



Traditional Medicinal Plants of Siddavatam Forest Range, YSR District, Andhra Pradesh, India

K. Venkatarami Reddy¹ and S. Rajagopal Reddy²

¹Department of Botany, SKR & SKR Government College for Women (A), Kadapa-516001, Andhra Pradesh, India

²Department of Botany, Yogi Vemana University, Kadapa – 516005, Andhra Pradesh, India

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*Corresponding Author Email: rajagopalreddy14@gmail.com

Abstract

The present investigation was carried out in Siddavatam forest range, YSR District, Andhra Pradesh, India to explore the use of medicinal plant species for various diseases and ailments. A total 34 traditional medicinal plants belonging to 32 genera and 25 families were identified. Altogether 34 types of ailments have been taken care of by using these plant species. Leaves were the most useful part as compared to other plant parts for the treatment of various ailments. With advent of human civilization various therapies have been developed. Ethnobotanical research is the need for the documentation of traditional knowledge pertaining to the medicinal plant utilization for the greater benefit of mankind. The study emphasizes the potentials of the ethnobotanical research and the need for the documentation of traditional knowledge.

Keywords

Traditional medicinal plants, Siddavatam forest range, YSR District, Andhra Pradesh.

INTRODUCTION

Plants are the basis of life on earth and central to people livelihood. India is well known for significant geographical diversity which favoured to different habitats and vegetation types. For day to day life, plants have offered food, fodder, fuel wood, timber, dyes, latex, gums, fibres, shelter, fruits etc. Additionally, there are many plant species which have continuously been used by the natives for traditional medicines. Indian subcontinent is being inhabited by 53.8 million tribal people, representing one of the greatest euphoria of Ethnobotanical wealth (Sajem and Gosai, 2006). Since time immemorial tribal people use plants to cure various

ailments and diseases (Satyavathi *et al*, 2017). Traditional knowledge is a record of human achievement in comprehending the complexities of life and survival of human society. The information about medicinal properties of plants came traditionally through generation by word of mouth. Folklore and traditional knowledge is in the process of extinction due to disruption of forest covers and uprooting of tribal population due to industrialization. Ethnomedicinal studies are often significant in revealing locally important plant species for discovering of crude drugs. Traditional healing systems play an important role in maintaining the physical and psychological wellbeing

of the vast majority of tribal people in India. Today continued deforestation and environmental degradation in many areas of India depleting the medicinal plants and associated knowledge. Different workers have explored and documented the ethnobotanical information from different parts of Andhra Pradesh. For the first time, Krishnamachari (1900) documented the use of leaves of *Erythroxylon monogynum* and roots of *Aloe vera* as food during paucity. The need for the integration of local traditional knowledge and conservation of natural resources receives more and more recognition (Posey, 1992). Moreover, an increased emphasis is being placed on possible economic benefits especially of the medicinal use of tropical forest products instead of pure timber harvesting (Pimbert and Pretty, 1955). The information about medicinal plants is available in many Indian literatures (Nadakarani, 1954). *Charakasamhitha* and *Sursuthasamhitha* written by Charaka and Sursutha respectively have information regarding traditional medicinal plants and their therapeutic values (Meera, 1958). The main focus of the present study is to ascertain the detailed information on the use of plants and their therapeutic medicinal practices among the people.

