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RESEARCH ARTICLE

ETHNOBOTANICAL SURVEY OF BALRAMPUR DISTRICT WITH SPECIAL REFERENCE TO PLANTS USED BY KORAKU TRIBES

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ABSTRACT

An Ethnobotanical survey was conducted in 5 villages of the Balrampur district of Chhattisgarh, India, during the year 2014. Along with field study, personal interview was held with 15 people in each village 10 men and 5 women. Plant specimens were collected thrice namely monsoon, winter and summer. Following taxonomic procedure the specimens were duly pressed processed. Among the specimens collected 50 plant species belonging to 37 families were much used by Korakutribe for various ailments. The method of drug preparation, drug administration were also recorded during the survey and interview. The results of the study revealed that Korakutribes have rich knowledge of medicinal plants and continue the use of plants for various ailments.

INTRODUCTION

Traditional medicine still remains the main resource for majority (80%) of people in developing countries for treating health problems, particularly because medicinal plants are accessible and cost affordable (Nyamanga *et al.*, 2008; Motlhanka *et al.*, 2006). Ethnobotany is essentially concerned with gathering information on plants and their use (Rao *et al.*, 1997). Ethnomedicinal survey is one of the reliable sources to natural and synthetic drug discovery (Fabricant, and Farnsworth, 2001). The present study forms the first of its kind with reference to Koraku Tribe of Balrampur district after Ambikapur (Surguja) division. (Swati Shrivastava *et al.*, 2013; AmiaEkka *et al.*, 2013) have also done similar studies. The knowledge on medicinal plant usage is very often passed on from one generation to the next only verbally (Nadembega *et al.*, 2011) and most of this knowledge remains undocumented (Sofowora 1993; Asase *et al.*, 2010). Moreover due to deforestation, environmental degradation, migrations of traditional medicinal healers to other occupations cause rapid erosion of this rich knowledge. Over the past decade, there has been a resurgence of interest in the investigation of natural materials as a source of potential drug substance. Therefore, with a deep concern and reverence for the vast plant diversity

that our country enjoys, and with sense of realization about the invaluable therapeutic properties of this phytodiversity, the current survey has been undertaken (ThamacinArulappan and John Britto, 2014). This work concentrates on traditional knowledge of medicinal plants along with their therapeutic uses by Koraku Tribals of Balrampur district.

Study Area

Balrampur district which was earlier a part of Ambikapur (Surguja) division, came into existence in 1st January 2012. It has Latitude of 23°06'67"N and Longitude of 83°06'03"E, and has a total area of 3806.08 Sq.Kms (Approx.) with 6 Block divisions, comprising of 645 villages of which 642 are much populated. According to census 2001 total population of the district was 5,98,855 of which Male 2,94,488 and Female 3,04,367 and Sex Ratio 1000: 970. Density of the population is 157 per Sq. Km. Average Literacy rate 54.24%, Male Literacy rate 67.27% and Female Literacy rate 51.79% (2001 census). The climate of Balrampur is of extreme nature. It is very hot in the summer and biting cold in the winter.

MATERIALS AND METHODS

Survey: It is a prerequisite to have a standard methodology to study and collect the ethnomedicinal data from the informants (Jain and Rao, 1976).

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A standard questionnaire (Form 1) was used to obtain information on medicinal plants with their local names, parts used, mode of preparation and mode of administration. Since these Korakutribals are illiterate, a structural questionnaire approach was not possible to get the relevant data, hence an informal conversation was adopted. All the informants were selected based on their knowledge of medicinal plants and practices of herbal medicine either for self-medication or for treating others.

A total number of 75 informants were interviewed comprising of 55 men and 20 women. The field survey was conducted in five villages namely Kosompara, Bansipara, Belpara, Lalmati and Turrapara of Balrampur District for 60 days. From tribal, herbal practitioners and farmers. Most of the herbs were collected directly from the forest, agricultural fields, foothills, upper hills and river belts. Sufficient care was taken not to destroy the habitats of these medicinal plants. Documentations of the medicinal plants were carefully recorded along with photographs of such plants. Direct plant observations were done with the help of local healers. Information on medicinal plants, local names, plant parts used and mode of administration for curing diseases were also recorded.

