



## **Ethnomedicinal Plants Used By Tribals of Rayagadda District, Odisha State, India**

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***Abstract:***

*Ethnobotanical study was carried out in the Rayagadda districts of Odisha during 2012-2013 to document the medicinal utility of plants. The present paper deals with traditional uses of 50 plant species belonging to 41 genera and 27 families along with correct botanical identification, local names, parts used and mode of administration in respect to different diseases. The documented ethnomedicinal plants are mostly used to cure Sciatica, Bone fracture, Asthma, Rheumatism, Hiccups, Galactogauge, Jaundice, Boils, Skin disease, Centipede bite, Wounds, Snake bite, Anthelmintic, Headache, Anemia, Gonorrhoea, Vigour and Vitality, Ear pain, Dysentery, Fertility, Chicken pox, Tooth decay, etc., are listed.*

***Keywords:*** *Ethnobotanical study; medicinal plants; rayagadda districts; Odisha*

## 1.Introduction

India has a century's old tradition of using medicinal plants and herbal medicines for the alleviation of various diseases and ailments, as well as for the promotion of health and happiness. People often look towards the traditional systems of medicine not only for the curative effects of plants, but also to hopefully provide them with elixirs of youth and good health. Ethnomedicinal is one of the systems of medicine that is widely practiced of ailments. Primitive societies have depended on herbal remedies for the treatment of diseases and disorders since time immemorial (Singh *et al.* 2003). The plants used by the tribals of Madhya Pradesh reported by Jain (1963a). Jain and Tarafder (1963) identified the plant remedies for snakebite among Adivasis of central India. Andhra Pradesh state is ethno botanically well-explored most of the work done was during 1985-2002. The work so far done in the field of ethno botanical resources by different workers to help the modern world as well as local communities in the re-indisappensing knowledge and returning it to local communities in Andhra Pradesh are reviewed here. Krishnamachari (1900) has reported the uses of the leaves of *Erythroxylum monogynum* (Devadari) and the roots of *Aloe vera* (Kalabanda) as a food during famine. Krishnamurthy (1958) published a paper on the tribal people of Rampa and Gudem agency of Godavari lower division East Godavari district. Jain *et al.* (1973) first studied the ethno botany of Andhra Pradesh Banerjee (1977) studied ethno botany of Araku Valley, Visakhapatnam.

## 2.Study Area

Rayagada is a district of meadows, forests, water falls and terraced valleys, peopled by many primitive tribal groups. The scenic beauty and heritage on the land is an unexplored paradise. The pattern of people living in the district show unity in diversity of races, languages, and culture. The Scheduled Tribes living in the district possess dissimilar economics ranging from food gathering to settled cultivation. Their languages/dialects, societies and culture show inter-societal and -cultural variations because of the ethnic mosaic. Rayagada is nearly 390 km from Bhubaneswar by road. It is connected by rail with important cities like: Bhubaneswar, Raipur, Visakhapatnam, Koraput, Kolkata, Chennai, Delhi, Bangalore and Hyderabad. As of 2001 India census, Rayagada had a population of 57,732. Males constitute 51% of the population and females 49%. Rayagada has an average literacy rate of 64%, higher than the national average of 59.5%: male literacy is 72%, and female literacy is 56%. In Rayagada, 12% of the population is under 6 years of age. There are various communities living in

Rayagada. This is a tribal inhabited district of Odisha. Tribals too comprise a significant population of the place. All the festivals relating to these communities are celebrated with pomp and fervour. The main language spoken here is Oriya, Telugu and tribal languages like Soura and Kui. The district has a predominant tribal population of 57.52%. All the 11 blocks of the district have been covered under tribal sub-plan with three micro projects in operation for the pre-literate indigenous tribal communities. The topography of Rayagada gives a perfect platform for the tribals in sustaining their ethno-cultural identity in the district. Forest area covers an extent of 4785.36 km<sup>2</sup> out of which 777.27 km<sup>2</sup> is reserved forest. The district has been the homeland of various tribal communities with their sub-tribes, who are found in different levels of development depending upon their assimilation with the mainstream or modern communities. In the ethno-cultural map of Odisha, two tribes stand out quite prominently for their education backwardness and continuing ethnic and cultural identity, the Khondu and the Souras.

