



ISSN 2320-3862

JMPS 2015; 3(3): 37-42

© 2015 JMPS

Received: 09-03-2015

Accepted: 12-04-2015

**S. Srinivas Rao**

Reader in Botany, Sri Lakshmi  
Narasimha Swamy College,  
Bhongir – 508 116, Nalgonda  
District, Telangana, India.

## Ethno botanical study of medicinal plants of Sri Pancha Narasimha Swamy and Sri Matsyagiri Narasimha Swamy

**S. Srinivas Rao**

### Abstract

Sacred groves carries its own legend lore, myths, very ancient, rich heritage and repositories of biological wealth of the nation, play an important role in religious and socio-cultural life of the local people. The present study focus on the ethno-medicinal plants of Sri Pancha Narasimha Swamy and Sri Matsyagiri Narasimha Swamy sacred groves, Bhongir area of Nalgonda District. Through questionnaire, personal interviews and conversation with local aged people and medical practitioners know about 131 species, medicinal uses to treat different ailments of human beings. All these plants need to be evaluated through phyto and pharmacochemical investigations to discover their potentiality in developing effective medicines for curing different diseases in human beings.

**Keywords:** Sacred groves, biodiversity, medicinal value, ailments.

### 1. Introduction

Sacred groves carries its own legend lore, myths, very ancient rich heritage and repositories of biological wealth of the nation, play an important role in religious and socio-cultural life of the local people. They act as an ideal centre for biodiversity conservation. Several plants and animals that are threatened in the forest are still well conserved in some of sacred groves. It has been observed that several medicinal plants that are not to be found in the forest are abundant in the sacred groves. Further, endangered threatened and endemic species are often concentrated in sacred groves [1, 2]. One of the significant tradition of nature workshop is that of providing protection to patches of forest dedicated to deities or ancestral spirits. These vegetation patches have been designed as sacred groves. Biodiversity of sacred groves are preserved in a mostly undisturbed condition probably due to certain taboos and religious beliefs [8]. Over 50,000/- sacred groves have been reported from different parts of India. According to Gokhala [4] *et al.*, (1998) the total area of sacred groves in India would be about 33,000 hectares or 0.01 percent of the total area of India. Sacred groves may consist of multi species or group of trees [6].

India has a rich diversity of medicinal plants, knowledge of these medicinal plants have been accumulated in the course of many centuries [10] Rigveda, Charaka Samhita provide information on the medicine. The supply base of 90% herbal raw drugs used in the manufacture of Ayurveda, Sidda, Unani, and Homeopathy systems of medicine is largely from the wild. This wild source is speedily shrinking day-by-day. It is important for conservation and sustainable use of medicinal plants. It is hoped that in the future, ethno botany may play an increasingly important role in sustainable development and biodiversity conservation.[11] Different botanists have documented the uses of various medicinal plants from different parts of Telangana [12, 15]

### 2. Materials & methods

#### 2.1. Study Area

Field study was conducted in and around sacred groves of Sri Pancha Narasimha Swamy and Sri Matsyagiri Narasimha Swamy area of Bhongir, Nalgonda District. These are the most unique, beautiful and pleasant hillock with moderate climate in all seasons.

### Correspondence:

**S. Srinivas Rao**

Reader in Botany, Sri Lakshmi  
Narasimha Swamy College,  
Bhongir – 508 116, Nalgonda  
District, Telangana, India.

## 2.2 Ethno botanical survey

The entire area of the sacred groves are thoroughly studied by repeated visits in different seasons of the year 2013-14 covering in pre-monsoon, monsoon and post-monsoon seasons. It helps in observing the different developmental stages of plants. The plant specimens were collected, identified with the help of Flora, viz [3, 12]. The medicinal importance of plants are gathered from local aged people in-depth interviews and discussions with medicinal practitioners.

## 3. Results

The present study includes high value medicinal plant species of Angiosperms belongs to 44 families of 101 genera and 131 species. They are arranged family wise and gives their local names and diseases are furnished with in the table-1 [5, 7, 9]. These medicinal plants exposed varied ethno medicinal implications which are highly recommended by local aged people and ayurvedic medical practitioners.