Views of the People

The information collected during the field survey is based on the first-hand information given by the local inhabitants on

medicinal plants; their utilization and mode of administration of medicinal plant species for specific diseases. The information about the ethno medicinal plants and their local names, parts of plant used for preparation of drug and administration have been accurately documented. The information gathered from them was again cross checked with the other residents of same community.

Categorization of Medicinal Plants

Ethno botanical plants which are cultivated, as well as grown in the wild were classified into different types of habits and forms such as trees, herbs, shrubs, climbers and creeper.

Identification of Medicinal Plants

The medicinal plant species mentioned by the informants were taxonomically identified in The Rapinat Herbarium & Centre for Molecular Systematics, St. Joseph's College (Autonomous) Tiruchirappalli under the guidance of Dr. S. John Britto.

Form 1: Traditional Ethnomedicine Survey project, Rapinat Herbarium & Centre for Molecular Systematics, St. Joseph's College (Autonomous) Tiruchirappalli, India (Thamacin Arulappan and S. John Britto, 2014).

(One form should be completed for each plant)

- 1.Name: -----
- 2.Sex: -----
- 3.Age:-----
- 4.Address: -----
- 5.Occupation: -----
- 6.Date: -----
- 7.Collection No. : -----
- 8.Taxon: -----
- 9.Vernacular Name: -----
10. Botanical Name: -----
11. Family: -----
12. Locality (Specific): -----
13. Habit: Tree ----- Herb ----- Shrub ----- Climber -----
14. Height: ----- Diameter : -----
15. Bark Characteristics : -----
16. Smell: -----
17. Latex: Present: ----- Absent: ----- Colour: -----
18. Tree parts used in medicine: Root:--- Stem: --- Flower: ---Fruit: ----- Seed: -----
19. How a plant is used: Fresh: ----- Dried: ----- Boiled: -----
20. Other plant or tree ingredient added to it -----
21. Method (s) of preparation for use: powdered: ----- Extracted with cold water: ----- With hot water: ----Boiled: ----
22. Mode of administration: -----
23. Dosage: -----
24. Source of collection of species: ----- Any other comment: -----

Table 1. Parts used

S.No.	Parts used	Species
1	Leaves	27
2	Seeds	8
3	Roots	10
4	Rhizome	3
5	Fruits	4
6	Flowers	2
7	Inflorescences	1
8	Tubers	2
9	Shoot	1
10	Bark	13
11	Stem	3
12	Pods	3
13	Whole plant	2