### 3. Material Methods

Information on the use of medicinal plants for the treatment of skin diseases was collected from the study area through field surveys, semi-structured interviews with selected knowledgeable elders and local *vaidyas*. The plant specimens were collected and identified, dried by using routine botanical collection methods and preserved for further analysis. The medicinal properties of plants were confirmed by similar uses from 50 informants. Plant specimen collected from field with their local names was identified with the help of regional and local flora and confirmed with the authentic specimens deposited in the Department of Botany, Andhra University for future reference.

S.No	Botanical name	Family name	Vernacular name	Mode of administration & Dosage.
1.	Ailanthus excelsa Roxb. Habit: Tree	Simaroubac eae	Pedda maanu	SCIATICA: One g of gum mixed with water is administered twice a day.
2.	Alangium salvifolium (Linn. f.) Wang. Habit: Tree	Alangiacea e	Uduga chettu	BONE FRACTURE: Boiled leaves are made into paste and applied on the fractured areas.

3.	Albizia lebbeck (Linn.) Willd. Habit: Tree	Mimosacea e	Dirisena	ASTHMA: One spoon of stem bark juice is administered once a day.
4	Alpinia galanga (Linn.) Willd. Habit: Herb	Zingiberace ae	Dumparasht ramu	RHEUMATISM: One or three g of tuber powder or half tea glass of tuber decoction mixed with honey is administered once a day.
5.	Alstonia scholaris (Linn.) R. Br. Habit: Tree	Apocynace ae	Edakulapala	HICCUPS: Stem bark juice or flower powder mixed with long pepper and honey is administered daily.
6.	Alstonia venenata R. Br. Habit: Tree	Apocynace ae	Pala mandhu chettu	GALACTAGOGUE: Half glass of stem bark decoction is administered orally to increase lactation.
7.	Boerhavia diffusa Linn. Habit: Herb	Nyctaginac eae	Atuka mamidi	JAUNDICE: Root and leaf juice is administered on empty stomach.
8.	Bombax ceiba Linn. Habit: Tree	Bombacace ae	Buruga	BOILS: Root paste of young plant is applied on the boils twice a day for 2 days.
9.	Brassica nigra (Linn.) Koch. Habit: Herb	Brassicacea e	Avaalu	SKIN DISEASES: Equal quantities of mustard and neem oils are mixed and applied on the affected areas
10.	Bridelia montana (Roxb.) Willd. Habit: Tree	Euphorbiac eae	Sankumanu	CENTIPEDE BITE: Stem bark is pound with water and the paste is applied on the affected areas.
11.	Butea monosperma (Lam.) Taub. Habit: Tree	Fabaceae	Moduga	WOUNDS: Stem bark juice is applied on the affected areas.
12.	Butea superba Roxb. Habit: Tree	Fabaceae	Palasamu	SNAKE BITE: Flowers are ground with the leaves of Cinnamomum zeylanicum and the paste is administered orally twice a day.
13.	Caladium bicolor Vent. Habit: Herb	Araceae	Rudra chama	SNAKE BITE: Quarter cup of tuber juice is given and a portion of it is applied on the bitten area immediately after bite.

