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Ethnobotanical use of plants in Birbhum district, West Bengal, India

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Abstract

An ethnobotanical survey was carried out among tribals of Birbhum district of West Bengal, India. Birbhum is a great biodiversity region. The exploration, identification and documentation on utilisation of ethnobotanical resources are essential for restoration and preservation of Ethnomedicinal knowledge about the plants and conservation of these species for greater interest of human society. Birbhum is a rich diversity of ethnomedicinal plants as well as a rich heritage of traditional medicine practices. A total of 36 plant species belonging and 34 families were reported to be used for treating various physical ailments.

Keywords: ethnobotanical, ethnomedicinal, Birbhum district, West Bengal

Introduction

India is known for Heritage of the knowledge of natural products. Human beings are using various parts of the plants to generate phytomedicine and these are working as panacea for modern cultures, civilizations and societies. Indian people are using medicinal plants from prehistoric period [1]. Plants are the main basis of our daily life and wild edible plants are extensively used in medicine (Ghosh, 2003; Biswas *et al.*, 2011) by the tribe and poor inhabitant peoples in different regions of the world. About 85% of traditional medicines are plant derived [2]. Different Tribal, living mostly in the different remote forest areas and they are use different plant for medicine. From ancient period human have used plants as a source of medicine, because they are available in environment and no side effect.

80,000 plants are used for medicine, like as treat diabetes, skin treatment, diabetes, Stomach disease, Asthma, cough, Breast pain, jaundice etc. According to an estimate of WHO, approximately 80% people of developing countries rely chiefly on traditional medicine for primary healthcare (Ghosh, 2008). It means medicinal plants are the backbone of traditional or folkloric medicines. In the primary healthcare system medicinal plants are the core component for human beings that depend upon the availability, acceptability, compatibility and affordability [3, 4]. Medicinal and aromatic plants are the vital and valuable resources of primary and secondary metabolites which are used as templates for lead optimization programs and are considered to make safe and effective herbal formulations [5]. In India approximately 2000 species are used for medicinal product and vegetables.

Birbhum is one of the smallest District of West Bengal and triangular in shape. It is situated between 23°33' and 24°35' North latitude (Figure 1). The district is full of natural resources and with a large different tribal. A number of plant species are also used as vegetables, medicinal product by the peoples of Birbhum District of West Bengal.

Study Are

Birbhum district of West Bengal, India. Survey was conducted during the period of August, 2021 to January, 2022 and some of the places are Nalhati, Rampurhat, birchandrapur, banior, nachpahari, sultanpur, Chandramyi, Bhobanandapur, Khapur, Mallarpur, Murarai, Kurumgram, Bautia, Haridaspur, kalitha, hitalgram, paikar.

Results and Discussions

Plants are used by the local peoples for their household remedies and various purposes as well as herbal plants. The data has been verified from the ethnic people of different tribal areas who

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lived in Birbhum District. We found Local name and their people. These are follows:
used plant part and ethnobotanical uses from Birbhum's

Table 1: Some important Birbhum district traditional medicinal plants which are used for various human diseases.

