



Ethnobotanical Survey of Asansol (Burdwan District), West Bengal, India

KEYWORDS

Ethnobotanical, Asansol, Burdwan and tribal medicine

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Introduction

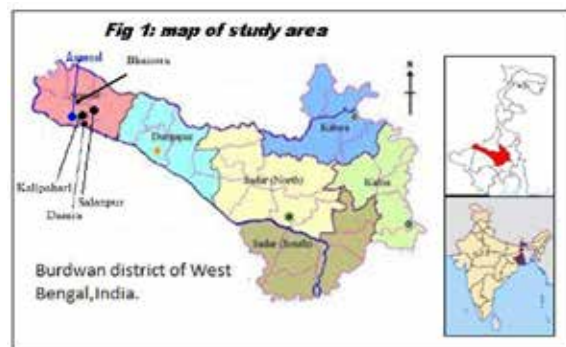
Asansol is a coalmining and industrial metropolis and one of the busiest commercial centers in India. It is the second largest city in West Bengal after Kolkata. The name Asansol is derived from two different names Asan tree (a species of tree found on the banks of river Damodar) and sol-bhumi/sol-land (the land rich in minerals). Asansol is one of the most culturally and ethnically diverse places in the entire country of India. Asansol is located at coordinates 23°.68' N, 86°.98' E. It has average elevation of 97m (318 ft), area is 127.3km²(49 sq mi), literacy rate is 84.82%. The population of Asansol is 564,491 and population density is 4,434 per sq km as per 2011 census. (Source: Wikipedia)

Asansol subdivision is situated on the western part of Burdwan district of West Bengal. It is surrounded by hills of Chotanagpur, Santal Parganas, districts of Bankura, Purulia and Birbhum. The tribal population in the area consists of Santhals as dominant besides Mahli, Mali, Modikor, Munda, Parhaya, Ho and Bhumjis, etc. Asansol subdivision lies on exposed Gondwana rocks and consists mostly of undulating laterite soil. The study of relationship between the people of primitive societies and their plant environment has been undertaken in Asansol coalfield area where a large number of Santhals live among other tribals.

Material and Methods

Field Survey and Documentation of Medicinal Plants

The ethnobotanical study was conducted in tribal localities of Damra, Salanpur, Kalipahari and Bhanora collieries of Asansol, as shown in Figure 1. For collecting information regarding plants used for medicinal purpose by tribals a number of field trips were made to document the ethnomedicinal plant diversity from March 2011 to March 2012. The information



about medicinal uses of the plants were collected on the basis of interview with traditional medicinal practitioners and experienced old persons belonging to tribal communities in different tribal areas. Personal interviews with traditional healers were conducted and abundant plants were recorded. Mounted herbarium specimens known to grow in the areas were placed to them and questions were asked on their medicinal values. These were subsequently verified by taking them to field to identify plants on the basis of local tribal names. Herbarium specimens and photographs were identi-

fied by taxonomists and stored for future use in the college herbarium.

The queries were done by the authors to indigenous community as suggested by Jain (1964); Martin (1995) and Maundu (1995) for carrying out systematic study in ethnobotanical investigations. Information about the medicinal plants and their uses has been collected from authentic tribal medicinal practitioners and by consulting them repeatedly. In case information differed from experts to experts, rule of maximum was applied. Regular visits to patients regarding information about recovery were noted. Every possible step was taken to collect correct identity and right information about ethnomedicinal use of plants from area under investigation. The villages were visited in different seasons to avail most of the plant resources in their flowering condition. Ethnobotanical information collected was also verified by crosschecking with tribals of different localities. Literature scanning was also done to collect information if those medicinal plants were used by other tribals in different regions of India.

