

## Ethnomedicinal plants used in West Rarrh region of West Bengal

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Received 10 August 2007; Accepted 17 March 2008

### Abstract

Present communication brings to knowledge the traditional methods of treating human diseases and disorders using plant-based drugs recorded from tribal and rural folks in West Rarrh region of West Bengal. A total of 46 plant species belonging to 30 families of angiosperms are employed by the inhabitants in the form of infusion, decoction, oil, paste, latex, etc. either as a sole drug or in combination to treat various ailments. The dose/s, duration and method of administration are given along with botanical name, family, plant's part/ form of recipe used and local plant names. The folk herbal formulations however, require further testing.

**Keywords:** Ethno medicine, Medicinal plants, Paschim Medinipur, West Rarrh.

**IPC code; Int. cl.<sup>s</sup>—** A61K 36/00

independently and fall into the Bay of Bengal. In West Rarrh three types of soil (alluvial, red and laterite) are present.

Basically there is dominance of hot and humid climate along with a short duration of winter (December-January). Temperature reaches its maximum (39.45°C in average) in the month of May and falls in the month of January (12.57°C). South west monsoon is the chief source of rains. Rainfall continues from June to September. Major crops of this region are rice, maize, groundnut, potato, etc. Here the dominant trees in the forest are: *Shorea robusta* Gaertn. f., *Madhuca indica* J. F. Gmel., *Terminalia chebula* Retz., *T. bellirica* Roxb., etc. The denuded or blank areas have been afforested chiefly by *Eucalyptus globulus* Labill., *Tectona grandis* Linn. f., *Acacia auriculiformis* A. Cunn., etc.

The total population of West Rarrh of West Bengal is 2,196,7823 and out of which, population of schedule tribes (ST) is 1,940,842 (Census-1991). *Bhumij*, *Lodhas*, *Kherias*, *Mundas*, *Mahalis* and *Santals* generally build small huts. They catch fish, crabs, etc. by bamboo traps, nets, palm fibres and creepers like *Ichnocarpus frutescens* and also by different poisonous plants like

### Introduction

Plants have been used as a source of medicine for living beings from ancient times. According to an estimate of WHO, approximately 80% of the people in developing countries rely chiefly on traditional medicines for primary healthcare. Ethnomedicinal surveys help mankind to search and develop new cures to treat various ailments. The inhabitants of the study area have rich heritage particularly related to plant utility and the literature survey shows that the region was almost untapped from this point of view<sup>1-4</sup>. The pioneer workers contributed a lot in the field of ethnobotanical research<sup>5-7</sup>. The present communication focussed on some more plant species from this region.

### Study area

The hill tribes and aboriginals of West Rarrh are the *Gonds*, *Kols*,

*Mahali*, *Puraons Sabar* (*Kheria*), *Lodha*, *Munda*, *Santal*, *Oraon*, *Bhumij*, *Mech*, *Bedia*, etc. The West Rarrh of West Bengal mainly constituted the districts of Murshidabad, Burdwan, Birbhum, Bankura, Purulia and Midnapore. It is the extended part of Chhotonagpur plateau. Here the forests are distributed roughly in an isosceles triangle with the base running North and South from the tip of Birbhum district to the southern part of Midnapore district. Forest lie scattered in small patches between latitudes 21° 75' and 24° 33' N and longitudes from 85° 70' to 87° 80'E. Its area is 27,500 Km<sup>2</sup>. Here the hills are relict type. The remarkable hills are Beharinath and Sushunia lie among Bankura district. The forests are in the laterite soil through which main rivers like Ajay, Maurakshi, Damodar, Shilabati, etc., run roughly west to east fall into Hoogly while the Subarnarekha flows

*Euphorbia antiquorum* Linn., etc. Besides catching of tortoise, iguana, rat-snake, bat, squirrel, larva of red ants and cocoons is the general practices of the tribals. They have traditional craft like bamboo based combs, basket, weaving of mats and brooms of different plants.

*Lodha*, *Sabar* and *Munda* have their some own traditional peculiarities such as the mother is given some *Kulthi* water (*Dolichos biflorus* Linn.) just after delivery followed by mother along with the new born baby are bathed with turmeric water (*Curcuma longa* Linn.) on the 9th day of delivery.

### Materials and Methods

Ethnobotanical field explorations were carried out during the years 2001-2003 in between the age group of 50-70 years. Information on folk-medicinal use of plants was obtained through oral interviews enduring local plant name, parts used, other ingredients added (if any), method of preparation and mode of administration for each species. Plant specimens were collected from the study area, authenticated and kept in the Herbarium of the institute. The ethno-

medicinal information is given in Table 1.

