

## Ethno-botanical Uses of Some Plant Roots Used By "Gondu" Tribes of Seethagondi Grampanchayath, Adilabad District, Andhra Pradesh, India.

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## Research Article

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**ABSTRACT**

An ethnobotanical study on the medicinal plants of Seethagondi grampanchayath of Adilabad district, Andhra Pradesh, India, was conducted with the aims to identify and document plants traditionally used for medicinal therapy by the Gonds and to find out the method used for preparing and administering the drugs. The survey reported 11 plant species belonging to 11 genera and 9 families. The detailed botanical name, local uses, local names, preparation and administration for diseases treated were recorded for each species. Information was obtained through conversations with traditional healers with the aid of semi-structured questionnaires. Considering the widespread use of these medicinal plants to treat various ailments, it therefore becomes crucial to scientifically validate the therapeutic uses and safety of these plants through phytochemical screening, different biological activity tests and toxicological studies. Therefore, an ethnobotanical study was conducted on medicinal plant species used to manage human ailments at the study area. The study revealed other hitherto undocumented medicinal plant species that may be new records for treating various ailments. Most medicinal plant species reported in this study were found to be under threat and this calls for urgent conservation measures so as to maximize the sustainable use of these vital resources in the study area.

**INTRODUCTION**

Plants contribute a lot to our lives mainly due to their extra ordinary array of diverse classes of biochemicals with a variety of biological activities <sup>[1]</sup>. Even today almost 25% of all prescribed medicines in the developed world contain ingredients derived from medicinal plants <sup>[2]</sup>. In recent years, the interest in folk medicine from different cultures, also known as Traditional medicine, has increased significantly in industrialized countries, due to the fact that many prescription drugs worldwide have originated from the tropical flora <sup>[3]</sup>. Since these plants usually occur in wild form and have been collected from the forest for decades <sup>[4]</sup>, their cultivation/*ex-situ* management has been neglected in the past; hence no nurseries or protected areas for commercially exploited medicinal plants exists. A cooperative approach by ethnobotanists, ethnopharmacologists, physicians and phytochemists is thereby essential to spur the progress of medicinal plants research <sup>[5]</sup>. The most serious threat to local medicinal plant knowledge, however, appears to be cultural change, particularly the influence of modernization and the western worldview <sup>[6]</sup>. The objective of the present study is to mainly focus the hidden, unexplored, valuable knowledge with the tribal people. Secondly to aware the mankind about the value of vegetation and lastly to give further research scope in the field of ethnobotany and pharmacognosy to the next generations.

**Study Area**

Adilabad is the northern most district of Andhra Pradesh State. This District is situated between 77°46' and 80° of the eastern longitudes and 18°40' and 19°5' of northern latitudes. Agriculture is the main occupation of the district with a geographical area of 16,01,616 hectares. Forest occupy about 43.18 per cent of total. The normal rainfall of the district is 1044 mm as against 634 mm of the state.

Seethagondi grampanchayath has a geographical area of 1913 hectares out of which cultivable area is 1296 hectares (67.77%). It comprises 575 households having 1983 (970:1013) population. It consists of two revenue villages i.e., Seethagondi and

Peda Malkapur with a total number of 6 hamlets i.e. Old Somvarpet, New Somvarpet, Garkampet and Arkapally (Seethagondi) and China Malkapur and Kotwalguda (Peda Malkapur). The Gonds are the tribal community mostly found in the Gond forests of the central India. They are widely spread in the Chhindwara District of Madhya Pradesh, Bastar district of Chattisgarh and also in the parts of Maharashtra, Andhra Pradesh, and Orissa. The name by which the Gonds call themselves is Koi or Koitur which means unclear.

### Prior Consent

In order to collect the ethnobotanical details of the tribal group, I have started my work in the year 2009. In the starting days of the study it became very difficult to approach the tribal people as they are very rigid towards their customs, religion and set of their rules and regulation. I approached the old men, local quacks and religious head (priest) and made them to understand the wealth of the forests they are having and the immense knowledge of ethnobotany in them which need to be conserve for the future generation, they got convinced shared their knowledge and accompanied me to collect the samples from the forest.

