturametal L., (3)Phyllanthus amarus schum& Thonn, (4)Prosopis juliflora (Sw.)DC, and(5) Adenanthera pavonina L
28	Laxative	3	(1)Cassia fistula L.,(2) Dodonaea viscosa L., and (3)Limonia acidissima L.
29	Legs sprain	1	(1)Pergularia daemia(Forsk.) Chiov.
30	Legs swelling	2	(1) Holoptelea intergrifolia (Roxb.) Palanch and (2) Aloe vera (L.)Burm.f.
31	Loose teeth	1	(1)Streblus asper Lour.
32	Menstrual pains	1	(1)Azadirachta indica A.Juss
33	Migraine	1	(1)Cleome gynandra L.
34	Mouth ulcers	1	(1)Maytenus emarginatus (willd.) Ding Hou
35	Mumps	1	(1)Sesbania grandiflora(L.)Poiret.

36	One side Neck and Back pain	3	(1)Coccinia grandis J.voigt (2)Pergularia daemia(forssk) and (3)Achyranthes aspera L.
37	Paronychia	1	(1)Datura stramonium L.
38	Patchy hair loss	1	(1)Datura stramonium L.
39	Piles	3	(1)Tridax procumbens L.,(2) Abutilon indicum (L.)Sweet, and(3) Achyranthes aspera L
40	Pregnancy Retention	1	(1)Pergularia daemia(Forssk.) Chiov.
41	Ring worms	3	(1)Carica papaya L.,(2) Mimosa pudica L., and(3) Tridax procumbens L.
42	Safe delivery	2	(1)Cassia fistula L. (2)Limonia acidissima L.
43	Scabies	1	(1)Annona squamosa linn.
44	Scorpion sting	4	(1)Aristolochia indica L(2)Senna occidentalis(L)Link.,(3) Calotropis procera (Ait.)Ait.f. and (4)Pergularia daemia(forssk) Chiov.
45	Snake bite	2	(1)Abrus precatorius L., and(2) Mimosa pudica L.
46	Sores	5	(1)Achyranthes aspera L.,(2) Acalypha indica L, (3)Senna occidentalis (L)Link.,(4) Eclipta prostrata(L) Mout, and (5)Aerva lanata L.
47	Sperm production	1	(1)Tribulus terrestris L
48	Sprains	1	(1)Moringa oleifera Lam.
49	Stomach ache	2	(1) Dodonaea viscosa L., and (2) Erythroxyllum monogynum Roxb.
50	Stomach pain in menstruation	1	(1)Azadirachta indica A.Juss
51	Swellings	2	(1)Senna occidentalis(L)Link., and(2) Tephrosia purpurea (Linn.)Pers.
52	Toothache	4	(1)Barleria prionitis L.,(2) Streblus asper Lour., (3)Jatropha glandulifera (Roxb.), and (4)Zizyphus mauritiana
53	Urinary infections	5	(1) Tribulus terrestris L (2) Phyllanthus amarus schum&Thonn (3) Ficus benghalensis L.(4) Abrus precatorius L .and (5) Abutilon indicum (L.)Sweet
54	Uterus problems	1	(1)Tribulus terrestris L
55	Vermicide	3	(1)Azadirachta indica A.Juss.(2) Cissus quadrangularis L., and (3)Erythroxyllum monogynum Roxb.
56	White discharge	2	(1)Abrus precatorius L., and (2) Phyllanthus reticulatus Poiret.

Table 5 Percent distribution of plant part used and mode of treatment

S.No	Part used	Mode of treatment									Total (%)
		Boiled/Cooked	Decoction	Juice	Paste	Powder	Dried (or) Fried	Extract	Directly taken	Leachates	
1	Leaf	13	7	20	45	1	-	1	2	3	92 (76.67)
2	Root	-	3	1	-	-	2	-	-	-	6 (5)
3	Stem	3	-	-	-	-	-	-	1	-	4 (3.33)
4	Stem bark	-	1	-	2	-	-	-	1	-	4 (3.33)
5	Fruit	-	2	2	-	-	-	-	1	-	5 (4.17)
6	Flower	-	-	1	-	-	-	-	-	-	1 (0.83)
7	Whole plant	-	-	-	-	2	-	-	-	-	2 (1.67)
8	Latex	-	-	-	-	-	-	-	6	-	6 (5)
Total (%)		16	13	24	47	3	2	1	11	3	120 (100)

Table 6 Resemblances in phytomedicinal practices between the present and previously reported studies