**Table 1:** List of Medicinal Plants

S. No	Name of Taxa	Local Name	Family	Yadagirigutta	Matsyagiri Lakshmi Narasimha Swamy	Disease
1	<i>Annona squamosa L</i>	Setha falam	Annonaceae	√	√	Fruits - edible, cooling sedative, stimulant, anemia, decrease burning sensation, leaves - insecticidal, bark-diarrhea root - dysentery
2	<i>Tinospora cordifolia W</i>	Tippa tega	Menispermaceae	√	√	Swine flu, Bird flu, throat infection, sneezing, body aches, skin disease
3	<i>Argemone mexicana L</i>	Nella rakasi	Papaveraceae	√	√	Root - skin disease, leaves - urinary troubles, seeds - malaria
4	<i>Capparis sepiaria L</i>	Nalla uppi	Cappardiaceae	√	√	Leaves - eczema, dandruff
5	<i>Capparis zeylanica L</i>	Aadonda		√	√	Root, bark - ear infection
6	<i>Cleome gynandra L</i>	Vamita		√	√	Skin disease, leaves - headache, knee pains
7	<i>Cleome viscosa L</i>	Vamita		√	√	Root-wounds, leaves - ear infection
8	<i>Polygala arvensis Wild</i>		Polygalaceae	--	√	Roots - anti septic, asthma, chronic bronchitis
9	<i>Polycarpaea corymbosa L</i>	Bomma sari	Caryophyllaceae	--	√	Leaves - boils, inflammatory swellings, astringent, demulcent
10	<i>Abutilon crispum L</i>	Tuttru benda	Malvaceae	√	√	Leaves – bronchitis, piles root-pregnancy
11	<i>Abutilon indicum L</i>			√	√	Roots are sources of ephedrine
12	<i>Sida acuta Burm</i>	Bala		√	√	Roots - wounds, rheumatism
13	<i>Sida cordifolia L</i>	Naga bala		√	√	gonorrhoea
14	<i>Sida rhombifolia L</i>	Aathibala		√	√	rheumatism
15	<i>Pterosperum xylocarpum S&amp;W</i>	Dudika	Sterculiaceae	--	√	Bark decoction mixed with piper nigrum powder is taken to cure diarrhea
16	<i>Waltheria indica</i>	Nalla binda		√	√	Febrifuge, purgative, eye bath
17	<i>Corchorus aestuans L</i>	Nella bera	Tiliaceae	--	√	Seeds and aerial parts-stomach ache, pneumonia, inflammatory
18	<i>Corchorus capsularis L</i>	Goni nara		--	√	Root paste cure dysentery
19	<i>Corchorus trilocularis L</i>	Banki tuttura		√	√	Anti-inflammatory, cholesterol lowering activity, demulcent
20	<i>Grewia flavescens Juss</i>	Banka jana		--	√	Anti-inflammatory, diabetes, anti-helminthic anti-malaria
21	<i>Grewia hisuta Vahl</i>	Chitti jana or jibilika		--	√	Anti- pyretic, Nervine tonic
22	<i>Triumfetta rotundifolia L</i>			√	√	Vitality of the brain, demulcent
23	<i>Triumfetta rhomboidea Jacq</i>	Bankathu thar	Tiliaceae	√	√	Leaves - boils
24	<i>Tribulus terrestris L</i>	Palleru	Zygophyllaceae	√	√	Leaves - stones in the bladder
25	<i>Boswellia serrata Roxb</i>		Burseraceae	--	√	Gum- antiseptic, expectorant, diuretic
26	<i>Azadirachta indica A</i>	Neam	Meliaceae	√	√	Bark - fever, jaundice leucorrhoea, tooth ache, anti-bacterial, insecticidal flowers – jaundice, root- malaria, leaves - chicken pox, skin diseases, helminthiasis,
27	<i>Soymida febrifuga Roxb</i>	Somi		--	--	Bark-diarrhea, dysentery, fever