SI No.	Scientific Name & Family	Habit	Local Name (Bengali)	Used plant part/ parts and ethnobotanical uses
1.	<i>Azadirachta indica</i> Juss. (Meliaceae)	Tree	Neem	Young leaves used as vegetable. Neem stick used as tooth brush to prevent caries. Leaf juice used in diabetes.
2.	<i>Ipomoea aquatica</i> Forsk. (Convolvulaceae)	Herb	Kalmi sak	Young twig and leaves used as vegetable. Leaf and stem juice used in insect bite.
3.	<i>Ficus hispida</i> L. (Moraceae)	Tree	Dumur	Fruits used as vegetable. White milky latex used in urethritis.
5.	<i>Justicia adhatoda</i> (Acanthaceae)	Herb	Basak	Leaf juice used as expectorant to treat Asthama.
6.	<i>Coriandrum sativum</i> (Apiaceae)	Herb	Dhoney	Young leaves used as vegetable. Seeds are used for cooking. Fruits used as digestive stimulant and anti-vomiting agent.
7.	<i>Hygrophila schulli</i> (Buch.Ham) M.Ret. et. S.M. Almeida (Acanthaceae)	Herb	Kulekhara	Leaf used as vegetable. Leaf extract used to treat anemia.
8.	<i>Andrographis aniculate</i> (Brum.f.) Wall. Ex Nees (Acanthaceae)	Herb	Kalmegh	Whole plant or leaf extract used as diabetes. Young leaf used as vegetable.
9.	<i>Achyranthes aspera</i> L. (Amaranthaceae)	Shrub	Apang; Chirchiti	Root is used to treat sex diseases.
10.	<i>Centella asiatica</i> (L.) Urban (Apiaceae)	Shrub	Thankuni	Leaves used to treat diarrhea, Cold & cough.
11.	<i>Alstonia scholaris</i> (L.) R.B (Apocynaceae)	Tree	Chatim	Latex prevents acidity and child constipation. Leaf juice are used for gastric problems.
12.	<i>Ananas comosus</i> (L.) Merr (Bromeliaceae)	Herb	Anaras	Ripe fruits are edible. Fruit juice used against scurvy.
13.	<i>Calotropis procera</i> (Asclepiadaceae)	Shrub	Akanda	Leaves used to treat wounds.
14.	<i>Tagetes erecta</i> L. (Asteraceae)	Shrub	Genda	Leaf juice applied on cuts.
15.	<i>Basella alba</i> Stewart. (Basellaceae)	Shrub	Puin sak	Root used to treat tuberculosis. Leaf is use as vegetable.
16.	<i>Bombax ceiba</i> L. (Bombacaceae)	Herb	Simul	Root used in bone fracture and blood dysentery. Latex is used in amoebiasis.
17.	<i>Heliotropium indicum</i> L. (Boraginaceae)	Shrub	Hatisur	Root sap is used in eye treatment.
18.	<i>Shorea robusta</i> Gaertn. F. (Dipterocarpaceae)	Tree	Sal	Young leaf use for vegetables Leaf used for plate. Stem-bark is consumed to treat dysentery.
19.	<i>Cajanus cajan</i> (L.) (Fabaceae)	Shrub	Arhar	Seeds are used in food. Leaf decoction beneficial for jaundice.
20.	<i>Ricinus communis</i> L. (BM) (Euphorbiaceae)	Herb	Rerhi	Seed oil used as pain killer. Young twig used as vegetable.
21.	<i>Tamarindus indica</i> L. (Fabaceae)	Tree	Tentul	Young and rip Fruits and Seeds are used for food. Ash of stem bark used to cure wounds.
22.	<i>Ocimum sanctum</i> L. (Labiatae)	Herb	Tulsi	Leaves are used in cough and cold. Young leaf bud used vegetable
23.	<i>Hibiscus rosa-sinensis</i> L. (Malvaceae)	Herb	Jaba	Leaves used to treat burning sensation, fatigue, skin diseases.
24.	<i>Aegle marmelos</i> (L.) corr ex.Roxb. (Rutaceae)	Tree	Bel	Ripe fruits and young fruits are edible. Fruit and seed used in stomach.
25.	<i>Psidium guajava</i> L. (Myrtaceae)	Tree	Piyara	Fruit used as vegetable. Ripe fruits are edible. Bark used to prevent child dysentery.
26.	<i>Curcuma longa</i> L. (Zingiberaceae)	Shrub	Halud	Rhizome paste applied to treat skin diseases and inflammation. Rhizome used as vegetable.
27.	Haigeng (Meich) <i>Zingiber officinale</i> Rosc. (Zingiberaceae)	Shrub	Aada	Rhizome used as vegetable. Rhizome paste used to treat bone fracture and is digestive and stimulant.
28.	Tiksal (Oraon) <i>Tectona grandis</i> L.f. (Verbenaceae)	Tree	Segoon	Leaf bud used as vegetable. Leaf juice used to treat irregular menstrual cycle.
30.	<i>Zizyphus oenoplia</i> Mill. (Rhamnaceae)	Shrub	Sekul	Young and Mature fruits are edible. Stem used in stomachic disorder
31.	<i>Datura stramonium</i> L. Solanaceae	Shrub	Dhatura	Seed used to treat dog bite.
32.	<i>Catharanthus roseus</i> (L.) G.Don. (Apocynaceae)	Shrub	Nayantara	Flowers are used for Puja. Whole plant or leaf extract used to treat diabetes.
33.	<i>Alternanthera philoxeroides</i> (Mart.) Griseb. (Amaranthaceae)	Herb	Santi sak	Young twig used as vegetable. Leaf used in eye and hair problems.
34.	<i>Xanthium strumarium</i> L. (Asteraceae)	Herb	Okra phal	Young twig used as vegetable. Whole plant used in chronic malaria, ulcers, syphilitic and piles.
35.	<i>Commelina benghalensis</i> L. (Commelinaceae)	Herb	Karos sak	Young twig and leaves used as vegetable. Stem juice used in insect bite. Leaf juice used in the blister problem of eye.
36.	<i>Cocos nucifera</i> (Arecaceae)	Tree	Narkel	Fruit used as vegetable. Used for the treatment of liver complaints, to treat diseased skin, teeth.