Results and Discussion

The knowledge about medicinal uses of plants is associated all over the sociocultural life of tribals in Asansol. The collieries of this area are rich in ethnomedicinal knowledge due to their close proximity with the surrounding plant cover. Religious and cultural faith, poor economy and lack of modern medical facilities in the villages seem to be the major cause of utilization of these medicinal plants. The information about the medicinal uses of plants and plant parts gathered from actual case studies with the help of various medicine men were correlated with the uses by different tribal populations in different regions of the country investigated by several workers like Maheshwari et al. (1982) from north India, Alagseaboopathi(2009), Revathi et al.(2010), Pragada et al.(2012) from southern India, Tirkey (2006), Jadhav(2006) from central India and Jain et al. (2009) from north west region, Jagtap et al. (2009), Jothis et al. (2008) and Patil (2011) from west India and Topno et al. (2003), Dash et al. (2006), Ghosh (2008) and Dey et al. (2010) from east India. It was found that several plants have similar ethnomedicinal uses in different tribal communities. The survey has recorded forty eight plant species of which twelve are monocotyledons and rest are dicotyledons. The plant species employed by the inhabitants are in the form of infusion, decoction, etc. to treat various ailments. Oral and topical modes of administration were found with formulations in terms of whole plant crushed or macerated, pastes, juices, etc. The folk herbal formulations however, require further testing. Statistically, information for treating a particular ailment from different informants certainly reflects the accuracy and authenticity of the folk drugs employed. The following chart shows several ethnomedicinal parts used for the treatment of diseases exclusively in Asansol (Table One).

Conclusion

This ethnobotanical survey may be a preliminary contribution of medicobotany of this area using standard research methods focusing on medicinal plants and their local uses for

the healthcare. The vital knowledge of traditional healthcare system needs to be scientifically and systematically documented before it is lost due to rapid changes in the society on account of attaining modern civilization by the tribals and other castes of Asansol. It is, therefore, recommended that a thorough scientific investigation such as pharmaceutical analysis, clinical tests and standardized doses should be done as it may be boon not only for the entire tribal communities but also for the mankind. Due to rapid increase in human population some species are becoming extinct from their habitat. It is therefore imperative that this knowledge which is still

in vogue should be documented for obvious reasons. The present research on medicinal plants used by local people of Asansol may be used for botanical and pharmacological research in future for the discovery of new drugs.

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Table 1. List of plants which are used to cure diseases in different areas of Asansol.

S.N.	Botanical Name (1)	Family (2)	Santhali/Local name(3)	Disease cured(4)	Parts used(5)
1.	<i>Adhatoda zeylanica</i> Medic.	Acanthaceae	Basak	T.B.	Flowers and young twigs
2.	<i>Aegle marmelos</i> L. Correa	Rutaceae	Sinjo/Bel	Diarrhea, dysentery	Fruit
3.	<i>Allium sativum</i> L.	Liliaceae	Rasun	Indigestion, high blood pressure	Leaves and bulb
4.	<i>Alpinia galanga</i> Sw.	Zingiberaceae	Kulanjan	Acne, Skin diseases	Rhizome
5.	<i>Alstonia scholaris</i> R.Br	Apocynaceae	Chatnia	Mouth ulcer, Headache	Bark
6.	<i>Andrographis paniculata</i> Wall ex Nees.	Acanthaceae	Chiryata, kalmegh	Convulsions, epilepsy	Whole plant
7.	<i>Annona squamosa</i> L.	Annonaceae	Madalgom	To remove lice from hair	Roots, leaves
8.	<i>Antigonon leptopus</i> Endl.	Polygonaceae	Anantalata	Weakness	Flowers
9.	<i>Asparagus racemosus</i>	Liliaceae	Satwar	Fever, weakness	Roots
10.	<i>Bambusa vulgaris</i> Schard.	Poaceae	Basini bans	Dog bite	Roots
11.	<i>Boerhaavia diffusa</i> (L.) Poir	Nyctaginaceae	Khaprara/ Punarnaba	Dysentery, Diarrhea	Roots
12.	<i>Borassus flabellifer</i> L.	Palmeae	Tal	Gastritis, Hiccups	Whole plant
13.	<i>Calamus viminalis</i> Wild	Palmeae (Arecaceae)	Barabent/Betas	Snakebite, chronic fever	Root
14.	<i>Calotropis gigantea</i> L. R. Br	Asclepiadaceae	Akanda	Indigestion, Gastric troubles	Root
15.	<i>Cassia fistula</i> L.	Caesalpinaceae	Banahata/Nurnic.	Constipation	Fruit, leaves
16.	<i>Celosia argentea</i> L. var. <i>cristata</i> (L.) Kuntze	Amaranthaceae	Morgajhuti	Diarrhea, Excessive menstrual discharges	Flowers
17.	<i>Chrozophora plicata</i> A. Juss.	Euphorbiaceae	Pango nari	Cough in children	Root
18.	<i>Cissampelos pareira</i> L.	Menispermaceae	Telomalla	Diarrhea To control hiccups	Root Leaves
19.	<i>Cissus quadrangularis</i> F.I.	Ampelidaceae	Harjora	Bone fracturs, cuts, bruises	Stem
20.	<i>Cocos nucifera</i> L.	Palmeae/ Arecaceae)	Narikel	To cure wounds	Fruit
21.	<i>Coix lacryma-jobi</i> L.	Gramineae (Poaceae)	Jaragadi	Chest, lung complaints	Seeds