28	<i>Ximenia americana L</i>		Olacaceae	√	√	Leaves - fever ulcers, skin infections
29	<i>Ziziphus jujuba L</i>	Regu	Rhamnaceae	√	√	Fruit – edible, urinary troubles, stomachache, Bone protection
30	<i>Cissus pallid (W&amp;A) Ste</i>	Adavi gummadi	Vitaceae	√	--	Anti- inflammatory
31	<i>Cissus quadrangularis L</i>	Nalleru		--	√	Bone fractures, asthma gastro protective
32	<i>Abrus precatorius L</i>	Guravinda	Fabaceae	√	√	Root-paralysis, dental problems, Seeds - snake bite
33	<i>Butea monosperma L</i>	Flame of the forest or moduga chettu		√	√	Seeds – aphrodisiac, contraceptive
34	<i>Dalbergia lanceolaria L</i>	Illari or Erra pacchari		√	√	Seed oil- rheumatism
35	<i>Dalbergia paniculata Roxb</i>	Pacchari or chindugu		√	√	Bark with neem oil used as external application of baldness
36	<i>Indigofera ennaeophyllum L</i>	Yerra palleru		√	√	Skin diseases, diuretic, anti-diarrhea
37	<i>Indigofera trita L</i>	Jedi vempalli		√	√	Diarrhea, chest and body pains
38	<i>Indigofera hirsute L</i>	Kolapattitulu		√	√	Liver diseases, Rheumatism, arthritis, tumors
39	<i>Pterocarpus marsupium Roxb</i>	Yegisa		--	√	Paste prepared from plant gum opium and cinnamom fruit to cure blood dysentery
40	<i>Tephrosia purpurea (L). pers</i>	Vempali		√	√	Anti – oxidant, anti- viral, Memory in children, root-cough, asthma
41	<i>Tephrosia villosa (L). pers</i>	Nugu vempalli		√	√	Leaves anti- dote to snake bite, teeth problems, whole plant - memory to children, root - cough
42	<i>Bauhinia racemosa Lam</i>	Tella arechettu		Caesalpiniaceae	√	√
44	<i>Cassia auriculata L</i>	Tangadu	√		√	Leaves-bone fractures, burns, diabetes
45	<i>Cassia fistula L</i>	Rela	√		√	Roots-constipation, bark-leprosy, fruit - jaundice
46	<i>Cassia occidentalis L</i>	Kasintha	√		√	Leucorrhoea, febrifuge, diuretic, root - filariasis
47	<i>Cassia tora L</i>	Chakra murdha	√		√	Leaves - skin disease, seeds – laxative, eye disease
48	<i>Delonix regia Raf</i>	Gulmohur	√		√	Anti – bacterial, anti-inflammatory, diabetes
49	<i>Tamarindus indica L</i>	Tamarind	√		√	Liver diseases, measles, seeds-antidote, indigestion
50	<i>Acacia leucophloea Roxb</i>	Tella tumma	Mimosaceae	--	√	Bark, ulcers and boils
51	<i>Acacia nilotica L</i>	Nella thumma		√	√	Charcoal - dental problems, gum – diarrhea, bark - cough, asthma, fractures
52	<i>Albizia amara R</i>	Cheekireni or narlinga		√	√	Relieve pains and ulcers
53	<i>Dichrostachys cinerea L</i>	Nella jammi		√	√	Bark - used in headache, toothache, dysentery
54	<i>Prosopis cineraria (L.)</i>	jammi		√	√	Rheumatism, cough, asthma, scorpion sting
55	<i>Prosopis juliflora L</i>	Sarkar tumma		√	√	Fire wood
56	<i>Leucaena leucocephala (Lam).dewit</i>	Subabul or nagari		√	√	Anti-helminthic
57	<i>Mimosa pudica L</i>	Touch- me- not	√	√	Whole plant - fever, constipation, leprosy, filaria, root-malaria, diarrhea	
58	<i>Largerstroemia parviflora Roxb</i>	chennang	Lythraceae	√	√	Anti-pyretic
59	<i>Opuntia dillenii Ker. Gawl</i>	Naga jammudu	Cactaceae	√	√	Leaves-bleeding, flower- boils, fruit-throat pain
60	<i>Glinus oppositifolius L</i>	Chayuntarashi	Molluginaceae	√	√	Skin diseases, piles, leucoderma
61	<i>Mollugo pentaphylla L</i>	Chetarasi		√	√	Antiseptic, stomach ache, roots - eye diseases
62	<i>Alangium salvifolium L</i>	Udaga	Alangiaceae	√	√	Leaves - bone fracture, swellings, roots - scorpion, dog bites