14.	<i>Callicarpa arborea</i> Linn. Habit: Tree	Verbenaceae	Badiga chettu	ANTHELMINTIC: One spoon of stem bark paste mixed with tuber paste of <i>Rauvolfia serpentina</i> is taken with half cup of water twice a day till cure.
15.	<i>Clerodendrum philippinum</i> Schr. in DC. Habit: Shrub	Verbenaceae	Bandari	RHEUMATIC PAINS: One spoon of root paste is given orally with water daily once.
16.	<i>Clerodendrum phlomoides</i> Linn. f. Habit: Shrub	Verbenaceae	Takkali	JAUNDICE: Quarter spoon of leaf paste mixed with half cup of curd is taken for three days on empty stomach.
17.	<i>Clerodendrum serratum</i> (Linn.) Moon Habit: Shrub	Verbenaceae	Seetha chettu	HEADACHE: Leaf juice mixed with equal quantities of gingelly oil and butter is heated and applied on the forehead.
18.	<i>Clitoria ternatea</i> Linn. Habit: Climber	Fabaceae	Sanku pushpamu	ANAEMIA: One spoon of root paste is administered with water daily twice for 3-4 days. In serious conditions it is used for 10 days.
19.	<i>Cocculus hirsutus</i> (Linn.) Diels Habit: Climber	Menispermaceae	Dusara teega	GONORRHOEA: One spoon of tuber paste mixed with sufficient quantity of sugar candy is administered daily.
20.	<i>Coldenia procumbens</i> Linn. Habit: Herb	Boraginaceae	Hamsa paadu	RHEUMATISM: Leaf paste is bandaged over swelled joints.
21.	<i>Coleus amboinicus</i> Lour. Habit: Herb	Lamiaceae	Vamu	DYSENTERY: Handful of leaves made into juice is taken orally every day.
22.	<i>Coleus barbatus</i> (Andr.) Benth. Habit: Herb	Lamiaceae	Pashanabedhi	ASTHMA: One spoon of root paste is administered daily twice with water.
23.	<i>Colocasia esculenta</i> (Linn.) Schott Habit: Herb	Araceae	Konda chama	VIGOUR & VITALITY: Fifty g of boiled corm eaten once a day for one month.
24.	<i>Corchorus olitorius</i> Linn. Habit: Herb	Tiliaceae	Kranthi	EAR PAIN: Two to three drops of crushed seed juice is instilled into the ears.

25.	<i>Cordia dichotoma</i> Forst. f. Habit: Shrub	Boraginaceae	Banka nakkeri	JAUNDICE: Half cup of leaf juice is mixed with equal quantity of water and administered once a day for three days.
26.	<i>Costus speciosus</i> (Koen.) Sm. Habit: Herb	Zingiberaceae	Bokacchika	GALACTAGOGUE: Rhizome is warmed and ground into paste. Three spoons of it is administered with one cup of milk in the morning and a portion of it is applied on the mammae.
26.	<i>Desmodium pulchellum</i> (Linn.) Benth. Habit: Shrub	Fabaceae	Konda anteetha	WOUNDS: The leaves and tubers ground with the bark of <i>Moringa oleifera</i> and green banana and the paste is applied on the affected areas.
27.	<i>Dichrostachys cinerea</i> (Linn.) Wt. & Arn. Habit: shrub	Mimosaceae	Veluturu chettu	RHEUMATISM: Quarter cup of root or stem bark juice is administered daily once.
28.	<i>Diplocyclos palmatus</i> (Linn.) Jeffrey Habit: Climber	Cucurbitaceae	Linga donda	FERTILITY: Quarter spoon of seed powder is administered with milk to break sterility.
29.	<i>Dysophylla quadrifolia</i> Benth. Habit: Herb	Lamiaceae	Rati thulasi	CHICKENPOX: Dried leaves are burnt and the patient is exposed to the fumes and leaf paste is also applied to the body.
30.	<i>Elephantopus scaber</i> Linn. Habit: Herb	Asteraceae	Eddu adugu	TOOTH DECAY: Root bark is kept in the tooth with salt.
31.	<i>Eucalyptus globulus</i> Labill Habit: Tree	Myrtaceae	Neelagiri chettu	LEG SWELLINGS: Leaves are presoaked in the hot water and legs are kept in that water to get relief.
32.	<i>Euphorbia heterophylla</i> Linn. Habit: Tree	Euphorbiaceae	Pala chettu	GALACTAGOGUE: Young leaves and fruits are boiled and ground into paste with garlic is given orally daily once for a week.
33.	<i>Euphorbia nivulia</i> Buch.-Ham. Habit: Tree	Euphorbiaceae	Akujamudu	EARACHE: Leaves are warmed and 2-3 drops of juice is squeezed into the ears.