S.No	Plant Name	Used for the Ailment/disease cure in present study	Previously used tribals for the same ailment	Reference of the report
1	<i>Abutilon indicum (L.) Sweet</i>	i) Piles ii) Piles iii) Piles	i) Traditional uses of villupuram-Tamil Nadu(state) ii) Tribes of Sivaganga district Tamil Nadu (state) iii) Tribes of Visakhapatanam (district)	Sankaranaryan <i>et al</i> (2010) Shanmugam <i>et al</i> (2012) Sandhya sri & seethrami reddy (2011)
2	<i>Aristolochia indica L.</i>	i) Poisonous bites ii) Scorpion sting	i) Tribes of Sivaganga district Tamil Nadu (state) ii) Sugali tribe-Kurnool district Andhra Pradesh	Shanmugam <i>et al</i> (2012) Basha &Sudarsnam (2010)
3	<i>Eclipta prostrata(L) Mout</i>	i) Wounds ii) Hair growth	i) Sugali tribe-Kurnool district Andhra Pradesh ii) Tribes of Dharmapuram(TQ) Tamil Nadu (state)	Basha &Sudarsnam (2010) Balakrishna <i>et al</i> (2009)
4	<i>Achyranthes aspera L.</i>	i) Poisonous bites & dog bite ii) Toothache	i) Tribes of Villupuram- Tamil Nadu (state) ii) Yanadi tribe- Chittor district Andhra Pradesh	Sankaranaryan <i>et al</i> (2010) Sudha & Surendranatha Reddy (2014)
5	<i>Abrus precatorius L.</i>	i) Snake venom neutralizing effect ii) White discharge iii) Snake bite iv) Snake bite	i) Traditional healers-Southern Tamil Nadu ii) Tribes of Adilabad District Telangana (state) iii) Bhagata tribe Eastern ghats Visakhapatanam (district) Andhra Pradesh iv) Adilabad-Traditional healers (Telangana state)	Samy <i>et al</i> (2008) Ramakrishna <i>et al</i> (2014) Sandhya sri & Seethrami reddy (2011) Lingaiah and Nagaraju Rao (2013)
6	<i>Mimosa pudica L.</i>	i) Snake venom Neutralizing ii) Snake bite iii) Snake bite	i) Traditional healers of southern Tamil Nadu ii) Adilabad district Tribes Telangana (state) iii) Bagata tribes Easteran ghats Visakhapatanam (district)	Samy <i>et al</i> (2008) Ramakrishna <i>et al</i> (2014) Sandhya sri & seethrami reddy (2011)
7	<i>Annona squamosa L.</i>	i) Skin diseases	i) Yandi tribe of Chittor district Andhra Pradesh	Sudha & Surendranadha Reddy (2014)
8	<i>Erythroxyllum monogynum Roxb</i>	i) Worms in stomach	i) Yandi tribe Chittor district Andhra Pradesh	Sudha & Surendranadha Reddy (2014)
9	<i>Andrographis paniculata (Burm.f.) Nees</i>	i) Diabetes ii) Diabetes iii) Diabetes	i) Sugali tribe of yerra malais –Kurnool district (AP) ii) Tribes of Adilabad District Telangana (state) iii) Chenchu, Erukala & Lambada tribes of Nallamalais, Telangana (state)	Basha &Sudarsnam (2010) Ramakrishna <i>et al</i> (2014) D S Reddy (2015)