63	<i>Canthium parviflorum L</i> Thunb	Balusu	Rubiaceae	√	--	Leaves- fever, root and bark dysentery
64	<i>Catunaregam spinosa T</i>	Manga		--	√	Insecticidal, expectorant, abortifacient
65	<i>Ageratum conyzoides L</i>	Goat weed		√	√	Herb- dysentery, diarrhea rheumatism, kidney stones
66	<i>Bidens biternata Lour</i>		Asteraceae	--	√	Treat eye and ear infection, wounds, pain reliefs
67	<i>Blainvillea acmella L</i>			√	--	Tooth ache, rheumatism, itches, diuretic
68	<i>Blumea mollis Don</i>	Kukka pogaku		--	√	Leaves, skin diseases, whole plant, diarrhea
69	<i>Dicoma tomentosa cass</i>			--	√	Healing wounds, skin diseases
70	<i>Eclipta prostrata L</i>	Gunta guragura		√	√	Whole plant, hair tonic liver tonic, jaundice, hemorrhoids
71	<i>Lagascea mollis cav</i>	Silk leaf		--	√	Whole plant paste with camphor and mustard oil is applied on chest and throat to cure cold, cough and nasal congestion
72	<i>Parthenium hysterophorus L</i>	Congress weeds		√	√	Urinary tract infections, rheumatism, pains, dysentery
73	<i>Pulicaria wightiana (DC).</i> <i>C.B.Clarke</i>	Adavi chamanthi		√	√	--
74	<i>Sphaeranthus indicus L</i>	Boddasoram		--	√	Hemorrhoids, epilepsy mental illness, diabetes, leprosy, Whole - plant health tonic
75	<i>Tridax procumbens L</i>	Gaddi chamanthi		√	√	Kidney stones, leprosy, Leaves - wounds, skin diseases, dandruff
77	<i>Vernonia cinerea L</i>	Sahadevi	√	√	Seeds - digestion, root - rheumatism	
78	<i>Plumbago zeylanica L</i>	Tella chitramulamu	Plumbaginaceae	√	√	Root – anti-helminthic, immunity
79	<i>Calotropis gigantea L</i>	Jiledi puvvu	Asclepiadaceae	√	√	Latex-wounds, root-arthritiis, leaf juice earache
80	<i>Calotropis procera (Ait.) R</i>	Jilledu chettu		√	√	Ulcers, enlargement of spleen, lever disease, skin disease, Latex - wounds
81	<i>Caralluma adscendens</i> <i>Roxb</i>			√	√	Rheumatism, stomach disorders, reduce obesity, suppress hunger, inflammatory
82	<i>Cryptostegia</i> <i>grandiflora (Roxb.)R.Br</i>	Rubber plant		√	√	Toxic
83	<i>Hemidesmus indicus L</i>	sugandhapala		√	√	Anti- toxic, diabetes, urinary tract disorders
84	<i>Leptadenia reticulata</i> <i>W&amp;A</i>	Palateega		√	√	Bronchitis, diuretic constipation, cures bleeding disorders, Leaves- earache
85	<i>Sarcostemma acidum Roxb</i>	Aaku jemudu		√	√	Mental disease, allergic rhinitis, lactation, emetic, latex - ulcers
86	<i>Coldenia procumbens L</i>	Hamsapadu	Boraginaceae	√	√	Diabetes, rheumatism, inflammation
87	<i>Ehretia laevis Roxb</i>			√	√	Syphilis, diphtheria, eczema
88	<i>Heliotropum indicum L</i>	Nagadhanthi		√	√	Wounds, skin - diseases ulcers
89	<i>Evolvulus alsinoides L</i>	Vishnukranthi	Convolvulaceae	√	√	Anti-stress, depression, cough and cold
90	<i>Datura stramonium L</i>	Ummetha	Solanaceae	√	√	Leaves - earache, whooping cough
91	<i>Physalis minima L</i>	Budama		√	√	Anti-pyretic, anti- inflammatory
92	<i>Solaum surattense B</i>	Errinvanga Nelamulaka		√	√	Cough, Cold, Asthma
93	<i>Adhatoda vasica Nees</i>	Addasaram		√	√	Asthma, bronchitis,
94	<i>Andrographis paniculata L</i>	Kalmegh	Acanthaceae	√	√	Leaves-wounds, roots- anti- inflammatory, malaria, snake bite
95	<i>Barleria longifolia L</i>	Enugu palleru		√	√	Diabetes, liver problems, aphrodisiac
96	<i>Lepidagathis cristata Wild</i>	Mulla banthi		√	√	Roots - dental problem