### MATERIALS AND METHODS

A study on the Ethnobotanical evaluation of medicinal plants was conducted during 2009 to 2012 in various parts of Seethagondi grampanchayath, Adilabad District. The investigated area was divided into different altitudinal zones with the help of map, top sheet and GPS reading for the collected plants was recorded (table-1). Accordingly frequent visits were made to the area first in April – May, second in June – July and third in August 2009. Questionnaires were used<sup>[7]</sup> and devised to identify and document the traditional knowledge of local people and their immediate family about the collection of medicinal plants and their uses within the communities. A total of 26 traditional healers participated in the study revealed out there is a wide gap between generations, the majorities of the informants are elders (table-2) and said that they had learned about medicinal plants during their childhoods and the knowledge had been orally passed down from family members. The lack of systematic documentation for medicinal plant knowledge may contribute to the loss of medicinal plant knowledge, particularly for plants that are neglected or non-preferred. This situation appears to occur in many parts of the world<sup>[8, 9]</sup>. Purposive sampling was used in the field survey where elders were used to identify medicinal plant practitioners (prior informed consent was obtained). The data collected in the field were formatted and preserved carefully. Voucher specimens were prepared (table-3) following conventional methods of Jain and deposited in the Department of Botany, Osmania University.

### RESULTS AND DISCUSSION

The study showed that plants play an important role in the traditional system of medicine of local population. Some plants are used singly and sometimes with items such as wheat flour, sugar and ghee, etc. The detailed description of local medicinal uses long with local names, part used, family and botanical name, preparation and administration of medicinal plants in the area is given (table-4). The medicinal use of plants leaves and roots in the management and treatment of diseases has been an age long practice<sup>[10]</sup>. Plant derived medicines are widely used because they are relatively safer than the synthetic alternatives, they are easily available and cheaper<sup>[11]</sup>. Roots were the mostly used plant part since these normally have a high partitioning for the photosynthates or exudates<sup>[12]</sup>. Prescriptions of remedies were distinctive to all the practitioners interviewed. Non-the-less, as noted in a similar line of study by<sup>[13-14]</sup>, inconsistency of dosage of medicaments was a marked feature. But generally, 10ml to 50ml of the prepared drug was taken 2-3 times a day depending on the nature of complication of the ailment and efficacy of the drug.

### CONCLUSION

This study confirms that wild plants are still a major source of medicine for the local people living in the Seethagondi grampanchayath, Adilabad District. Thus, traditional medicine remains the most popular medicine in solving health problems. As traditional medical knowledge is orally passed down via lifestyle, it is important to exhaustively document and publicize medicinal plant knowledge within the young generation to raise awareness of and appreciation for their traditional values and for the conservation and sustainable use of the plants as well as to keep the traditional medical knowledge left in their community alive. The ongoing mass destruction of wild vegetation for different purposes may hasten the disappearance of medicinal plants. This in turn may become a threat for the traditional knowledge on medicinal plants and discourage the practice of traditional health care in the study area. It is very crucial that awareness creation be undertaken so that the community is actively involved in conservation and sustainable utilization of the traditional medicinal plants. The present study concludes that the tribes of Seethagondi grampanchayath have a detailed knowledge of medicinally important plants and their use in various simple to critical disease.

Table1 : Showing GPS readings of the collected medicinal plant in the study area

S.No.	Scientific Name /Family	Vernacular Name	Gps Readings
1.	<i>Acalypha indica</i> ,L./ Euphorbiaceae	Gummadi	Ele: 1077 ft N: 19°35.585' E: 078°31.417'
2.	<i>Cassine glauca</i> , Rottb. /Celestraceae	Boothamshakam	Ele: 1100 ft N: 19°35.735' E: 078°31.434'
3.	<i>Coculus hirsutus</i> , DC./ Menispermaceae	Dusseritheega	Ele: 1062 ft N: 19°35.686' E: 078°31.448'
4.	<i>Crotalaria vericosa</i> , Linn./ Fabaceae	Thellausiri	Ele: 1085 ft N: 19°35.516' E: 078°31.388'
5.	<i>Gloriosa superb</i> , Linn. /Colchicaceae	Chennacherlagadda	Ele: 1077 ft N: 19°35.585' E: 078°31.417'
6.	<i>Grewia hisute</i> , Vahl. / Tiliaceae	Julika	Ele: 1110 ft N: 19°35.728' E: 078°31.444'
7.	<i>Momordica dioica</i> ., Roxb/ Cucurbitaceae	Bodi Kakara	Ele: 1077 ft N: 19°35.585' E: 078°31.417'
8.	<i>Mucuna monosperma</i> , DC. / Leguminosae	Puchakayagadda	Ele: 1077 ft N: 19°35.585' E: 078°31.417'
9.	<i>Ocimum basilicum</i> , Linn. / Labiatae	Boothulasi	Ele: 1045 ft N: 19°35.542' E: 078°31.296'
10.	<i>Randia uliginosa</i> , DC. / Rubiaceae	Kukkelki	Ele: 1104 ft N: 19°35.775' E: 078°31.443'
11.	<i>Solena amplexicaulis</i> . Lam. / Cucurbitaceae	Adavidonda	Ele: 1077 ft N: 19°35.585' E: 078°31.417'