10	<i>Tinospora cordifolia</i> (willd)	i) Chronic fevers	i) Sugali tribe of yerra malais –Kurnool district Andhra pradesh	Basha &Sudarsnam (2010)
11	<i>Boerhavia L.(sonn.)</i>	i) Kidney problems	i) Tribes of Madhya pradesh (state)	Sahu (1982)
12	<i>Acalypha indica L</i>	i) Wounds healing	i) Tribes of South India	Reddy JS <i>et al</i> (2002) Ayyanar & Ignacimuthu (2009)
13	<i>Caesalpinia bounduce (L.) Roxb.</i>	i) Hydrocel ii) Hydrocel	i) Tribes(chenchu, Erukala &lambada) of Achampet Forest division Telangana (state). ii) Tribes of Adilabad District Telangana (state)	of DS Reddy (2015) Ramakrishna <i>et al</i> (2014)
14	<i>Tridax procumbens L.</i>	i) Wounds/Cuts ii) Wounds/Cuts iii) Wounds/Cuts iv) Wound /Cuts healing	i) Tribes(chenchu, Erukala &lambada) of Achampet Forest division Telangana (state). ii) Adilabad district Tribes Telangana (state). iii) Koyas of Warangal district Telangana (state). iv) Adilabad-Trad healers	of DS Reddy (2015) Ramakrishna <i>et al</i> (2014) Suthari <i>et al</i> (2014) Lingaiah and Nagaraju Rao (2013)
15	<i>Calotropis procera (Ait) Ait.f.</i>	i) Scorpion bite	i) Tribes(chenchu, Erukala &lambada) of Achampet Forest division Telangana (state)	of DS Reddy (2015)
16	<i>Catharanthus roseus(L.)G.Don</i>	i) Diabetes	i) Tribes of Adilabad District Telangana (state)	Ramakrishna <i>et al</i> (2014)
17	<i>Cissus quadrangularis L.</i>	i) Indigestion	i) Tribes of Adilabad District Telangana (state)	Ramakrishna <i>et al</i> (2014)
18	<i>Melia azadarach L.</i>	i) Menstrual pains	i) Tribes of Adilabad District Telangana (state)	Ramakrishna <i>et al</i> (2014)
19	<i>Azadirachta indica A.Juss</i>	i) Stomachache	i) Koyas of Warangal district Telangana (state)	Suthari <i>et al</i> (2014)

The health disorders such as piles are treated with *Abutilon indicum*, *Tridax procumbens* and *Achyranthes aspera* (Table 4). In the treatment of different ailments through 120 remedies, leaf was predominantly (76.67%) used, followed by root (5%), latex (5%), fruit (4.17%) stem (3.33%), bark (3.33%), whole plant (1.67%) and flower (0.83%). The different plant parts were variedly used in the mode of drug preparation that include boiled or cooked, powdered, dried or fried, extracted and orally taken forms (Table 5). The different therapeutic practices and plants used by Sugalis resemble other tribal systems from Andhra Pradesh and different states of India. These resemblances led to list 19 important plants species (Table 6) that provide an important lead to use them in pharmacological studies.

DISCUSSION

The different districts of Andhra Pradesh state have been relatively well explored ethnobotanically with exception to Krishna, Guntur and West Godavari districts. These districts deserve a thorough investigation. The documentation of ethno-medico-botanical knowledge of Krishna district seems to be almost scanty (Reddy *et al* 2010). Medicinal plant wealth of Krishna district has been briefly described by Venkanna (1990) while Reddy *et al* (2005) documented the therapeutic value of certain Ayurvedic medicinal plants of Kondapalli fort of Krishna district. Recently Siva Kumari *et al* (2014) enumerated 23 plants from Krishna district that cure some respiratory diseases. The present study not only documents the medicinal plants used by Sugali tribe but also highlights the importance of certain plants in the context of their similar properties identified from tribes in the various district and states of India.

A perusal of literature published previously on the ethnobotanical knowledge of different tribes from India revealed a resemblance /similarity with 19 plant species of present study in their use to heal different ailments (Table 6). These 19 species have been used by different tribes in their tradico-medicinal practices similar to Sugalis in the present study. *Abutilon indicum* is one such species used in the present study for the piles treatment and was also used by the tribes of Villupuram and Sivagangani districts in Tamil Nadu state. Similarly the tribals from Southern part of Tamil Nadu, Bagats of eastern ghats in Visakhapatnam district, Andhra Pradesh state, tribals of Adilabad district (Telangana State) use *Mimosa pudica* for snake –venom neutralizing effect. The plant species such as *Annona squamosa*, *Erythroxylum monogynum*, *Andrographis paniculata*, *Caesalpinia bonduc* and *Tridax procumbens* are used traditionally to cure skin diseases, worms in stomach, diabetes, hydrocele and wounds respectively similar to the report in the present study. In the treatment of gastric ailments *Andrographis paniculata*, *Trianthema portulacastrum*, *Cynodon dactylon* and *Canthium parviflorum* were used by Sugalis. The phytochemical screening of the 19 plant species of present study might yield many bioactive compounds of pharmacological importance. Rao (2016) stated that use of one particular plant for the therapy of one ailment by different tribes in different parts of the country provides a lead to select such plant for phytomedicines development.