### Results and Discussion

Locally available plants are used by the people as their household remedies (Table 1). The data has been accrued from the tribal and rural people of the 7 districts which still find place in their traditional therapy. However, isolation of active principles, phytochemical and pharmacological investigations are desired to validate the claims of the traditional healers. This may provide new sources of herbal drugs. The formulation of these effective phytomedicines should be encouraged for their sustainable uses. Statistically, information for treating a particular ailment from different informants certainly reflects the accuracy and authenticity of the folk drugs employed.

The villages of the region are rich in ethnomedicinal knowledge owing to their close affinity with the surrounding plant cover. They obtain a variety of plant products from wild plants to fulfil their own needs as they are economically weaker sections of the society. In the tribal areas the rules and regulations by which

the tribal people have been traditionally governed are now being gradually abolished by the young literate generations. Another crucial factor responsible for such change is the migration of youth from tribal areas to urban areas. This gap is further widened the adoption of modern medicine. Therefore, the importance of recording indigenous knowledge base related technology as described here become essential in view of rapid socio-economic and cultural changes and for high tech low cost solution. Religious and cultural faith, poor economy and lack of modern medical facilities in villages of the study area seem to be the cause of utilisation of these plants. While conducting the survey the inhabitant revealed that most of the people were dependent on plants and they also preferred it, although the preparing methods are known only to local faith healers. Due to rapid increase in human and consequent increased population biotic interference some species are dwindling from their natural habitats. It is, therefore, imperative that herbal medicines of the aborigines which are still in vogue should be documented for obvious reasons.

Table 1 : Medicinal plants used in West Rarrh region

S. No.	Botanical name & Family/Collection No.	Local name	Ailments	Parts used and preparation	Mode of administration
1	<i>Abroma augusta</i> Linn. Sterculiaceae/Ghosh 2	<i>Ulatkambal</i>	Blood dysentery/ Diarrhoea/ Night wetting	Root; juice	Drink ½ cup juice once daily till complete cure is achieved.
2	<i>Acacia concinna</i> DC. Mimosaceae/Ghosh 8	<i>Sikaki</i>	Dandruff / Premature hair greying	Leaf, seed; juice	Regular external application is advised.
3	<i>Acacia leucophloea</i> (Roxb.) Willd. Mimosaceae / Ghosh 326	<i>Arimed</i>	Food poison	Bark or latex; juice	Drink one cup juice immediately.

S. No.	Botanical name & Family/Collection No.	Local name	Ailments	Parts used and preparation	Mode of administration
4	<i>Acorus calamus</i> Linn. Araceae / Ghosh 12	<i>Boch</i>	Louse infestation	Rhizome; infusion	Applied infusion on affected parts.
5	<i>Aerva lanata</i> Juss. ex Schult. Amaranthaceae / Ghosh 17	<i>Dayalu</i> flower	Asthma	Flower with leaf; juice	Drink 5 ml juice with few drops of honey for one month.
6	<i>Alangium salviifolium</i> (Linn. f.) Wang. Alangiaceae / Ghosh 19	<i>Ankar</i>	Hydrophobia	Root; roots of <i>bans</i> and <i>ankar</i> crushed in 1:1 ratio	Administered orally (50 g) and externally applied on the wound made by dog bite as an antidote.
7	<i>Aloe vera</i> Linn. Liliaceae / Ghosh 24	<i>Ghritakumari</i>	Burn, Rough skin	Fresh leaf juice	Smear on skin.
8	<i>Argemone mexicana</i> Linn. (Papaveraceae) / Ghosh 37	<i>Shialkanta</i>	Impotence	Seed, plant latex; crushed seed with its latex to make a paste	Paste (5 g) taken daily for 30 days to cure.
9	<i>Aristolochia indica</i> Linn. Aristolochiaceae / Ghosh 38	<i>Iswarnul</i>	i) Snake bite, ii) Food poisoning in cows	Bark, root; juice	i) Drink 1-2 cup juice twice daily till cure; ii) Fed to the cows.
10	<i>Artemisia vulgaris</i> Linn. Asteraceae / Ghosh 328	<i>Nagdona</i>	Anti-fertility	Leaf, root; crushed and made into 10g tablet	Ten tablets in each cycle claimed to be contraceptive.
11	<i>Artocarpus heterophyllus</i> Lam. /Moraceae / Ghosh 39	<i>Kanthal</i>	Snake's bite (Boas)	Peduncle; juice	Drink one cup juice thrice daily immediately after bite, till complete cure achieved.
12	<i>Bambusa vulgaris</i> Schrad. Poaceae / Ghosh 330	<i>Bans</i>	Hydrophobia	Root; roots of <i>bans</i> and <i>ankar</i> crushed in 1:1 ratio	Administered orally (50 g) and externally applied on the wound made by dog bite as an antidote.
13	<i>Brassica campestris</i> Linn. Brassicaceae / Ghosh 57	White <i>Sarisha</i>	Acne / Alopecia	Seed; both seeds of white <i>sarisha</i> and <i>til</i> (1:1 ratio) are crushed and made into paste	Externally applied on head in alopecia and face for acne (pimple).
14	<i>Caesalpinia crista</i> Linn. Caesalpinaceae / Ghosh 63	<i>Karanj</i>	i) Alopecia / Boils/ Wounds; ii) Diabetes mellitus	i) Seed; oil extracted from seeds; ii) Leaf; crushed 10 leaves and made into paste	i) Hair, boils and wounds smeared with oil till complete cure is achieved; ii) Given to the patient once daily for 7 days.
15	<i>Cinnamomum zeylanicum</i> Breyn. / Lauraceae / Ghosh 88	<i>Daruchini</i>	Mis-carriage (abortion)	Bark; 2 g bark of <i>Daruchini</i> and 2 g roots of <i>Anantamul</i> is boiled in a glass of cow's milk	Administered orally to the patient once a day for 7 days.
16	<i>Clitoria ternatea</i> Linn. Fabaceae / Ghosh 98	<i>Swet</i> <i>aparajita</i>	Infertility	Root; juice	Drink one tea spoonful juice along with a pepper ( <i>Piper nigrum</i> Linn.) for 20 days.
17	<i>Cucumis sativus</i> Linn. Cucurbitaceae / Ghosh 112	<i>Sasha</i>	Tumour	Fruit; juice	One fresh fruit (100 g) is consumed raw once daily to prevent cancer growth.