STUDY AREA

Siddavatam forest range is a part of Sri Lankamalleswara wildlife sanctuary. The forest range is located central hilly areas of YSR District. The forest possesses diverse plant species. Endemic plants like *Pterocarpus santalinus*, *Indigofera barberi*, *Rhynchosia beddomei* (Fabaceae), *Cycas beddomei* (Cycadaceae), *Shorea thumbaggaia* (Dipterocarpaceae), *Terminalia pallida* (Combretaceae), *Syzygium alternifolium* (Myrtaceae), *Boswellia ovalifoliata* (Burseraceae) are present in the study area. Biogeographically, the type of forest is tropical dry deciduous (Champion and Seth, 1968). The area exhibits variety of geographical rocks and soils. The soils are different types. The area as typical monsoonal climate with three distinct seasons summer, rainy and winter, the variation in climate occurs. Within the forest range is the temple of Nityapujakona and many streams and canals pass through forest range. The forest provides ample scope and socio-cultural activities of the people in adjacent areas. Earlier, some ethnobotanical studies in YSR District were carried out by different workers (Reddy *et al.*, 1991, Vedavathy *et al.*, 1991, Vedavathy, 1996, Reddy, 1995, Sudarsanam *et al.*, 1995, Reddy *et al.*, 1996, Reddy *et al.*, 1997, Reddy *et al.*, 2011, Umamaheswari *et al.*, 2012, Bhasha *et al.*,

2015, Bhasha *et al.*, 2017, Ramesh *et al.*, 2017, Tanuja Sivaram *et al.*, 2018, Sripriya and Ramesh Bau Naik, 2019). However, the present study carried out during 2016-18 shows several new applications of medicinal plants.

MATERIALS AND METHODS

The present data is outcome of field studies carried out during 2016-18. The information about medicinal plants was collected from tribals and non-tribals who practice and have experience in the use of phytomedicines. Out of 20 informants 12 are men and 8 are women, whose age ranged from 50 to 75 years. Ethnobotanical data was collected through interviews, discussions and own observations (Jain, 1977, 1981). Many remote areas were visited to interact with the tribal people and gathered information. Several specimens of plants were collected either with flower or fruit or with both. Each plant or its individual parts have their own significance in traditional remedies. The information was compared with the published literature (Madhusudhana Rao, 1989). The collected specimens were identified with the help of Floras (Gamble JS and Fischer CEC, 1915-35, Ellis JL, 1987, Mastan *et al.*, 2015, Venkatesh Ramila *et al.* 2015, Nagi Reddy *et al.* 2018, Pullaiah *et al.*, 2018). The voucher specimens are deposited in Botany Herbarium, SKR & SKR Government College for Women (A), Kadapa. The plant species are arranged alphabetically with their botanical names, followed by vernacular names, family and medicinal uses.

RESULTS AND DISCUSSIONS

The investigation revealed the medicinal properties of 34 species belonging to 32 genera under 25 families. The dominant families of ethnobotanical interest are Fabaceae (3 sps), Combretaceae (3 sps), Solanaceae (2 sps), Capparaceae (2 sps), Asclepiadaceae (2 sps), Rutaceae (2 sps), and remaining families contributed one species. All these plant species are used by tribal and non-tribal people to treat 34 diseases which include skin infections, abdominal disorders, jaundice, septic's, wounds, ulcer, fractures, bites, fever, cold, cough, dandruff, pains, paralysis, sprains, diabetes, piles, leucorrhoea etc. Significant findings of this study are that most of the plants collected in Siddavatam forest range are being reported for the first time. Majority of remedies were taken orally followed by external application. The remedies are prepared in the form of extract, decoction, paste, powder etc. It was observed that traditional knowledge is related to the age and sex of an individual. Generally old age people

have much information about medicinal plants due to their personal experience and interaction with plants. Despite their high medicinal importance, the use of traditional medicinal plants is declining day by day which may be because of the availability of the

fast relieving medicines in the market. Most of the reported preparations in the study area are drawn from single plant and rarely mixers. The results are presented in table.