34.	<i>Euphorbia tirucalli</i> Linn. Habit: Shrub	Euphorbiaceae	Kada jamudu	PILES: Latex is mixed with turmeric and externally applied daily once for 1 week.
35.	<i>Ficus benghalensis</i> Linn. Habit: Tree	Moraceae	Marri	DIABETES: Quarter glass of stem bark juice is taken daily in the morning.
36.	<i>Ficus hispida</i> Linn. f. Habit: Tree	Moraceae	Boddamarri	GONORRHOEA: Quarter cup of root juice mixed with ten g of cumin seed powder is administered daily once.
37.	<i>Ficus microcarpa</i> Linn.f. Habit: Tree	Moraceae	Medi chettu	SWELLINGS: Fruits are to be splitted into two parts and soaked with honey for one month. Half spoon of it is to be taken orally daily twice.
38.	<i>Ficus religiosa</i> Linn. Habit: Tree	Moraceae	Raavi	MOUTH ULCERS: About 250 ml stem bark decoction mixed with 3 g of boiled sugar powder is used to gargle.
39.	<i>Globba marantina</i> Linn. Habit: Herb	Zingiberaceae	Kondapasupu	FEVER: Tuber paste is applied on the scalp to reduce high temperatures.
40.	<i>Glycosmis pentaphylla</i> (Retz.) DC. Habit: Tree	Rutaceae	Kondagilugu	WOUNDS: Leaf paste is applied on the affected areas twice a day for 2 days.
41.	<i>Helicteres isora</i> Linn. Habit: Shrub	Sterculiaceae	Nulidhada	DYSENTERY: One spoon of unripe fruit powder is taken thrice a day.
42.	<i>Heliotropium indicum</i> Linn. Habit: Herb	Boraginaceae	Naga danti	DIABETES: Five ml of root or leaf decoction is administered daily.
43.	<i>Hemionitis arifolia</i> (Burm. f.) Moore Habit: Herb	Adiantaceae	Ramabanam	LONG LIFE SPAN: One spoon of leaf powder is administered with milk.
44.	<i>Heynea trijuga</i> Roxb. Herb: shrub	Meliaceae	Gorregudduchettu	TOOTH DISORDERS: Stem branches are used as tooth brush and help to reduce tooth disorders.
45.	<i>Holoptelea integrifolia</i> (Roxb.) Planch. Habit: Nemali chettu	Ulmaceae	Nemali chettu	RHEUMATISM: Fresh stem bark is crushed and boiled with the leaves of the same plant Paste is plastered on the affected areas.