Table 2: Showing the details of the informants

S.No.	No. of Males	Average range of age group	No. of Females	Average range of age group
1	19	52 to 55	7	49 to 51

Total No. of informants: 26

Table 3: Voucher specimen details of the collected plants

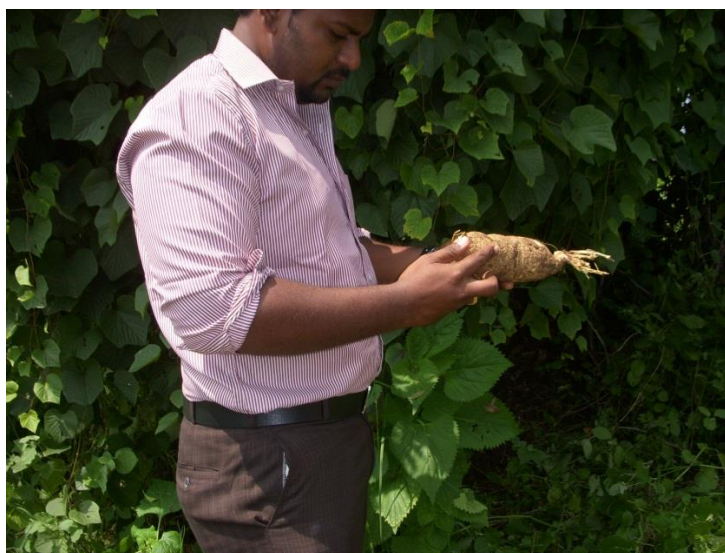
S.No.	Name of the plant	Date of Collection	Site of collection	Name of the collector	Unique/ Voucher collection number
1.	<i>Acalypha indica</i> ,L./ Euphorbiaceae	28 <sup>th</sup> March, 2011	Chinnamalkapur Forest range	R. Suman Kumar (Author)	RSK-017
2.	<i>Cassine glauca</i> , Rottb. /Celestraceae	25 <sup>th</sup> June, 2010	Kotwalguda Forest range	R. Suman Kumar (Author)	RSK-018
3.	<i>Coculus hirsutus</i> , DC./ Menispermaceae	19 <sup>th</sup> November, 2010	Kotwalguda Forest range	R. Suman Kumar (Author)	RSK-019
4.	<i>Crotalaria vericosa</i> , Linn./ Fabaceae	25 <sup>th</sup> March, 2011	Kotwalguda Forest range	R. Suman Kumar (Author)	RSK-020
5.	<i>Gloriosa superb</i> , Linn. /Colchicaceae	25 <sup>th</sup> January, 2012	Chinnamalkapur Forest range	R. Suman Kumar (Author)	RSK-021
6.	<i>Grewia hisute</i> , Vahl. / Tiliaceae	28 <sup>th</sup> July, 2010	Peddalkapur Forest range	R. Suman Kumar (Author)	RSK-022
7.	<i>Momordica dioica</i> ., Roxb/	18 <sup>th</sup> January, 2012	Peddalkapur Forest	R. Suman Kumar	RSK-023

	Cucurbitaceae		range	(Author)	
8.	<i>Mucuna monosperma</i> , DC. / Leguminosae	06 <sup>th</sup> April, 2011	Kotwalguda Forest range	R. Suman Kumar (Author)	RSK-024
9.	<i>Ocimum basilicum</i> , Linn. / Labiatae	1 <sup>st</sup> October, 2009	Old Somwarpet Forest range	R. Suman Kumar (Author)	RSK-025
10.	<i>Randia uliginosa</i> , DC. / Rubiaceae	29 <sup>th</sup> October, 2009	Kotwalguda Forest range	R. Suman Kumar (Author)	RSK-026
11.	<i>Solena amplexicaulis</i> . Lam. / Cucurbitaceae	21 <sup>st</sup> September, 2010	Kotwalguda Forest range	R. Suman Kumar (Author)	RSK-027



Figure 1: Author documenting the information from the Gond tribal healer.

