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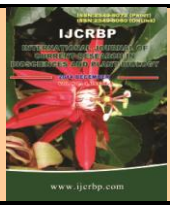

Original Research Article

An Ethnobotanical Survey on Medicinal Plants of Ghatal Block, West Midnapur District, West Bengal, India

Tamal Mondal* and Subir Samanta

Department of Botany, Netaji Mahavidyalaya, Arambagh, Hooghly-712 601, West Bengal, India

**Corresponding author.*

Abstract

This study and survey was aimed to find out the ethno-medicinal plants of Ghatal Block of West Midnapur District, West Bengal, India, which are used to treat the various diseases and disorders. In the present study, 21 medicinal plants belonging to 19 families used as ethno-medicines have been identified. According to this study, identification of the ethno-medicinal plants and associated indigenous knowledge can be used for conservation and sustainable use of medicinal plants in the area and for effective medicinal uses of human beings.

Keywords

Ethno-medicine

Identification

Indigenous knowledge

Medicinal plants

Introduction

It is an established fact that plants serve a potent medicine for curing various diseases of human being. Over the centuries, the use of medicinal herbs has become an important part of daily life despite the progress in modern medical and pharmaceuticals research. Approximately 3000 plants species are known to have medicinal properties in India (Prakasha et al., 2010). Various plant formulations are also used in folk medicine as well as our traditional medicines like allopathy, homoeopathy, ayurvadic, siddha and unani medicines. West Midnapur District of West Bengal, India is famous for its biodiversity as well as for medicinal plants. The study area is the Ghatal Block located in the lower reaches of Shilai River catchment and administratively is located within Ghatal subdivision of Paschim Medinipur district of the state of West Bengal.

Ghatal block is the severely flood affected area which lies between 22 35' 5" to 22 47' 37" North latitude and 87 36' 22"East to 87 49' 8" East longitude. The soil properties and hydrologic condition are quite suitable for agricultural cultivation. The geographical area of Ghatal block is 229.91 sq km and has 12 Panchayats, 156 Moujas and 54591 Households (2011) (Sahoo and Sivaramakrishnan, 2014). Plants are important for pharmacological research and drug development, not only when plant constituents are used directly as therapeutic agents, but also as starting materials for the synthesis of drugs or as models for pharmacologically active compounds (Mukherjee, 2003). The present investigation was aimed to find out the ethnomedicinal plants of Ghatal Block of West Midnapur District, West Bengal, India.

Materials and methods

This investigation mainly based on botanical field trips in the blocks and rural areas of the Ghatal block, mainly inhabited by ethnic tribal communities such as Santhals, Oraon and Mundas. The plants used for their healthcare purpose were recorded through personal interview with the local traditional healers and also local aged peoples during these field works. A pre-prepared questioner was used for this purpose. The plants and their medicinal uses were collected along with plant specimens. The collected plant specimens were preserved and worked out by following standard taxonomic methods and authentic literature (Prain, 1903; Bennet, 1987) for the identification. The local older people as well as traditional healers were the primary informants who were interviewed during this field work and the data have been recorded along with their names, address and the medicinal plants/parts and their traditional uses.

Results and discussion

The results of the study showed a total of 21 ethnomedicinal plants belonging to 19 different families used for different ailments (Table 1). Out of which, the family Acanthaceae contributed a maximum of three plant species namely *Andrographis paniculata*, *Justicia adhatoda* (Syn.: *Adhatoda vasica*) and *Hygrophila auriculata*. The remaining families contributed single ethnomedicinal plant each.

A study conducted at West Rarrh region of West Bengal recorded a total of 46 plant species belonging to 30 families of angiosperms for various ailments (Ghosh, 2008). Chakraborty and Bhattacharjee (2006) reported 57 plant species belonging to 57 genera and 40 families are used as ethnomedicinal plants in Purulia, the western most district of West Bengal. However, the present study region resulted in 21 ethnomedicinal plant species belonging to 19 families.

