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Ethnobotanical Studies on Japali Hanuman Theertham- A Sacred Grove of Tirumala hills, Andhra Pradesh, India.

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Abstract

The present ethno-botanical exploration conducted in the forest area of Japali Hanuman Theertham a sacred grove of Tirumala hills during the period of 2010-2013 resulted in the information about the uses of traditional medicinal plants of 85 species belonging to 47 families to treat 46 types of ailmentsand utilization of different forest plant resources. Out of 85 plant species the dominant life forms of herbs (40), shrubs (17), trees (17), climbers (08), lianas (02) and creepers (01).The grove having endemic medicinal plants and owing to anthropogenic pressures, they are in extreme state of vulnerability. The information gathered from Japali Hanuman Theertham indicates that the tribal people of this region possess good knowledge of herbal drugs. The ethnomedicinal information has been eradicating day by day due to lack of proper interest in the younger generations of ethnic groups. Hence the present study had been focused on the ethnic groups of Tirumala who are collecting medicinal plants from Japali Hanuman Theertham, a sacred grove located in Tirumala- Seshachalam hill range of Chittoor District, Andhra Pradesh, India.The further research will be carried out on isolation of active ingredients from medicinal plant species for effective treatment of particular diseases and measures should be taken to conserve the endangering ethnomedicinal knowledge of Chenchu and Nakkala tribes for future generations and endangered medicinal plants for ecological balance and sustainable environmentdevelopment.

Keywords: Ethnobotany, Ethnic groups, Japali Hanuman-Theertham, Sacred grove, Tirumalahills.

INTRODUCTION

Sacred groves are segments of landscape containing vegetation and other forms of life and geographical features that are delimited and protected by human societies to keep them in a relatively undisturbed state. It is the expression of the relationship of man with the divine or with nature [1]. The phenomenon of believes in sacred groves is ancient. The tract of virgin forest harboring rich biodiversity, protected by the local people based on the ground of indigenous cultural and religious beliefs, and taboos is called sacred grove. They are the repositories of rare and endemic species and can be regarded as the remnant of the primary forest left untouched by the local inhabitants and protected by them due to the belief that the deities reside in these forests[2]. Around 14,000 Sacred groves have been reported from all over India [3,4]. A total of 580 sacred groves have been reported from total Andhra Pradesh among them highest 107 sacred groves from Kurnool District and second highest 101 sacred groves from Chittoor District[5]. The Japali Hanuman theertham (Lord Anjaneya) sacred grove has been given a serial number of 77 [5]. This included under 11th hot spot of Tirupati-Kadapa- Nallamali of India and Harbour of large number of endemic medicinal plants [6]. The area is not explored so far of ethnobotanical importance.

Ethnic and indigenous people who reside in the forest and villages bordering the forest mainly depend on plant resources; and they possess rich knowledge on medicinal values of plants and their uses [7]. Ethnobotany is a preliminary method of research, suitable for gathering information on the use of plants. It has been proven, time and time again, that the 'quack' medical knowledge handed down by the common people constitutes sources of information useful for scientific research and that many plants utilized exclusively in popular tradition, when exposed under scientific examination, have been found to be useful for different sectors in the industry, therefore science and tradition have a strong connection between them, science in fact has often traditional origin [8]. Since ages man relied on plants as a sole source of medicine. The knowledge has been transmitted orally from generation to generation [9] and Most of the traditional knowledge had faded away due to lack of proper documentation and more number of practitioners [10]. The art of herbal healing has very deep roots in Indian culture and folklore. Even today in most of the rural areas, people are depending on local traditional healing systems for their primary health care [11]. Documentation of indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources [12] and WHO has estimated that over 80% of the global populations rely chiefly on traditional medicine [13]. According to Schippmann *et al* [14] more than 50, 000 species are used for medicinal purposes worldwide, of which almost 13% are flowering plants. Over 8000 plant species are used in traditional and modern medicine in India [15] and 90-95% collection of medicinal plants is from the wild, of which more than 70% collection involves destructive and unscientific extraction. Over exploitation of trade species, destructive way of collection, vulnerability due to anthropogenic pressures are some of the major threats to medicinal plants. In order to achieve sustainable harvest of medicinal plants and other non-timber forest products, a multi-disciplinary approach must be considered which include ecological, biological, socio-cultural and economical aspects of the species [16].