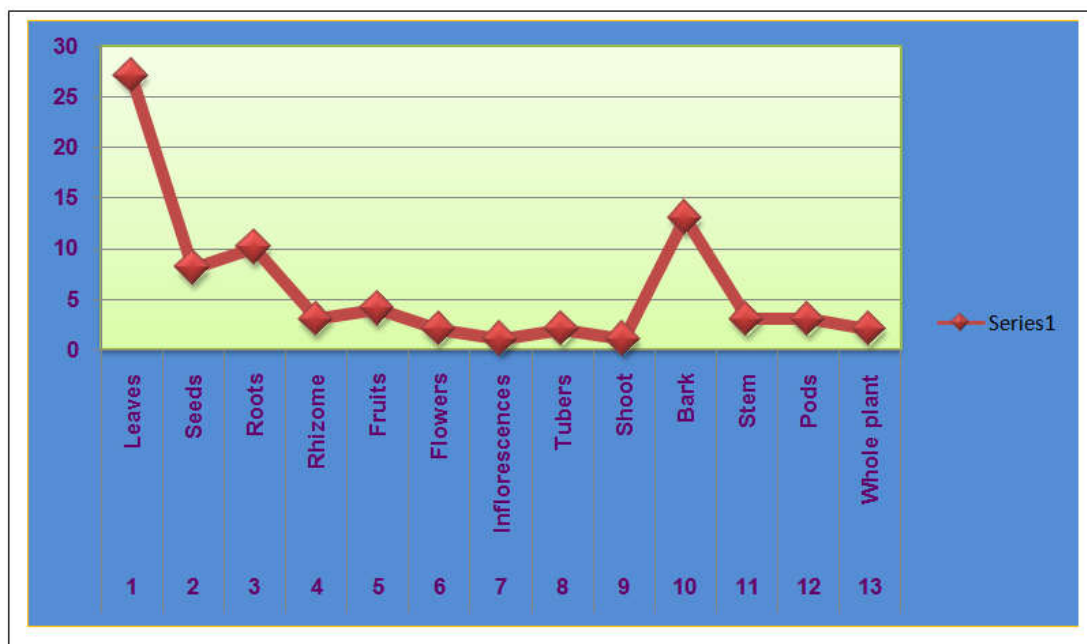


Chart 1. The maximum parts used

Table 2. Ethnomedicinal plant of the Study area

S.No.	Vouchar No.	Botanical Name	Family	Local Name/ Hindi	Parts used	Mode of Preparation	Mode of administration	Disease
1.	RHT 65619	Helleniaspeciosa (J.Koenig) S.R.Dutta	Costaceae	Keiokand	rhizomes	Paste of rhizome prepared by rubbing with rose water	Applied externally	Swellings and Inflammation.
2.	RHT 65620	Holarrhenapubescens Wall. ex G.Don	Apocynaceae	Korya	Bark	2g of powder of the bark or 5gml of juice of the bark, with equal volume of ginger juice	Orally taken twice daily	Diarrhoea and Dysentery
3.	RHT 65621	SidaacutaBurm.f.	Malvaceae	Bariyari	Root,Leaves	Juice of the leaf	Directly applied over a wound	Wounds and cuts
4.	RHT 65623	Achyranthusaspera L.;	Amaranthaceae	Chirchita	Leaves	Leaf paste	Applying externally	Wasp,Bees and insect bite.
5.	RHT 65624	Nyctanthesarbor-tristis Linn.	Nyctanthaceae	Murjhatni	Leaves	Leaf 10-20ml juice.	Orally	Fevers, Rheumatism
6.	RHT 65625	Helicteresisora L.	Sterculiaceae	Aitta	Pods, bark and Leaf	Fruit bark 3-6g powder, 50-100ml decoction.	Orally	cough and asthma
7.	RHT 65626	CelastruspaniculatusWilld.	Celastraceae	Kujur	Seed oil	Seed oil mixed with egg yellow part.	Taken orally	Boils and itching.
8.	RHT 65627	Madhucalongifolia var. latifolia (Roxb.) A.Chev.	Sapotaceae	Mhahuwa	Bark	Green bark ground with a small quantity of papaversomniferum	Applied over the body followed by bath after sometime	Itches and scabies.
9.	RHT 65630	Syzygiumcumini (L.) Skeels	Myrtaceae	Jamun	Fruit, bark,seed, leaf	2g of powder of the seed taken in water	Orally taken morning and evening.	Diabetes and frequent Urination.
10.	RHT 65631	Terminaliachebula Retz.	Combretaceae	Hadra	Bark, fruit	Powder of the fruit pulp mixed with tooth powder and used toclean tooth.	External	Pain in the Gums, Swellings and haemorrhage.
11.	RHT 65633	Bauhinia vahlii Wight &Arn.	Fabaceae	Mahalan	Pods	Decoction of seven pods	Taken orally for 2 days.	Dysentery
12.	RHT 65634	Asparagus racemosusWilld.	Asparagaceae	Satawar	Root	15ml of juice of fresh rootstock, mixed with milk	Taken twice a day orally	Galactagog intestinal, disinfectant use