Figure 2: Author observing the underground bulb of *Momordica dioica*.



S. No	Botanical Name of the plant/family	Vernacular Name	Part used for	Preparation	Administration	Feed diet
1.	<i>Acalypha indica</i> . Linn. / Euphorbiaceae	Gummadi	Increase mother milk	Collect the fresh root of the plant, thoroughly wash with water and shade dried. Grind this roots without adding water to make thick decoction.	this decoction should be given orally to the lactating mother as daily one teaspoon for one month	during this course non-vegetarian should not be taken
2.	<i>Cassine glauca</i> . Rottb./ Celastraceae	Boothamshukamu	malaria	200 gms of root are collected and washed thoroughly with water and are dried till it loses its moisture. Grind these roots without adding water to make a decoction	3 spoons of this juice is given orally 3 times a day before meals for 10 days	Rice should be avoided
3.	<i>Cocculus hirsutus</i> , DC./ Menispermaceae	Dusseritheega	Kidney stones	100 gms of root is collected and washed in water and are ground in 100 ml of water to make a solution.	2 tea spoons of this solution is given orally daily 2 times in morning and evening for one month.	Tomato, Spinach should be avoided in food
4.	<i>Crotalaria verrucosa</i> , Linn./ Leguminosae	Thellausiri	relieves from snake bite poisoning	50 gms of root is collected washed and grind in 25 ml of water to make a thick paste	This paste can be applied under the eyes of the person or given orally (2 ml) by adding little water	No onions
5.	<i>Gloriosa superba</i> , Linn./ Liliaceae	Chennacherlagadda	for cancer	Collect 100 gms of underground bulb by digging the plant, wash bulbs with water and ground adding 100 ml water to make a solution	One tea spoon of this solution is given orally 3 times a day for one month	Nil
6.	<i>Grewia hirsute</i> , Vahl. / Teliaceae	Julika	Cholera	500 gms of roots are collected, washed thoroughly and shade dried, ground in 250 ml of water to make a thick solution	25 ml of this juice is given orally with 5ml of curd 3 times a day for 10 days	No coriander, brinjal, onions, potato
7.	<i>Momordica dioica</i> ., Roxb/ Cucurbitaceae	Bodikakara	removes unwanted pregnancy (abortion)	100 gms of underground bulbs are collected washed thoroughly, shade dried and ground in tadi to make a juice	20 ml of this juice is given to the women (who is in her 3 <sup>rd</sup> month of pregnancy) in the morning before breakfast for 3 days.	Nil
8.	<i>Mucuna monosperma</i> , DC/ Leguminosae	Puchakayagadda	paralysis	250 gms of underground bulbs are collected, shade dried and ground with 100 ml of water to make semisolid paste	This paste is applied on effected areas daily two times in morning and evening for 1 month	Nil
9.	<i>Ocimum basilicum</i> Linn./ Labiatae	Boothulasi	Asthma	100 gms of root is collected, shade dried and ground in 50 ml of water, 10 gms of pepper and dry it to make powder	One tea spoon of this powder is given in the morning before breakfast for 1 month	No eggs
10.	<i>Randia uliginosa</i> , DC./ Rubiaceae	Kukkelki	during poison rat bites	100 gms of roots collected, and ground by adding 50 ml of water to make a solution	One tea spoon is given orally to the person daily one time in the morning before breakfast for 3 days	Nil
11.	<i>Solena amplexicaulis</i> . Lam./ Cucurbitaceae	Adavi donda	induces delivery	100 gms of root is collected, shade dried and ground in 50 ml of water to make a concentrated decoction	5 ml (one tea spoon) of this decoction is given to the women (who is having delayed labour pains) for two days in the morning with empty stomach	Nil

Table 4: Showing the ethnobotanical details of plants used by Gondu tribes.



Figure 3: *Acalypha indica*. – Habit.



Figure 4: Fruits of *Solena amplexicaulis*.





Figure 5: Underground tuberous roots of *Gloriosa superb.*



Figure 6: Underground bulb of *Mucuna monosperma.*





Figure 7: Decoction made from root of *Randia uliginosa*.



Figure 8: Decoction made from root of *Cocculus hirsutus*.





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