Due to Anthropogenic interference, most of thevaluable medicinal plants are extincting at high rate. It is an inevitable to conserve the treasure of ethnobotanical information for future generation. Therefore documentation ofavailable traditional knowledge is an utmostimportant. Hence the present study was undertaken to document the importance of medicinal plants and dependency of the tribes on the wild plants for their daily ailments and needs.

MATERIALS AND METHODS

Study area

Japali Hanuman theertham is located at the height of 872 MSL, latitude of 13°42'2.6280 N" and longitude of 79°20'21.0048E".The Lord Anjaneya temple at Japali Theertham, is one of the most worthy places to visit in Tirumala. Which is located 7 kms from Lord Sri Venkateswara swamy temple. The spot is on the way to Akasa Ganga from Tirumalais an abode of Lord Sri Anjaneya Swamy, who is said to have flourished by himself from the ground over here. Lord Rama with his consort Sita and brother Lakshmana stayed here along with Lord Hanuman during their aranyavasam (i.e., their 14 years exile to the forest).There is a perennial pond, called a**s** Rama Kund, in the temple premises that was said to be the source of drinking water and bath during their stay here. It is also said that the one who takes bath in the holy pond would be washed off all his/her sins.The famous festivals celebrated at this site are Tumburu Phalguna Pournami, Chakra Kartika Masa – Ksheerabdi Dwadasi, Kumaradhara Magha Pournami and Ramakrishna Pushya Pournami.

The ethnic groups Chenchu and Nakkala tribes were habitat in Tirumala and surrounding this area and collected medicinal plants and non wood forest products to treat the diseases and sell (vendors) to the pilgrims. Ethnobotanical data was collected as per the methodology suggested by Jain [17] through structural questionnaire, interviews and discussions with vidhyasof ethnic groups who are treating the diseases with medicinal plants in their local language during the year of 2010-2013. Our questionnaire allowed descriptive response on the plant prescribed, such as part of the plant used, medicinal uses, and mode of administration.

Identification of plants:

The plant species were collected from the forest with the help of practitioners and identified using the Gamble volumes [18] and local floras as well as through comparison with identified specimens deposited in the Herbarium of S. V. University, Tirupati. The gathered information was documented on Data sheets and Herbarium sheets with voucher number are preserved in Department of Botany, S.V.U. College of sciences, Tirupati. Scientific names of the plant species arranged alphabetically followed by Family name

RESULTS AND DISCUSSION

Plants species used as medicine

The medicinal information is tabulated like the plant scientific name, vernacular name (in Telugu language), family name, habit, mode of administration, part used, mode of preparation and uses of the plant based drugs (Table.01).

Table 01: Documentation of medicinal plants used by the tribes of Japali Hanuman Theertham