Leaves of the ethnomedicinal plants reported in the present investigation were found to be used by the majority of the people (16 species), followed by bark (5 species) and roots (3 species). The use of flowers, seeds and fruits was very minimum and they were used for only one ailment each. The highest ethnomedicinal utility of leaves (54%) has been reported by Alagesaboopathi (2014) in Dharmapuri district, Tamilnadu.

Table 1. List of ethno medicinal plants found in Ghatal Block,West Midnapur ,West Bengal.

Local Name (in Bengali)	Scientific Name	Family	Useful Parts	Uses
Kalmegh	*Andrographis paniculata* (Burman.f.) Wallich.ex Nees	Acanthaceae	Leaves	Liver troubles, irregular stools and in worm problems in children, constipation, scabies.
Basak	*Justicia adhatoda* Linn. Syn. *Adhatoda vasica* Nees	Acanthaceae	Leaves, bark	Chronic cold and cough, piles, leprosy, diaebetes,
Punarnava	*Boerhavia diffusa* Linn.	Nyctaginaceae	Leaves, root	Anemia, liver troubles and jaundice, blood impurities.
Seuli	*Nyctanthes arbor-tristis* Linn.	Oleaceae	Leaves	Rheumatism, malaria, bilious fever, cold and cough.
Semul	*Bombax ceiba* L.	Bombacaceae	Roots, bark, flower	Pimples, diaebetes, bilious problems.
Sushni	*Marsilea minuta* Linn.	Marsileaceae	Leaves	Insomnia, blood pressure, asthma, urinary problems.
Patharkuchi	*Bryophyllum pinnatum* (Lam.) Kurz	Crassulaceae	Leaves	Gall bladder stone, piles, stomach problems.
Gadal	*Paederia scandens* (Lour.) Merrill	Rubiaceae	Leaves	Stomach problems, dyspepsia.
Helencha/ Hinche	*Enydra fluctuens* Lour.	Compositae	Leaves	Blood purifier, diabetes, myopia.
Ashok	*Saraca asoca* (Roxb.) de Wilde	Ceasalpiniaceae	Bark, seed	Urinary problems, worms.

Table 1. Cntd…

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Local Name (in Bengali)	Scientific Name	Family	Useful Parts	Uses
Thankuni	*Centella asiatica* (Linn.) Urban	Umbelliferae	Leaves	Blood related problems, diaebetes, cough and cold, constipation.
Telakucha	*Coccinia grandis* (Linn.) Voigt	Cucurbitaceae	Leaves	Skin diseases, burning of hands and legs, stomach problems.
Kata-note	*Amaranthus spinosus* Linn.	Amaranthaceae	Roots	Blood purifier, piles, menstrual problems.
Kolmisak	*Ipomoea aquatica* Forssk.	Convolvulaceae	Leaves	Pox, mumps, to increase breast milk.
Arjun	*Terminalia arjuna* (Roxb. ex DC) Wight and Arn.	Combretaceae	Bark	Broken bones, tuberculosis.
Aswattha	*Ficus religiosa* L.	Moraceae	Bark	Blood purifier, bile problems, wounds.
Kola	*Musa paradisiaca* L.	Musaceae	Leaves, fruits	Skin diseases, cough and cold, bronchitis, insect bite
Kulekhara	*Hygrophila auriculata* (Schum.) Heine	Acanthaceae	Leaves	Children mental problems, bleeding problems.
Hatisur	*Heliotropium indicum* Linn.	Boraginaceae	Leaves	Conjunctivitis, typhoid.
Nunesak	*Hybanthus enneaspermus* (Linn.) F.Muell.	Violaceae	Leaves	Stammering, poisonus stings.
Bramhi	*Bacopa monnieri* (L.) Penn.	Scrophulariaceae	Leaves	Brain tonic, treating mentally affected persons.

Conclusion

The present investigation recorded 21 ethno-medicinal plants belonging to 19 families of angiosperms. Traditional healers collect their plant remedy from local places and conserve their knowledge among selected peoples, if their knowledge will spread throughout the world it is a great achievement for mankind to make low cost, effective potential, natural remedies from plants .However for development of rural tribes and to conserve their knowledge under intellectual property right a vast effort is needed.

Acknowledgement

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