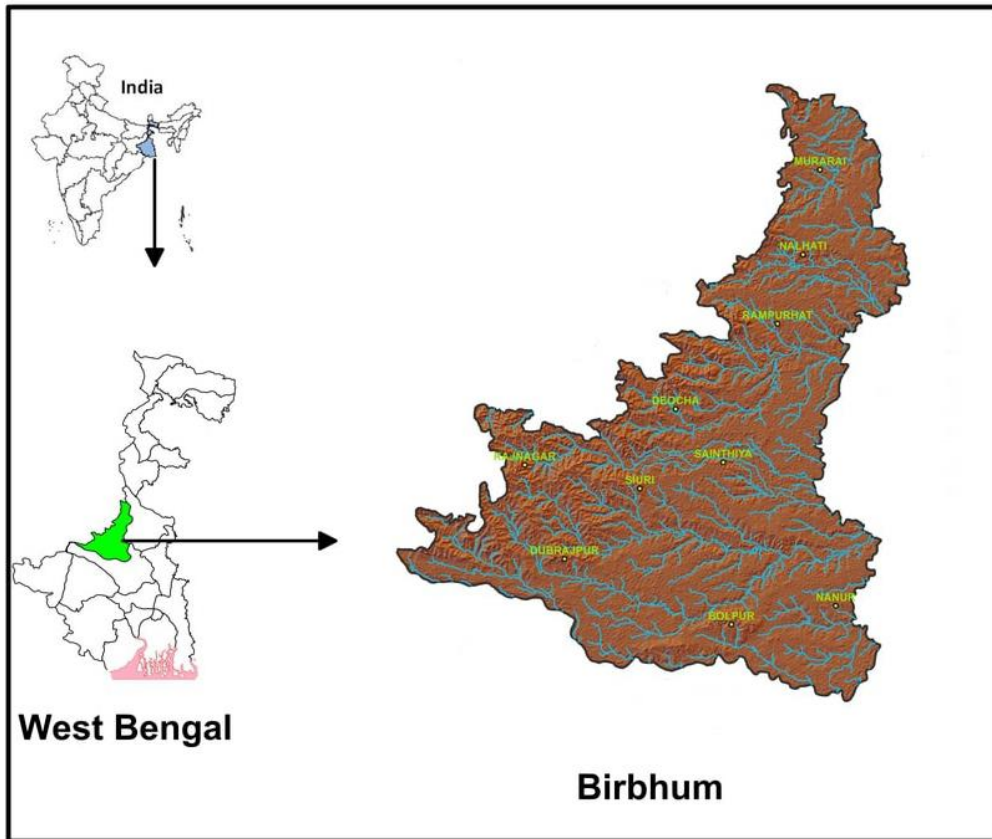


Fig 1: Survey area, Birbhum district of West Bengal, India.