S. No	Scientific and Vernacular Name	Family	Habit & Mode of Administ-ration	Part used & Mode of Preparation	Uses
1.	*Acanthospermum hispidum* DC., Pichipalleru	Asteraceae	H(Oral)	Leaf(Juice)	Skin diseases
2.	*Actinodaphne maderaspatana* Bedd., Panidiripatra	Lauraceae	T (Topical)	Leaf(Paste)	Wounds
3.	*Ageratum conyzoides* L., Pumpulla	Asteraceae	H(Oral)	Root(Decoction)	Antihelmintic
4.	*Ampelocissus tomentosa* Planch., Adavidraaksha	Vitaceae	CL (Topical)	Root(Crushed form)	Swellings
5.	*Anisochilus carnosus* Benth., Karpuravalli	Lamiaceae	H(Oral)	Leaf(Juice)	Sores, Cough
6.	*Antidesma acidum* Retz.,Pulleru	Stilangiaceae	T(Oral)	Leaf(Decoction)	Stomach ulcers
7.	*Areca catechu* L., Vakka	Arecaceae	T(Oral)	Fruit(Crushed form)	Toothache
8.	*Argeria cuneata* Ker-Gawl., Nettarulu	Convolvulaceae	S(Oral)	Leaf(Powder)	Diabetes
9.	*Asparagus racemosus* Willd., Pilliteegalu	Liliaceae	S(Oral)	Root tuber (Powder)	Diarrhea, piles
10.	*Bacopa monnieri* L., Netisambrani	Scrophulariaceae	H (Topical)	Leaf(Paste)	Leprosy
11.	*Bambusa arundinacea* Willd., Veduru	Poaceae	S (Topical)	Leaf(Crushed form)	Inflammations
12.	*Bidens pilosa* L., Rekkala rani	Asteraceae	H(Oral)	Leaf(Juice)	Cough
13.	*Breynia rhamnoides* M. Arg., Erraballi	Euphorbiaceae	S(Oral)	Stem bark(Decoction)	Blood purifier
14.	*Buchanania angustifolia* Roxb., Sarapappu	Anacardiaceae	T(Oral)	Gum(Decoction)	Diarrhea
15.	*Byttneria herbacea* Roxb., Magasirigadda	Sterculiaceae	H(Oral)	Root tuber (Powder)	Diarrhea, Nerve disorders
16.	*Ceropegia candelabrum* L., Nimmatai	Asteraceae	CL (Oral)	Root tuber(Powder)	Diarrhea, Cooling agent
17.	*Cleome asper* Koen.,Nelavaminta	Cleomaceae	H(Oral)	Leaf(Juice)	Worm infestations
18.	*Clerodendron fragrans* R. Br., Mysore malli	Verbenaceae	S (Topical)	Leaf(Crushed form)	Scorpion sting
19.	*Conyza stricta* Willd.	Asteraceae	H (Topical)	Whole plant(Paste)	Wound healing
20.	*Dillenia indica* L. Peddakalinga	Dilleniaceae	T(Oral)	Fruit(Decoction)	Laxative, Fever
21.	*Dioscorea oppositifolia* L., Adavidumpathiga	Dioscoreaceae	CL (Oral)	Root tuber (Decoction)	Fevers, Urinary infections
22.	*Dodonea viscosa* L., Banderu	Sapindaceae	S(Oral)	Leaf(Crushed form)	Bone fracture, Worm infestations
23.	*Emilia sanchifolia* (L.) DC., Sadamandi	Asteraceae	H(Oral)	Flower(Crushed form)	Toothache