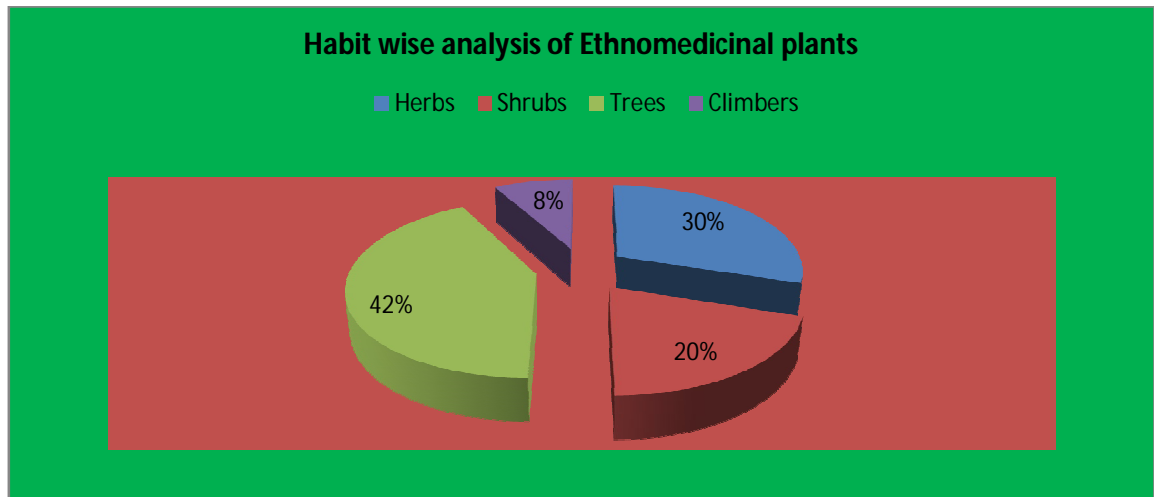
46.	Hygrophila auriculata (Schum.)Heine Habit: Shrub	Acanthaceae	Neetigobbi	LEUCORRHOEA: One spoon of root paste mixed with half cup of water is taken daily.
47.	Millettia racemosa (Roxb.) Benth. Habit: Climber	Fabaceae	Gilla baddu	FITS: One spoon of stem bark paste is administered with half glass of water daily once till cure.
48.	Morinda pubescens Sm. Habit: Tree	Rubiaceae	Togaru	BODY PAINS: Stem bark juice is applied over the body once a day for 2 days.
49.	Terminalia chebula Retz. Habit: Tree	Combretaceae	Karaka chettu	COUGH: Epicarp of the fruit is kept in the mouth and gulps the juice.
50.	Zingiber zerumbet (Linn.) Smith Habit: Herb	Zingiberaceae	Samidadum pa	DYSENTERY: Root tuber is ground into paste and administered orally along with water thrice a day to cure dysentery caused by witchcraft.

*Table 1: Ethnomedicinal plants used by tribal people of Rayagadda district, Odisha*

#### 4.Result And Discussion

In the enumeration all the plant species are arranged with their family, local name, parts used and various uses for the treatment of illness and diseases (Table 1). A total of 50 plant species belonging to 41 genera and 27 families were reported for different therapeutic uses. Ethnomedicinal uses have been reported and this is the first hand exclusive investigation on the medicinal plants among the varies tribe of the district. Most of the plants used in the treatment are herbs (15 species), trees 21 species), and shrubs (10) and rarely climbers (4 species). Fabaceae is the dominant family with 5 species followed by Zingiberaceae, Euphorbiaceae, Verbenaceae and Moraceae (4), Boraginaceae and Lamiaceae (3) and Mimosaceae, Apocynaceae and Araceae with (2), and others with one species each. An analysis of different plant parts used in the preparation of Tribal medicines to cure various diseases is given in this work. In the present study the number of medicinal plants are used to cure different ailments / diseases like Sciatica, Bone fracture, Asthma, Rheumatism, Hiccups, Galactogauge, Jaundice, Boils, Skin disease, Centipede bite, Wounds, Snake bite, Anthelmintic, Headache, Anemia, Gonorrhea, Vigour and Vitality, Ear pain, Dysentery, Fertility, Chicken pox, Tooth decay, etc., are listed.





*Figure 1*

### 5. Conclusion

In the present study 50 angiosperm species belonging to 27 families collected from Rayagadda district, Odisha State have been reported for treating various diseases. This study reveals that medicinal plants still play a vital role in the primary healthcare of this tribal community. Traditional medicines also have the potential to form the basis of pharmaceutical drugs for the treatment of a range of diseases. Thus, the loss of these potentially valuable genetic resources ultimately affects the whole society. There is an urgent need to document the knowledge or otherwise it is lost forever.

### 6. Acknowledgements:

The authors are thankful to Herbarium Keeper, Department of Botany, Mrs. A.V.N. Collage, for his help in identifying the plant sample. The authors also wish to acknowledge the help received from the local and tribal people of Rayagadda district, Odisha state, India.

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