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S. No.	Botanical name & Family/Collection No.	Local name	Ailments	Parts used and preparation	Mode of administration
18	<b>Cuscuta reflexa Roxb.</b> Cuscutaceae / Ghosh 117	<i>Swarnalata</i>	Diarrhoea in cows	Stem; juice	Fed to the cows thrice daily till cure.
19	<b>Datura metel Linn.</b> Solanaceae / Ghosh 121	<i>Datura</i>	Alopecia	Leaf; juice	Massage the juice on head for 30 minutes.
20	<b>Desmodium gyrans DC.</b> Fabaceae / Ghosh 126	<i>Bon-charal</i>	Enlargement of liver/weak eyesight	Leaf; juice	Drink two spoonfuls of juice daily.
21	<b>Eupatorium ayapana Vent.</b> Asteraceae / Ghosh 139	<i>Ayapan</i>	Acne	Leaf; juice	Externally apply on the face.
22	<b>Flacourtia indica (Burm. f.) Merr.</b> / Flacourtiaceae / Ghosh 153	<i>Baichi</i>	Wasp bite	Stem, bark; paste	Apply paste (10g) on the wound.
23	<b>Garcinia mangostana Linn.</b> Clusiaceae (Guttiferae) / Ghosh 327	<i>Mangustan</i>	Accumulation of fat	Leaf, husk; juice	One tea spoonful taken daily for 30 days.
24	<b>Gymnema sylvestre R. Br.</b> Asclepiadaceae / Ghosh 161	<i>Gudmar, Meshsringi</i>	Diabetes mellitus	Leaf, fruit; juice	Drink 5 ml juice once daily for 30 days before lunch.
25	<b>Hemidesmus indicus R. Br.</b> Asclepiadaceae / Ghosh 165	<i>Anantamul</i>	Miliaria rubra (Miliary)	Root; juice	Rubbed on the body.
26	<b>Ipomoea paniculata R. Br.</b> Convolvulaceae / Ghosh 179	<i>Bon-kalmi</i>	Low blood pressure	Leaf; juice	Drink ½ cup juice once daily for 15 days.
27	<b>Jatropha curcas Linn.</b> Euphorbiaceae / Ghosh 180	<i>Bherenda</i>	Cuts and wounds	Fresh latex	Latex smeared on the wound.
28	<b>Lycopersicon esculentum Mill.</b> Solanaceae / Ghosh 193	<i>Bilati Begun</i>	Tumour	Fruit	Consumed raw.
29	<b>Malachra capitata Linn.</b> Malvaceae / Ghosh 195	<i>Bon-dhenros</i>	Infertility	Fresh fruit	Raw fruits (5), daily given to patient during menstrual period for 3 months.
30	<b>Mimosa pudica Linn.</b> Mimosaceae / Ghosh 203	<i>Swet-lajjabati</i>	Infertility	Root; juice	Drink one tea spoonful juice along with pepper ( <i>P. nigrum</i> ) for 20 days.
31	<b>Murraya koenigii (Linn.) Spreng.</b> / Rutaceae / Ghosh 210	<i>Currypata</i>	Diabetes mellitus	Fresh leaves	Eat 10 leaflets once daily before lunch.
32	<b>Murraya paniculata (Linn.) Jack</b> / Rutaceae / Ghosh 211	<i>Kamini</i>	Cuts and wounds	Leaf; powder	Apply leaf powder to check bleeding.
33	<b>Nerium indicum Mill.</b> Apocynaceae / Ghosh 215	<i>Shet Karabi</i>	Epilepsy	Root; juice	Drink 5 ml juice once daily for 15 days.
34	<b>Phyllanthus fraternus Webster</b> syn <i>P. niruri</i> Hook. f. non Linn. Euphorbiaceae / Ghosh 237	<i>Bhui Amla</i>	High Bilirubin (Billiousness)	Whole plant; juice	Drink 5 ml juice once daily for 10 days before lunch.
35	<b>Piper betle Linn.</b> Piperaceae / Ghosh 238	<i>Pan</i>	Weak nerves of leg	Green leaves	Eat one raw leaf daily along with honey for 30 days.
36	<b>Piper nigrum Linn.</b> Piperaceae / Ghosh 240	<i>Golmorich</i>	Constipation	Fruit; powder	Powder (5g) mixed in a cup of lukewarm water drunk at night.