S. No	Scientific and Vernacular Name	Family	Habit & Mode of Administ-ration	Part used & Mode of Preparation	Uses
24.	*Erythroxylum monogynum*Roxb. Devadaru	Erythroxylaceae	T(Oral)	Leaf(Powder)	Diuretic, Nutrient
25.	*Euphorbia hirta* L., Nanubalu	Euphorbiaceae	H(Oral)	Whole plant(Powder)	Leucorrhoea
26.	*Evolvulus alsinoides* L., Vishnukrantha	Convolvulaceae	H(Oral)	Whole plant(Juice)	Hepatitis
27.	*Galinsoga parviflora* Cav., Medakamanchi	Asteraceae	H(Oral)	Root(Juice)	Scorpion sting
28.	*Gardenia gummifera* L. f. Bikki	Rubiaceae	T(Oral)	Gum(Natural form)	Ulcers
29.	*Grewiahirsuta*Vahl.Jani	Tiliaceae	S(Oral)	Fruit(Juice)	Dysentery
30.	*Gynura lycopersifolia* DC., Adavi temetakuchettu	Asteraceae	H(Oral)	Leaf(Decoction)	Fevers
31.	*Hemidesmus indicus*Var. *pubescens* R. Br., Pedda sugandapalateega	Periplocace	CR (Oral)	Root(Powder)	Diabetes
32.	*Holarrhena antidysenterica* Wall. Amkudu	Apocynaceae	SH (Oral)	Leaf(Juice)	Ulcers
33.	*Holarrhenapubescens* (Buch.-Ham), Kolamukhi	Apocynaceae	T(Oral)	Stem bark(Decoction)	Poisonous bites
34.	*Hugonia mystax* L., Kakibeera	Linaceae	S (Topical)	Root bark(Paste)	Snake bite
35.	*Ichnocarpus frutescens* R.Br., Nallateega	Apocynaceae	CL (Oral)	Leaf(Powder)	Diabetes
36.	*Indigofera mysorensis* Rottl., Kondavempalli	Fabaceae	S(Oral)	Whole plant(Juice)	Leucorrhoea
37.	*Ipomoea digitata* L., Chirugummudu	Convolvulaceae	CL (Topical)	Leaf(Paste)	Sores
38.	*Ipomoea obscura* K. Gawl.,Nallakokkita	Convolvulaceae	CL (Topical)	Leaf(Paste)	Skin diseases
39.	*Lactuca runcinata* DC.	Asteraceae	H(Oral)	LeafFumes	Bronchitis
40.	*Leucas lanata* Benth.,Chinnapoola tummi	Lamiaceae	H(Oral)	Leaf(Crushed form)	Scorpion sting, Toothache
41.	*Maytenus heyneana* Roth.,Guttichippati	Celastraceae	S(Oral)	Root(Powder)	Diabetes
42.	*Memecylon edule* Roxb. Manchialli	Melastomaceae	T(Oral)	Fruit(Powder)	Energy stimulant
43.	*Michelia champaka* L., Champakamu	Magnoliaceae	T(Oral)	Flower(Decoction)	Stomache, Cough
44.	*Mimosa pudica* L.,Attipatii	Mimosaceae	H(Oral)	Root(Juice)	Urinary disorders
45.	*Mirabilis jalapa* L., Badhrakshi	Nyctaginaceae	S (Topical)	Leaf(Crushed form)	Wound healing
46.	*Orthrosiphon glabratus* Benth., Adavisajja	Lamiaceae	H(Oral)	Leaf(Juice)	Diabetes
47.	*Oxalis corniculata* L., Pulichinta	Oxalidaceae	H(Oral)	Leaf(Decoction)	Anemia
48.	*Oxalis latifolia* Kunth.,Pedda Pulichinta	Oxalidaceae	H(Oral)	Leaf(Decoction)	Digestive problems
49.	*Phyllanthus deblis* Hook. f., Kanduru	Euphorbiaceae	H(Oral)	Leaf(Juice)	Jaundice
50.	*Phyllanthus polyphyllus* Willd., Adaviusiri	Euphorbiaceae	H(Oral)	Leaf(Juice)	Jaundice
51.	*Phyllanthus virgatus* Forst., Gadhausiri	Euphorbiaceae	H(Oral)	Leaf(Juice)	Jaundice,Diabetes
52.	*Physalis minima* L. Budama	Solanaceae	H(Oral)	Flower(Powder)	Diabetes
53.	*Piper attenuatum* Buch.-Ham., Adavimiriyalu	Piperaceae	H(Oral)	Whole plant(Decoction)	Hepatitis