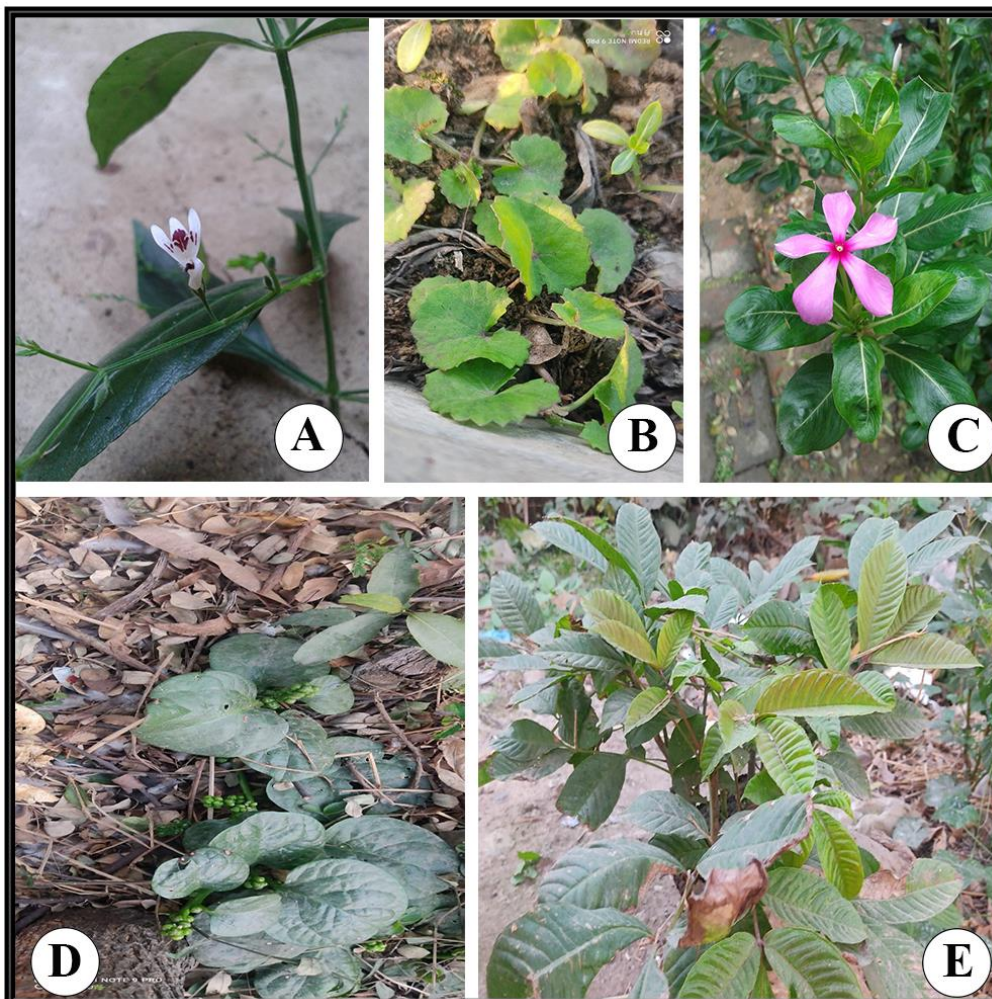


Fig 2: A. Leaf of *Andrographis aniculata*; B. A plant part of *Centella asiatica*; C. Whole part of *Catharanthus roseus*; D. Leaf of *Basella alba*; E. A part of *Psidium guajava*.

Conclusion

Almost in every corner of the Birbhum district of West Bengal, India plants were found to be used as medicine. The herbal preparations made from the traditional medicinal plants were mostly used to treat common ailments prevalent in this region like cut and wounds cough and cold, pain, Stomachache and, for treatment of jaundice and liver problems, eye treatment, treat diabetes, fatigue, skin diseases, tuberculosis. We found that a good number of the collected plants that are used for the treatment of multiple diseases. Therefore, these plants have social as well as economic importance to the daily livelihood pattern of the peoples in this region. But over exploitation of these plants may cause threatened in the wild. Further research needs to be carried out on the investigation of conservation status, socioeconomic importance and nutritional benefit of these plant species

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