Table

S.No	Botanical Name	Local Name	Family	Medicinal uses
1	<i>Atalantia racemosa</i> Wight & Arn.	Konda nimma	Rutaceae	Root paste mixed with pepper and used for cough and fever
2	<i>Argemone Mexicana</i> L.	Brahmadandi	Papavaraceae	Paste prepared from stem bark used for skin infections
3	<i>Andrographis paniculata</i> (Burm.f.) Nees	Nelavemu	Acanthaceae	Decoction of leaves with lemon cure jaundice
4	<i>Aristolochia indica</i> L.	Nalleswara	Aristolochiaceae	Decoction of leaves used for indigestion
5	<i>Boswellia serrata</i> Roxb.	Guggilam	Burseraceae	Leaf powder used for snake bite
6	<i>Butea monosperma</i> (Lam.) Taub	Moduga	Fabaceae	Seed paste with milk used for asthma
7	<i>Calycopteris floribunda</i> (Roxb.)	Adavijama	Combretaceae	Leaf paste used for wounds
8	<i>Capparis zeylanica</i> L	Uchi	Capparaceae	Stem bark dissolved in water and used for ear cleaning
9	<i>Cassia fistula</i> L	Rela	Caesalpinaceae	Leaf extract gives relief from vomiting's
10	<i>Cissus pallida</i> (Wight & Arn.) Planch	Nallateega	Vitaceae	Root paste with pepper used for rheumatic pains
11	<i>Cleome viscosa</i> L.	Kukkavaminta	Capparaceae	Leaf paste applied externally for headache
12	<i>Decaschistia crotonifolia</i> Wight & Arn	Kondagogu	Malvaceae	Leaf paste with lemon used for hydrocele
13	<i>Desmodium pulchellum</i> (L.) Benth	Deyyapu mokka	Fabaceae	Root extract used for epilepsy
14	<i>Gloriosa superba</i> L.	Naabhi	Liliaceae	Decoction of leaves used for dandruff
15	<i>Grevia orientalis</i> L.	Bapi chettu	Tiliaceae	The plant extract used for septic wounds
16	<i>Helictres isora</i> L.	Thada chettu	Sterculiaceae	Decoction of stem bark used in diabetes
17	<i>Hemidesmus indicus</i> (L.) R. Br	Palateega	Asclepiadaceae	Root paste with buttermilk gives relief from bronchitis
18	<i>Holoptelea integrifolia</i> (Roxb.) Planch	Peddamanu	Ulmaceae	Stem bark extract with pepper remove piles
19	<i>Jasminum trilobatum</i> L.	Adavimalle	Oleaceae	Leaf extract used for tooth pain
20	<i>Plumbago zeylanica</i> L.	Chitramulam	Plumbaginaceae	Decoction of leaves used in menstrual disorders
21	<i>Sarcostemma acidum</i> (Roxb.) Voigt	Palachettu	Asclepiadaceae	Plant extract gives relief from fever and body pains

22	<i>Semecarpus anacardium</i> L.f.	Nallajeedi	Anacardiaceae	Leaf extract with jaggery used for bone fractures
23	<i>Shorea tumbugaia</i> Roxb	Tamba jalari	Dipterocarpaceae	Leaf extract applied for mouth ulcer
24	<i>Solanum surattense</i> Burm.f.	Mulaka	Solanaceae	Fruit extract used for partial paralysis
25	<i>Solanum trilobatum</i> L.	Uchi	Solanaceae	Decoction of leaves used for deworming in infants
26	<i>Stylosanthes fruticosa</i> (Retz.) Alston	Ramenta	Fabaceae	Stem bark used for dysentery and cold
27	<i>Terminalia chebula</i> Retz.	Karaka	Combretaceae	Bark extract used for snake and scorpion bites
28	<i>T. pallida</i> Brandis	Tella karaka	Combretaceae	Leaf extract gives relief from headache
29	<i>Tinospora cordifolia</i> (Willd.) Hook.f.&Thamas.	Tippateega	Menispermaceae	Leaf extract used for fertility in humans
30	<i>Tylophora indica</i> (Burm.f.) Merr.	Podapachettu	Asclepiadaceae	Leaf with pepper gives relief from respiratory problems
31	<i>Toddalia asiatica</i> (L.) Lam	Kondamirapa	Rutaceae	Root bark powder with water used for motions
32	<i>Ventilago madaraspatana</i> Gaertn	Errateega	Rhamnaceae	Leaf paste used for ulcers
33	<i>Walsura trifoliata</i> A.Juss.	Valarasi chettu	Meliaceae	Leaf paste used for temple pain
34	<i>Wrightia tinctoria</i> R. Br	Palavareni	Apocynaceae	Leaf paste with castor oil used for hair falling