13.	RHT 65635	Mimosa pudica Linn	Mimosaceae	Lajwanti	Leaf, Root	Paste of the leaf	Used as poultice.	Hydrocele, Rheumatic and Glandular Swelling.
14.	RHT 65636	Elephantopusscaber L.	Asteraceae	Mayurjhota	root leaves	Decoction of <i>E. scaber</i> root.	Taken orally.	Cough, tonic
15.	RHT 65637	CurculigoorchioidesGaertn.	Hypoxidaceae	Dindakhajur	rhizome	Rhizome is cleaned by removing the rind and central vascular strand, dried and powered.	5g of this powder is taken orally twice daily	Hip pain,piles, scabies,wounds and skin eruptions.
16.	RHT 65639	Cassia fistula Linn.	Fabaceae	Bandarlatti	Flowers and pods	Pulp of the pod, ground with water and boiled.	Applied as poultice,externally.	Swelling arthritisJoint pain.
17.	RHT 65640	Anogeissuslatifolia (Roxb. ex DC.) Wall. exBedd.	Combretaceae	Dhaora	leaves, bark	Made a paste with water	Taken orally	Diarrhoea, Dysentery,
18.	RHT 65642	Adina cordifolia (Roxb.) Benth. &Hook.f. exB.D.Jacks.	Rubiaceae	Karam	Stem,Bark.	Decoction of stem bark	Taken orally.	Rheumatism
19.	RHT 65643	Schleicheraoleosa (Lour.) Oken	Sapindaceae	Kusum	Bark,Seed oil	Seed crushed, oil extracted	Externally applied.	Rheumatism,Skin eruptions,
20.	RHT 65644	Phyllanthusemblica L.	Euphorbiaceae	Awla	Fruit,seed,leaf	Oil is obtained from the seed.	Applied externally	Skin infection.
21.	RHT 65645	Bambusabambos (L.) Voss	Poaceae	Bas	Leaves, shoot	Raw,boiled and cooked Bambusa bamboos shoot extracts	Taken externally.	Thyroid problems.
22.	RHT 65646	Aeglemarmelous (L.) Correa.	Rutaceae	Bael	Leaf	Leaf paste	20g of paste taken orally	Excessive menstrual flow.
23.	RHT 65647	FlemingiachapparBenth	Fabaceae	Chotagulfulli	Root	Stem boiled in water.	Taken orally	Cold and cough.
24.	RHT 65649	PterocarpusmarsupiumRoxb.	Fabaceae	Bija	Bark ,leaf	Leaves are grounded and baked.	Applied externally.	Boils,wounds and skin disease.
25.	RHT 65652	Buchananiacochinchinensis (Lour.) Almeida	Anacardiaceae	Char	Stem,bark,Root	Decoction	Taken orally.	Diarrhoea.
26.	RHT 65653	Pongamiapinnata (L.)Pierre	Fabaceae	Karanj	Leaf, Seed	Powder of the seed-coat removed seed in a dose of about 500mg, mixed in honey.	Taken orally morning and evening.	Whooping Cough and Bronchitis.