54.	*Polycarpaea corymbosa* Lam., Bommasari,	Caryophyllaceae	H(Oral)	Leaf(Juice)	Jaundice
55.	*Polygala elongata* Klein., Podavinele janumu	Polygalaceae	H(Oral)	RootFumes	Bronchitis
56.	*Polygala telephioides* Willd., Perianangai	Polygalaceae	H(Oral)	Root(Juice)	Fever
57.	*Polygonum glabrum* Willd., Neerugannеru	Polygonaceae	H(Oral)	Root(Juice)	Jaundice
58.	*Psidium guajava* L., Jama	Myrtaceae	T(Oral)	Fruit(Paste)	Diarrhea
59.	*Rhynchosia beddomei* Baker., Vendichettu	Fabaceae	S(Oral)	Leaf(Juice)	Abortifacient
60.	*Rhynchosia cana* DC.,	Fabaceae	S(Oral)	Leaf(Powder)	Diabetes
61.	*Richardia scabra* L.	Rubiaceae	H(Oral)	Root(Powder)	Diaphoretic
62.	*Sabastiana chamaelea* (L.), Uoosaramokka	Euphorbiaceae	H(Oral)	Leaf(Juice)	Diarrhea
63.	*Shorea talura* Roxb.,Chinna jalari	Dipterocarpaceae	T (Topical)	Gum(Paste)	Rheumatism
64.	*Smilax zeylancica* Ait.,Phirangi mokka	Smilacaceae	CL (Topical)	Root(Paste)	Leprosy
65.	*Solanum nigrum* L.,Kasi	Solanaceae	H (Topical)	Flower(Paste)	Edema
66.	*Spathodea companulata* P. Beauv., Yerra nerubudda	Bignoniaceae	T (Topical)	Stem bark(Paste)	Skin diseases
67.	*Stachytarpheta jamaicensis*Vahl.,	Verbenaceae	H(Oral)	Leaf(Decoction)	Dysentery
68.	*Striga angustifolia* (D. Don.), Ratibadanica	Scrophulariaceae	H (Topical)	Whole plant(Crushed form)	Poisonous bites
69.	*Striga lutea* Lour., Kuranti	Scrophulariaceae	H (Topical)	Leaf(Crushed form)	Snake bite
70.	*Syzygium alternifolium* Walp., Kondanerudu	Myrtaceae	T(Oral)	Fruit(Powder)	Diabetes
71.	*Taxillus tomentosus* (Heyre ex Roth)., Tellanagu	Loranthaceae	S (Topical)	Leaf(Paste)	Leprosy
72.	*Tephrosia tinctoria* Pers.,	Fabaceae	H(Oral)	Whole plant(Juice)	Dropsy
73.	*Terminalia pallid* Brandis., Tella karaka	Combretaceae	T(Oral)	Fruit(Juice)	Cough, Cold
74.	*Thumbergia fragrans* Roxb.,Idrateega	Thumbergiaceae	L(Topical)	Leaf(Paste)	Headache
75.	*Tinospora cordifolia* (Willd.) Miers, Tippateega	Menispermaceae	CL (Topical)	Root(Paste)	Leprosy
76.	*Toddalia asiatica* Lam., Mirapagandra	Rutaceae	H(Oral)	Root bark(Decoction)	Malaria
77.	*Trema orientalis* (L.) Blume., Bogguchettu	Ulmaceae	T (Oral)	Root(Juice)	Diarrhea
78.	*Trianthema portulacastrum* L, Nadaraku	Aizoaceae	H(Oral)	Leaf(Juice)	Diarrhea, Paralysis,
79.	*Triumfetta pilosa* Roth.,Teegabenda	Tiliaceae	S(Oral)	Whole plant(Powder)	Diabetes
80.	*Triumfetta rhomboidea* Jacq., Dhekki	Tiliaceae	H(Oral)	Root(Decoction)	Stomach ulcers
81.	*Vernonia albicans* DC., Tella sahadevi	Asteraceae	H (Oral)	Whole plant(Juice)	Leucorrhoea
82.	*Vitex altissima* L.f.,Nemaliadugu	Verbenaceae	T(Oral)	Flower(Paste)	Leprosy
83.	*Waltheria indica* L., Nallabenda	Sterculiaceae	S(Oral)	Whole plant(Powder)	Febrifuge
84.	*Xanthium indicum* Roxb.Marulamaathangi,	Asteraceae	H(Oral)	Flower(Decoction)	Diarrhea
85.	*Zornia diiphylla* (L.) Pers., Rendakulaponna	Fabaceae	H(Oral)	Root(Decoction)	Dysentery