CONCLUSIONS

The popular use of herbal remedies among the tribal and non-tribal people near Siddavatm forest range reflects the revival of interest in traditional medicine. The scientific validation of these remedies may help in discovery of new drugs from plant species. The people of this study area possessing sound knowledge of herbal drugs. Our young generations are not much in favour of these practices because of non-availability of some important medicinal plants, unspecified doses and unknown side effects. Therefore, it is the need of the hour to conserve this indigenous and precious knowledge about the uses of medicinal plant remedies and also to pass on this to our present and future generations effectively. The medicinal plants continue to play an important role in the primary healthcare system of people.

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REFERENCES

1. Bhasha. SKM, John Paul. M and Sivakumar Reddy. P (2015). Phytodiversity and Conservation of Nityapooja Kona sacred groove of Nallamala Hill Range, Eastern Ghats, Andhra Pradesh. *International Journal of Environment*. Vol.4, Issue 2, pp 271-288.
2. Bhasha SKM, Sivakumar Reddy P and Indira Priyadarsini A (2017). Traditional Medicinal Plant Diversity of Penusilanarasimha Wild Life Sanctuary, Eastern Ghats, Andhra Pradesh. *American Journal of Ethnomedicine*. Vol 4, No 13, pp 1-9.
3. Champion H G, Seth S.K (1968). A revised survey of the forest types of India. Govt. of India Press, New Delhi.
4. Ellis JL (1987). Flora of Nallamalais, Vol. I and II. BSI, Calcutta.
5. Gamble J S, Fischer CEC (1935). Flora of the Presidency of Madras. Vol I-III, Adlard and Sons, London.
6. Jain, S.K (1981). Glimpses of Indian Ethnobotany. Oxford and IBH Publishing Co, New Delhi. 1-134.
7. Jain, S.K. and Rao R R (1977). Handbook of Field and Herbarium methods. Today and Tomorrow publishers, New Delhi.
8. Krishnamachari K.S (1900). *Erythroxylum monogynum* leaves and *Aloe* roots as food. *Indian Forester*: 26: 619-620.