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27.	RHT 65654	Cassia tora L.	Fabaceae	Chakora	Leaf, seed	50g of the leaf boiled in 1 litre of water reduced to 125ml and filtered.	10-15ml taken orally in the morning and evening.	Fever in children during teething period and smooth bowel movement.
28.	RHT 65655	Momordicacharantia L.	Cucurbitaceae	Karela	Seed, fruit, leaf	Preparation of 100 ml juice of leaf.	Taken orally once a week.	Blood sugar and also antitoxic.
29.	RHT 65656	Euphorbia hirta L.	Euphorbiaceae	Dudhiaghas	leaf	Leaf of this plant and of solanumtrilobatum.	Orally taken together.	Nutrient
30.	RHT 65657	Cynodondactylon(L.) Pers.	Poaceae	Dub ghas	Whole plant	30g of the grass without nodes plus 30g of leaf of Punicagranatum, boiled in 500ml water and reduced to 125ml.	Taken orally in a dose of 50ml once in two hours.	Bleeding in ear, nose and rectum.
31.	RHT 65658	Ageratum conyzoides L.	Asteraceae	Basawnaghas	Leaf	An aqueous extract of leaves.	Taken orally.	Anti-inflammatory, antibacterial, antifungal
32.	RHT 65660	Dioscorea bulbifera L.	Dioscoreaceae	Gitti Kanda	Tuber, leaf	Roasted tuber	Taken orally	Bronchitis
33.	RHT 65662	Amorphophalluskusianus (Makino) Makino	Araceae	Jangliaol	Tuber	powder	Applied externally.	Skin disease.
34.	RHT 65670	Smilax ovalifolia Roxb. ex D. Don	Smilacaceae	Ranpawan	Root, stem	Tooth brush	Used as tooth brush.	Toothache.
35.	RHT 65671	Hemidesmus indicus (L.) R. Br.	Apocynaceae	Dudhia Larang	Roots	5g of fresh root, grounded, mixed well with 200ml of milk.	Taken orally	Piles, urinary irritation, improve flow of urine and dry cough.
36.	RHT 65672	Bombax ceiba L.	Malvaceae	Semal	Roots	Tonic	Taken orally	Debility.
37.	RHT 65674	Dendrophthoe falcata (Linn.f.) Etting	Loranthaceae	Amrud Ka Banda	leaf	Leaf paste	Applied externally.	Rheumatism.
38.	RHT 65675	Antidesma acidum Retz.	Phyllanthaceae	Derango	Leaf	10g of leaf ground into paste and filtered.	Juice taken orally.	Diahrria
39.	RHT 65677	Acorus calamus L.	Acoraceae	Ghodbach	Rhizome	250mg of charred <i>A. calamus</i> rhizome powder mixed with a little honey.	Taken orally.	Cholic and gas trouble and increase appetite.
40.	RHT 65678	Catharanthus roseus (L.) G. Don	Apocynaceae	Sadabahalral	Leaf	20g of leaf made paste with 100ml of water and filtered.	Taken orally	Diarrhea
41.	RHT 65682	Sesamum indicum L.	Pedaliaceae	Til	Leaf	Leaf paste	Used as poultice.	Boils.
42.	RHT 65683	Limnophila conferta	Scrophulariaceae	Muchari sag	Leaf	Tender leaf boiled.	Taken orally.	Dysenteries.
43.	RHT 65684	Azadirachta indica A. Juss.	Meliaceae	Neem	Leaf, bark	Tender leaf is mixed with an equal quantity of stem of Glycyrrhizaglabra, made into a paste in water, rolled into pills of the size of pea, dried in shade.	One or two pills taken orally three times a day.	Chicken pox and viral disease.
44.	RHT 65685	Alstonia scholaris (L.) R. Br.	Apocynaceae	Chatiyani	bark	Decoction of bark.	Taken orally.	abdominal pains and fevers
45.	RHT 65687	Cissampelos quadrangula Linn.	Vitaceae	Harjod	Stem	Edible paste of the stem.	Taken orally along with food.	Indigestion and stimulate appetite.
46.	RHT 65688	Calotropis procera (Ait.) R. Br.	Apocynaceae	Akwan	Root, leaf, bark, seed	powdered root bark	Taken orally.	Diarrhoea
47.	RHT 65690	Cuscuta reflexa Roxb.	Convolvulaceae	Banda	Seed, whole plant.	Plant paste	Applied externally.	Eczema.
48.	RHT 65691	Vitex negundo Linn.	Lamiaceae	Sindhwar	Seed, leaf, flower	Decoction of leaf	Taken orally.	Improve eyesight
49.	RHT 65692	Heteropogon contortus	Poaceae	Choratghas	Inflorescence	Decoction of inflorescence.	Taken orally.	Asthma.
50.	RHT 65694	Justicia adhatoda L.	Acanthaceae	Adhusa	Leaf	leaf decoction	Take the leaf decoction orally with jaggery	Malaria.

RESULTS AND DISCUSSION

The present study has revealed that the local inhabitants of Balrampur district were generally using about 50 species of 37 families. They are in the following families: Apocynaceae (3), Euphorbiaceae (3), and Fabaceae (3), Poaceae (3), Combretaceae (2), Caesalpiniaceae (2), Asteraceae (2), Araceae (2), and Asclepiadaceae (2). A plant each was recorded from the other families (Table 2).

Conclusion

Balrampur district of Chhattisgarh, India is well known for the occurrence of diverse medicinal plants. This investigation is an attempt to record medicinal properties of the plants by the author with the help of traditional healers and vyadiyas, the traditional healers who possess maximum knowledge on medicinal plants. There are a good number of herbal practitioners in this district who practice herbal medicine and are willing to share their rich knowledge of herbal medicine with the research scholars for the benefit of the good health of the society.

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