Note: CL: Climbers**, CR:** Creepers**, H:** Herbs, **L:** Lianas, **S:** Shrubs, **T:** Trees

The study revealed that the vidhyas of ethnic groups used 85 medicinal species to cure 46 types of diseases. According to the habit of plants herbs (40), shrubs (17), trees (17), climbers (08), lianas (02) and creepers (01) where using to prepare medicine (Fig.1). Different parts of the medicinal plants are being used by the vidhyas among them leaves (41%) were used for the preparation of medicines predominantly followed by Root (18%),Whole plant (12%), Fruit (8%), Flower (7%), Root tuber (5%), Stem bark (4%), Gum (3%) and Root bark (2%)(Fig.2). The most prevalent methods of drug preparation are Juice (28%), Decoction (20%), Powder (19%), Paste (18%), Crushed form (12%), Fumes (2%) and Natural form (1%)(Fig.3). 79% percent of the medicines are applied through Oral tract while 21% were applied on topical parts of the skin (Fig.4). The majority of the remedies were prepared from freshly collected plant materials from the wild and mostly from a single species or sometimes they mixed with other plant materials. When fresh plant parts are not available, dried parts are also used. The study indicated that this area has plenty of medicinal plants to treat a wide spectrum of human ailments.

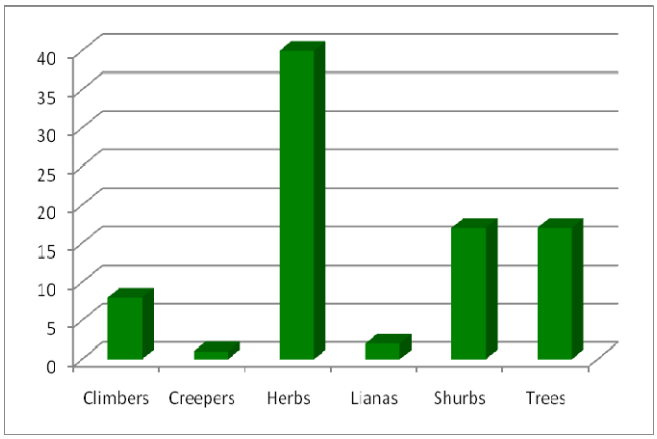

Fig 01: Distribution of medicinal plant species according to their Habitat

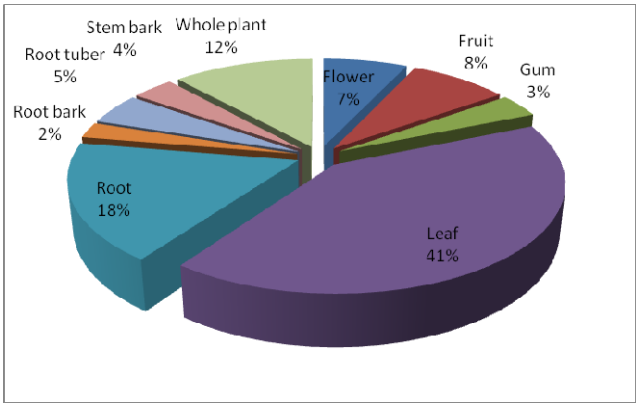

Fig 02: Percentage of different plant parts used in the preparation of drugs

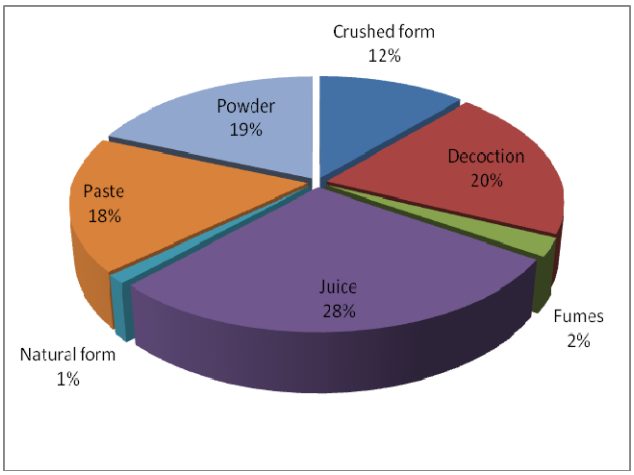

Fig 03: Percentage of different drug formulations used in preparation of medicine