S. No.	Botanical name & Family/Collection No.	Local name	Ailments	Parts used and preparation	Mode of administration
37	<i>Rauvolfia canescens</i> Linn. Apocynaceae / Ghosh 225	<i>Barachadar</i>	i) Snake bite, ii) Diabetes mellitus	Root; juice	i) In snake bite 10ml of root juice is given orally, also apply the juice on the wound; ii) In diabetes root juice is given to patient along with <i>Terminalia arjuna</i> (Roxb.) Wight & Arn. bark.
38	<i>Sesamum indicum</i> DC. Pedaliaceae / Ghosh 270	<i>Til</i>	Acne / Alopecia	Seed; both <i>til</i> and white <i>sarisha</i> (1:1 ratio) crushed and made into paste	Externally applied on head in alopecia and face for acne (pimple).
39	<i>Sida cordifolia</i> Linn. Malvaceae / Ghosh 274	<i>Berela</i>	Blood vomiting	Root, leaf; crushed and made into paste	Give one cup of paste immediately.
40	<i>Smilax macrophylla</i> Roxb. Liliaceae / Ghosh 275	<i>Ramdatan</i>	Blood dysentery/ Diarrhoea/ Night wetting	Root; juice	Drink ½ cup juice twice daily till complete cure is achieved.
41	<i>Solanum virginianum</i> Linn. Solanaceae / Ghosh 279	<i>Gorap - Begun, Swet Kantikari</i>	i) Pain in teeth (toothache), ii) Small pox	Root, aerial part; crushed and made into paste	i) Grind the fresh root by the affected teeth; ii) 2 dry tablets consumed daily for 7 days as an antidote both in human and cow.
42	<i>Trichosanthes anguina</i> Linn. Cucurbitaceae / Ghosh 303	<i>Chichinga</i>	Jaundice	Leaf, seed; juice	Drink 5ml juice once daily for 7 days.
43	<i>Trigonella foenum-graecum</i> Linn. / Fabaceae / Ghosh 331	<i>Methi</i>	Alopecia	Seed; <i>Methi</i> seeds germinated in <i>Aloe vera</i> leaf juice	The decoction of germinated seeds along with coconut oil is applied externally.
44	<i>Vigna mungo</i> (Linn.) Hepper Fabaceae / Ghosh 229	<i>Mash-kalai</i>	Kidney stone	Cotyleden; infusion	A cup of infusion is drunk at morning till complete cure is achieved.
45	<i>Vitex negundo</i> Linn. Verbenaceae / Ghosh 319	<i>Nishinda</i>	i) Accumulation of fat, ii) Bedsore	Leaf; juice, paste	i) One teaspoonful given daily for 45 days along with few drops of lemon (lime-kagji) juice; ii) Smear on affected region.
46	<i>Ziziphus mauritiana</i> Lam. Rhamnaceae / Ghosh 324	<i>Kul</i>	Flatulence	Leaf; paste	Paste rubbed on abdomen.

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