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References

- Ayyanar M and Ignaci muthu S (2009). Herbal medicines for wound healing among tribal people in Southern India. *Ethnobotanical and scientific evidences. Int. J. Appl. Res. Nat. Prod.* 2(3): 29-42
- Balakrishnan V, Prema P, Ravindran KC and Robinson J P (2009). Ethnobotanical studies among villagers from Dharapuram taluk, Tamil Nadu, India. *Global Journal of Pharmacology* 3(1) 8-14.
- Basha SK and Sudarsanam G (2010) Ethnobotanical studies on medicinal plants used by Sugalis of yerramalis in Kurnool district, Andhra Pradesh India. *International journal of Phytomedicine* 2:349-353.
- Bigoniy a P (2008). Ethanopharmacological approach in herbal drug development. The pharma Review, New Delhi. Kongposh publications.
- Lingaiah M and Nagaraja Rao P (2013). An ethnobotanical survey of medicinal plants used by traditional healers of Adilabad district, Andhra Pradesh India. *BioLife* .1 (1) : 17-23
- Ramakrishna N, Varma VNR and Saiduch Ch.(2014) Ethnobotanical studies of adilabad district, Andhra Pradesh, India. *Jurnal of Pharmcognosy and Phytochemistry*. 3(1) 18-36.
- Rao RR (2016). Role of ethnobotany in search of new drug plants and in conservation of biological diversity: some concern & issues. In "Indian ethnobotany: emerging trends" edited by AK Jain, scientific publishers India. P. 24-32
- Reddy D.S (2015) Ethnomedicinal plants used by the tribals of Achampet forest division in Nallamalais, Telangana India. *International journal of plant, animal and Environ. Sci.* 5(2): 65-73.
- Reddy KN, Madhuri V, Subbaraju GV, and Hemadrri K, (2005). Ethno-therapeutic of certain Ayurvedic medicinal plants of Kondapalli forest, Andhra Pradesh, the Indian forester, 131 (3), 442-448
- Reddy KN, Trimurthulu G, and Sudhakar Reddy C (2010). Plants used by the ethnic people of Krishna district, Andhra Pradesh. *Indian journal of traditional knowledge* vol. 9 (2) April 2010, pp. 313-317
- Reddy JS, Rao RR, Reddy MS (2002). Wound healing effects of *Heliotropium indicum*, *plumbago zeylanicum* and *Acalypha indica* in rats. *J. Ethnopharmacol.* 79:249-251
- Sahu TR (1982) An ethnobotanical study of Madhya Pradesh : 1. Plants used against various disorders among tribal women. *Anc. Sci. Life.* 1 (3): 178-181
- Samy RP, Thwin MM, Gopalakrishnakone P, Ignacimuthu S (2008). Ethnobotanical survey of folk plants for the treatment of snakebites in southern part of Tamil Nadu, India. *Journal of Ethnopharmacol.* 115 (2) 302-312.
- Sandhya Sri B and Seetharami Reddy TVV (2011) Traditional Phyto-antidotes used for snake bite by Bagate tribe of eastern ghats of Visakhapatanm district Andhra Pradesh. *International journal of Multidisci.Res. Journal* 1 (6) : 42-45.s
- Sankaranarayanan S, Bama P, Ramachndran J, Kalaichelvan PT, Deccaraman M, Vijayalakshmi M, Dhamocharan R, Dananjeyam B and Sathya Bamas S(2010).Ethnobotanical study of medicinal plants used by traditional users in Villupuram district f Tamil Nadu, India. *Journal of medicinal plants Research* 4 (12) 1089-1101.
- Shanmugam S, Rajendran K and Suresh K (2012). Traditional uses of medicinal plants among the rural people in Sivagangai district of Tamil Nadu, India. *Asian pacific journal of tropical Biomedicine* S 429-S 434.
- Siva kumarai B, Prabhu YT, and Tambur pavani (2014). Traditional knowledge of medicinal plants used to cure respiratory diseases in krishna district of Andhra Pradesh. India. *Journal of medicinal plants studies* 2014: 2 (6): 34-37

Sudha G and Surendhranadh reedy K (2014) Indigenous Practices of culture, health and disease among yanadis of Chittor district Andhra Pradesh. *Journal of Science* 4(3) 137-143.

Suthari S, Sreeramulu N, Omakar K, Reddy CS and Raju VS (2014) Intra cultural cognizance of medicinal plnts of Warangal North forest division, Northern Telangana, India. *Ethnobotany Res. & Applcation* 12: 211-235.

Venkanna P (1990). Medicinal plant wealth of Krishna district Andhra Pradesh. A prelimininary survey *Ancient Sci. Life.* 102: 137-140

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