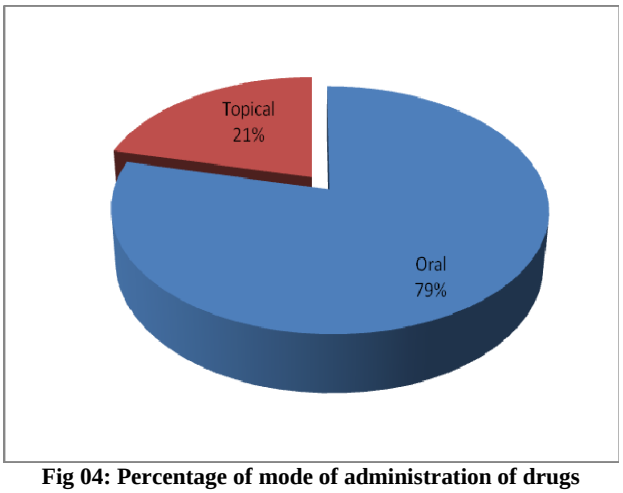

Fig 04: Percentage of mode of administration of drugs

Plants species used as resources

Utilization of underground parts of *Dioscorea oppositifolia* and *Asparagus racemosus* tubers are used as food value during scarcity. Edible wild fruits are obtained from *Annona reticulata*, *Psidium guajava*, *Solanum nigrum*. Whole plants or different parts of plant species are used as vegetables from *Erythroxylum monogynum*, *Dodoneaviscosa*, *Antidesma acidum*, *Amaranthus viridis* and *Trianthema portulacastrum*. *Asparagus racemosus*, *Entedarheedii*,*Terminaliapallida*are collected and sold near Papavinasanam dam area. Altogether some grass species are used as fodder and forages like *Apluda mutica*, *Bulbostylis barabata*, *Cyperus alternifolia*, *Cynodon dactylon*, *Fimbrystylis aestivalis*, *Garnotia scoparia*, *Oplismenus composites* and *Setaria pallidifuscum*. Some of the wild plants like *Crotalaria calycina*, *Crotalaria retusa*, *Decaschistia crotonifolia* stem barks are used as fibers.Some plants are used as religious like *Cynodon dactylon*is used in worshiping God Ganesh and *Azadirachta indica*, *Strychnos nux-vomica* and *Syzigium cumini* are treated as religious plants from this sacred grove.

Japali Hanuman Theertham with natural watercourse whose divinityand sanctity dates back to Vedic ages providesan ethereal appeal to the devotees once in ayear to permit to take a holy dip in thattheertham and perform rituals to the Hanuman (Anjaneya) idol present in the theertham, and offer special Naivedyams brought from the sanctum and isdistributed to all the devotees assembledthere.The sanctuary is the part of Tirupati –Kadapa – Nallamali hotspot of India. This harbors a large number of endemic, endangered, rare, threatenedand key stone species due to its vividgeographical conditions and climatic factorsare favorable for the distribution of uniqueendemic plant wealth[6].The impact of Ethnomedicine in conservation of natural resources is very direct. On the onehand it relates to the beliefs, taboos,avoidances and other conservativeapproaches of the primitive people andcultivation practices adversely affect theenvironment. By and large, they preservedforests as sacred groves [19]. Though number of studies on ethnomedicine has been conducted on Tirumala [20,21]. So far no work has been carried out in this sanctuary.Hence the present study is an attempt todocument the medicinal plants used by ethnicgroups to treat various diseases.

The study revealed that 85 medicinal plant speciesbelonging to 47 families are used to treatvarious ailments by ethnic groups. Reputed healers of these communities do not keep records and the information is mainly passedon verbally from generation to generations. This knowledge is however dwindling rapidly due tochanges in the life style and younger generations are very much interest in western life style, cultural changeswithin the community and rapid shift towardsthe allopathic medicine lead to the vanishing of traditional knowledge. Themedicinal plant species are threatened day byday in the area due to collection of medicinalplants by ethnic groups and visiting ofpilgrims. Chenchus, Yerukulas, Nakkalas, Sugalis, Koya tribes are recorded in Tirumala hills by Savithramma and Sulochana [22]. But now few tribes are only inhabited to Tirumala hills.

Theendemic plants from this area havingmedicinal value for the treatment of various ailments, like *Boswellia ovalifoliata*, *Cycas beddomei*, *Pimpinella tirupatiensis*,*Pterocarpus santalinus*, *Syzygium alternifolium*, *Terminalia pallid* [21,22] and *Rhynchosia beddomei*, *Sophora interrupta* [23] and some of the medicinal endemic plantsalso recorded from the Talakona sacred grove [24] are also found here.The invaded species like *Ageratum conyzoides*, *Acacia leucophloea*, *Acacia melanoxylon*, *Eupatorium odoratum*, *Galinso gaparviflora*, *Parthenium hysterophorus and* monocultures of *pinus sylvestris*are threat to the native plants to this sacred grove.

CONCLUSION

Many medicinal plants which havedisappeared from the nearby locality are nowconfined only to the sacred groves. Protectionand conservation of sacred groves and rapidly disappearing ethnomedicinal knowledge are essential for future generation. The integrity of this grove with regional or pan Indian character has suffered due tothe influx of large number of pilgrims andtourists, celebration of rituals and ceremonies.Pilgrim's un-eco-friendly polluted behaviorchanges the natural identity of this sacredzone. As this area isthe treasure houses of many importantmedicinal plants. It is high time to take themeasures to protect the ecosystem of this sanctuary.

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