						dandruff, warts
97	<i>Vitex negunda L</i>	Vavilli	Verbenaceae	√	√	Leaves and seeds-stomach ache, anti-helminthic
98	<i>Lantana camara L</i>	Puli kampa		√	√	Epilepsy, asthma, Leaves – analgesic, hepato active, antidote
99	<i>Leucas aspera (Wild) Link</i>	Timmi chettu	Lamiaceae	√	√	Leaves- jaundice - menstrual pains, paralysis, asthma, diabetes.
100	<i>Gmelina asiatica L</i>	Pedda nevli		√	√	Anti-pyretic hepatic diseases, jaundice, Root - dental problems
101	<i>Ocimum sanctum L</i>	Tulasi		√	√	Arthritis, anti-cancer, skin disease, anti-stress, cough cold, earache, anti- pyretic, diuretic, tumors, diabetes
102	<i>Boerhavia diffusa L</i>	Aatika mamidi	Nyctaginaceae	√	√	Digestion, liver problems, cardiac, spleen, diuretic
103	<i>Achyranthes aspera L</i>	Uttaraene	Amaranthaceae	√	√	Roots-snake bite, teeth infection, cough, asthma
104	<i>Aerva javanica(Burm.f.)juss.ex sch</i>	Pedda pindikura		√	√	Kidney stones
105	<i>Aerva lanata L</i>	Pindikura		√	√	Whole plant - kidney stones
106	<i>Alternanthera pungens kunth</i>			√	√	Diuretic, gonorrhoea
107	<i>Alternanthera sessilis (L.) DC</i>	Pamagantskura		√	√	Wounds, cough - bronchitis, diabetes, jaundice
108	<i>Celosia argentea L</i>	Gunugu		√	√	Gonorrhoea
109	<i>Pupalia lappacea L</i>	Thella uthareni		√	√	Bone fractures, boils, cough
110	<i>Gyrocarpus asiaticus Wild</i>	Poliki or helicopter tree	Hernandaceae	√	√	Antioxidant, anti-cancer
111	<i>Acalypha indica L</i>	Muri pindi	Euphorbiaceae	√	√	Whole plant - skin diseases
112	<i>Corton bonplandianum Bail</i>	Galivana		√	√	Control blood pressure
113	<i>Euphorbia antiquorum L</i>	Peeda jamudu		√	√	Fistula, skin diseases
115	<i>Euphorbia hirta L</i>	Nanabala		√	√	Whole plant used in jaundice, diabetes, leaves dysentery
116	<i>Euphorbia ligularia Roxb</i>			√	√	Leaves and roots are used in asthma, rheumatism, toothache
117	<i>Euphorbia tirucalli L</i>	Manchi jamudu	√	√	Latex - dental problems cough and cold	
118	<i>Tragia involucrata L</i>	Dulagandi	√	√	Whole plant fever, head ache	
119	<i>Holoptelea integrifolia Roxb</i>	Namli	Ulmaceae	√	√	Bark piles, fistula scabies and anti-tumor effect
120	<i>Ficus hispida L</i>	Bamma madi	Moraceae	√	√	Leaves-leuco derma roots-wounds, Latex-diarrhea, ulcers
121	<i>Ficus religiosa L</i>	Ragi		√	√	Teeth problems, leaves-hair tonic
122	<i>Ficus benghalensis L</i>	Banyan marri		√	√	Prop roots-memory power, bark- diarrhea, diabetes
123	<i>Streblus asper L</i>	Barrenka		√	√	Twigs- dental problems, bark-muscle pain
124	<i>Borassus flabelifer L</i>	Thati chettu	Palmae	√	√	Fruit pulp - edible part
125	<i>Aloe vera L</i>	kalabanda	Liliaceae	√	√	Beauty aid, dandruff leaves contains 18 amino acids antiviral, antifungal and anti-bacterial properties
126	<i>Phoenix sylvestris Roxb</i>	Etha		√	√	Fevers, fruit - cooling, Leaf - juice tongue problems, fruits - cardio tonic
127	<i>Commelina benghalensis L</i>		Commelinaceae	√	√	Leaves vegetables
128	<i>Cyperus rotundus L</i>	Nut grass	cyperaceae			Dysentery, liver problems, dandruff, cough
129	<i>Apluda mutica L</i>		Poaceae	√	√	Diuretic, gonorrhoea
130	<i>Cymbopogan flexuosus Nees ex steud</i>	Nimma gaddi Indian lemon grass		√	√	Wound healing
131	<i>Cynodon dactylon L</i>	Garicha gaddi		√	√	Whole plant- kidney stones, skin diseases

#### 4. Discussion

Local aged people and medicinal practitioners have traditional knowledge of plant species used for curing the diseases. This knowledge has been passing from one generation to another generation and played an important role in the conservation and sustainable development of the biodiversity.