22.	<i>Commelina benghalensis</i>	Commelinaceae	Kana arak	Leprosy, wounds	Leaves
23.	<i>Croton bonplandianum</i> Baill.	Euphorbiaceae	Churchuri	To heal cut and wounds	Whole plant
24.	<i>Curcuma longa</i> L.	Zingiberaceae)	Sasang/ Halde	Mixed with lime to treat bone fracture	Rhizome
25.	<i>Darris indica</i> (Lamk) Bennet	Fabaceae	Kurunj	Skin diseases	Seeds
26.	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Pusi toa	Asthma, cough	Whole plant
27.	<i>Euphorbia nerifolia</i> L.	Euphorbiaceae	Masa	Toothache, fever	Latex
28.	<i>Ficus racemosa</i> L.	Moraceae	Lowa/Jagya Dumar	Diabetes, piles	Receptacles
29.	<i>Hemidesmus indicus</i> (L.) Schult	Periplocaceae	Marangonal/Anant-mul	Blood purification	Root
30.	<i>Hibiscus rosa sinensis</i> L.	Malvaceae	Joba	Cough, genitourinary weakness	Petals
31.	<i>Hibiscus syriacus</i> L.	Malvaceae	Sada joba	Itches	Flowers
32.	<i>Madhuca indica</i> Gmel.	Sapotaceae	Madkom/Mahua	Toothache	Root, bark
33.	<i>Moringa oleifera</i> Lamk.	Moringaceae	Muga/Sajna	High bloodpressure	Leaves
34.	<i>Musa paradisiaca</i> L.	Musaceae	Kela-ba	Diabetes	Fruit
35.	<i>Phyla nodiflora</i> (L.)Greene	Verbenaceae	Bhuinkora	Colic, helminthiasis	Whole plant
36.	<i>Ricinus communis</i> L.	Euphorbiaceae	Rerhi	Burns, wounds	Bark, Root, seeds
37.	<i>Ruellia tuberosa</i> L.	Acanthaceae	Chotpotey	Stones in bladder	Whole plant
38.	<i>Semecarpus anacardium</i> L.	Anacardiaceae	Bhela/ Soso	Piles	Seeds
39.	<i>Shorea robusta</i> Garten	Dipterocarpaceae	Sarjour	Dysentery	Seeds
40.	<i>Solanum sisymbriifolium</i> Lamk.	Solanaceae	Rangaini/ Katari	Toothache	Fruits
41.	<i>Solanum torvum</i> Sw.	Solanaceae	Kutma/Gotabegun	Piles, spleen enlargement	Leaf, Root
42.	<i>Spilanthes acmella</i> L.	Compositae	Pirazha	Scabies	Whole plant
43.	<i>Syzygium cumini</i> (L.)Skeels.	Myrtaceae	Jam/Jamun	Stomach upset	Fruit
44.	<i>Tabernaemontana divaricata</i> Bl.	Apocynaceae	Tagar	Skin diseases	Flowers
45.	<i>Tephrosia purpurea</i> (L) Pers	Papilionaceae	Kulathia	Pimples, boils,	Whole plant
46.	<i>Thysanolaena agrostis</i> Nees.	Poaceae	Karsar	Contrceptive	Inflorescence
47.	<i>Urginea indica</i> Roxb.	Liliaceae	Bir Payaj	Dysentery, heart diseases	Bulbs
48.	<i>Vitex negundo</i> L.	Verbenaceae	Boan/ Sinduri	Rheumatism	Leaf

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