9. Madhusudhana Rao A (1989). Floristic studies on the Flora of Kadapa district, A.P, India. Ph.D thesis, S.V.University, Tirupati, A.P, India.
10. Mastan. T, Nazaneen Parveen. S, Sridhar Reddy. M (2015). Liana species inventory in tropical dry forest of Sri Lankamalla wild life sanctuary, Andhra Pradesh. *Journal of Environmental Research and Development*, Vol. 9, NO 3A, pp 1024-1030.
11. Meera, B.K (1998). Bharathiya Vidhya Pithamaha Susrutha. Karnataka Pustaka Pradhikara, Bangalore, pp: 272.
12. Nagi Reddy. L, Ganesh Kumar. M, Sridhar Reddy. M and Nazaneen Parveen. S (2018). Floristic analysis of sacred groove Polathala, YSR District, Andhra Pradesh. *International Journal of Plant, Animal and Environmental Science*. Vol. 8, Issue 2, pp 20-31.
13. Nadakarani, A.K (1954). Indian Materia Medica Vol 1. Popular Prakasam, Bombay.pp:1319.
14. Pullaiah,T, Chennaiah E and Sandhyarani. S (2018). Flora of Andhra Pradesh Revised Edition Vol. I-V. Scientific Publishers, Jodhpur, Rajasthan.
15. Rajagopal Reddy. S, Madhusudhana Reddy. A, Philomina. NS and Yasodamma.N (2011). Ethnobotanical survey of Sesshachala Hill Range of Kadapa District, Andhra Pradesh, India. *Indian Journal of Fundamental and Applied Life Sciences*. Vol. 1(4) 324-329.
16. Ramesh. C, Goli Panchala Prasad, Nagaraju. V, Sudarsanam G (2017). Ethnobotanical claims collected from tribal and rural people of Kadapa District, Andhra Pradesh. *International Journal of Ayurveda and Pharma Research*. Vol.5, Issue 8, pp 1-9.
17. Reddy. MB, Reddy. KR and Reddy.MN (1991). Pharmacopoeia of traditional medicine in Kadapa District, Andhra Pradesh, India. *International Journal of Pharmacognosy* 29(1): 1-8.
18. Reddy. RV (1995). Ethnobotanical and phytochemical studies on medicinal plant resources of Kadapa District, Andhra Pradesh, India. Ph.D thesis, S.K.University, Ananthapur.
19. Reddy .RV, Lakshmi. MVN and Raju RRV (1996). Traditional crude drug resources used anti-fertility in Kadapa hills. *J. Swamy Bot. Club* 13:67-69.
20. Reddy. RV, Lakshmi. MVN, Raju. RRV (1997). Ethnomedicine for ephemeral fevers and anthrax in cattle from the hills of Kadapa District, Andhra Pradesh. *Journal of Ethnobotany* 9: 94-96.
21. Sajem A L, Gosai K (2006). Traditional use of Medicinal plants by the Jaintia tribes in North Cachar Hills District of Assam, Northeast India. *Journal of Ethnobiology and Ethnomedicine*.10:42-49.
22. Satyavathi. K, D. Sandhya Deepika and S.B. Padal (2017). Floristic diversity and phyto-sociological studies of Sanjavanam sacred groove in G. Madugula Mandal, Visakhapatnam District, Andhra Pradesh, India. *International Research Journal of Environmental Science*, Vol. 6(4), pp 37-47.
23. Sripriya. D and Ramesh Babu Naik. M (2019). Ethno Medicinal Plants of Seshachalam Biosphere Reserve, Andhra Pradesh, India. *International Journal of Pharmacy and Biological Sciences*. 9(2): 18-22.
24. Sudarsanam. G, Siva.P (1995). Medicinal ethnobotany of plants used as antidotes by Yanadi tribes in South India. *Jour. Herbs, Spices, Med. Pl.* 3(1): 57-66.
25. Tanuja Sivaram, Giridhar, G.K, Sivarama Krishna. V.N.P, Yuvaraj. K.M and Radha Krishna. M (2018). Wealth of medicinal flora in Andhra Pradesh. A. Compressive review on policy development for conservation and sustainable production. *Journal of Pharmacognosy and Phytochemistry*, SP3, pp 229-231.
26. Umamaheswari. P, Madhusudhana Reddy. A, Rambabu. M and Bhasha. SKM (2012). Traditional Medicinal Flora Habitated in various regions of YSR District, Andhra Pradesh, India. *Journal of Fundamental and Applied Life Sciences*, Vol. 2, (3), pp 162-175.
27. Vedavathy. S, Rao. KN, Rajaiah. M, Nagaraju. N (1991). Folklore information from Rayalaseema region, Andhra Pradesh for family planning and birth control. *International Journal of Pharmacognosy* 29: 113-116.
28. Vedavathy. S (1996). Herbal folk medicine of Yanadis of Andhra Pradesh. *Journal of Ethnobotany* 8: 109-111.
29. Venkatesh Ramila, S. Mahammad and Babu Kakumanu (2015). Floristic diversity and phyto-sociological studies of Indrakiladri sacred groove in Krishna District, Andhra Pradesh, India. *Journal of Pharmacy and Biological Science*, Vol. 10, Issue 4, pp 61-75.