Especially Nalgonda district being a backward area with a rural background, people are illiterate and depend on agriculture. Most of the population is not exposed to the modern medicine. The villages are deprived of trained doctors and good infrastructure in the hospitals. People do not know much about the modern medicines and they completely depend upon ayurvedic medicines. In this district some people have taken up Ayurveda as a medicinal practice from their ancestors and its knowledge is passes from one generation to another generation. The main ailments in the study area are cold and cough, would healing, joint and body pains, stomach pains, anti-diabetic, menstrual disorder, ulcers, dysentery, dental problem dandruff, kidney stones, jaundice, leprosy, snake bite, asthma and other diseases. The species which are enriched in medicinal values are required for further study of human welfare.

#### 5. Conclusion

The current study reveals that the native folks have good knowledge on traditional uses of plants. But due to the modernization, this knowledge may be lost in due course. Hence, it is essential to study and document the ethnic knowledge, which can provide valuable information to pharmacologists in screening of individual species and their plants constituents. Therefore, the present study will be useful for researchers in the field of Ethnobotany, ethnomedicinal and pharmacology for further studies. Local people who are residing near and around the sacred groves still depend on the med flora to cure various ailments.

#### 6. Acknowledgements

The author is thankful to the Principal and the Management of Sri Lakshmi Narasimha Swamy College, Bhongir for encouragement.

#### 7. References

1. Bhakat RK, Pandit PK. An inventory of medicinal plants of some sacred groves of Purulia District, West Bengal. *Indian Forester* 2004; 130(1):37-44.
2. Biswas A, Bari MA, Roy M, Bhadra SK. Inherited folk pharmaceutical knowledge of tribal people in the Chittagong hill tracts Bangladesh, *Ind. J. trad. knowledge* 2010; 9(1):77-89.
3. Gamble JS, Fischer CEC. *Flora of the Presidency of Madras (1-3)*, Adlard & Sons Ltd., London, 1967, 1-3.
4. Gokhale Y, Velankar R, Subash Chandran MP, Gadgil. Sacred woods, grasslands and water bodies as self-organised systems of conservation, In: Ramakrishnan PS, Saxena KG, and Chandrashekara UM (eds) *conserving the sacred for Biodiversity Management*, Oxford and IBH Publishing co., New Delhi, 1998, 365-398.
5. Hemadri K *Shastravettalanum Akashistunna Girijana Vaidyam (Tribal Pharmacopoeia)*. Tribal Cultural Research and Training Institute, Hyderabad, 1994.
6. Hughes JD, Subash Chandran MD. Sacred groves around the earth: An overview, In: Ramakrishnan PS, Saxena KG, and Chandrashekara UM (eds) *conserving the sacred for Biodiversity Management*, Oxford and IBH Publishing co New Delhi, 1998, 46-69.
7. Jain SK. Observations on Ethnobotany of the tribal of central India. In: Jain, S.K. (ed.), *Glimpses of Indian Ethnobotany*. Oxford & IBH, New Delhi, 1981, 193-198.
8. Lakshminarayana K, Venkaiah M. Biodiversity in the Sacred groves of the North Coastal District of Andhra Pradesh, National Symposium on conservation of Eastern Ghats, 1998, 52-58.
9. Martin G. *Ethnobotany – A method manual*. Chapman and Hall, London, 1995.
10. Nadakarani AK. *Indian Materia Medica*, Popular Prakasam, Bombay 1954; 1:1319.
11. Rajasekaran B, Warren DM. Indigenous knowledge for socio-economic development and biodiversity conservation: The Kolli hills, *Indigenous knowledge & Development Monitor* 1994; 2:13-17.
12. Rao PN, Raghava Swamy BV, Pullaiah T. *Flora of Nalgonda District, Andhra Pradesh, India*. Shipra Publications, Shakarpur, Delhi, 2001.
13. Rao VLN, Bharathi K, Appalanaidu P, Naidu JM, Venkaiah M. Common plants of medicinal values in kolams of Adilabad district, Andhra Pradesh. *Int J Med Biomed Res* 2012; 1(2):111-118.
14. Singh RK. Sustainable use of ethno-botanical resources. *Indian Journal of Traditional Knowledge* 2007; 6(3):521-530.
15. Venkata Rami Reddy K, Nagalakshmi Devamm M, Prayaga Murthy P. Some folk medicinal plants of Bhirakona hills of Prakasam district, Andhra Pradesh, India. *Current Botany* 2012; 3(5):51-58.