

ETHNOMEDICINAL USES OF *ACALYPHA INDICA* L. IN WESTERN ODISHA, INDIASunil Kumar Sen*¹ and Lalit Mohan Behera²¹Department of Botany, Panchayat College Bargarh: 768028 (Odisha).²Ex-Reader in Botany, Modipara (Near Water Tank), Sambalpur: 768002 Odisha).

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ABSTRACT

The present study was conducted to provide information on the ethnomedicinal uses of *Acalypha indica*, a flowering plant belonging to family Euphorbiaceae. It is a weed herb, found mostly in waste places on road sides as well as forest localities. It is a valuable medicinal plant with multifarious drug properties and hence the tribals and people of other communities use this plant to cure several diseases and ailments. The voucher specimen collected has been preserved in the herbarium of Botany Department, Panchayat College, Bargarh.

KEYWORDS: Ethnomedicine, *Acalypha indica*, Western Odisha.

INTRODUCTION

Odisha is one of the 28 states in India and is located at the eastern part of the peninsular India, bounded by Bay of Bengal in the east and Chhattisgarh in the west and north-west, West Bengal is located in the north-east, Jharkhand in the north, Andhra Pradesh in south. The state has an area of 1, 55,707 sq. km.

The western part of Odisha comprises of 10 districts such as Boudh, Kalahandi, Bolangir, Subarnapur, Nuapada, Bargarh, Sambalpur, Jharsuguda, Deogarh and Sundargarh. This part of Odisha is lies between 19°10' to 22° 42' N latitude and between 82° 30' to 85° 22' E longitude. It covers an area of 47,157 sq. km with total forest coverage of 19,189.59 sq. km. This region has a lot of mountainous and hilly interspersed with rivers and valleys. Two main rivers such as river Mahanadi and river Brahmani are flow through this area and Jeera, Ang, Tel and Ib are some of the main tributaries. Besides this several undulating hills are present in the western part of Odisha. Some of them are Gandhamadan, Barapahad, Jhanjpahad, Bankeem, Tongri Dogen, Bankasam, Dadasar, Champaghar, Mardisoru, Badpati, Makandnacha and Kotpara. There are 42 types of tribal groups inhabiting in this region of Odisha with a total population of 2, 69,375 (Census, 2011). The dominant tribes are Kondh, Gond, Binjhal, Sahanra (Soara), Munda, Kisan, Kharia, Bhuiyan, Oran, Mirdha, Binjhia, Dal, Savar, Lodha, Bhotoda and Parja.

Acalypha is a flowering weed plant of the family Euphorbiaceae and is well known for its multifarious medicinal uses. The plant comprises about 460 species

and are mostly found in warm temperate regions, excluding Europe.^[1] It is widely distributed throughout the plains of India and is also used in traditional medicinal system of India. The innumerable medicinal properties and therapeutic uses of *Acalypha indica* as well as its photochemical investigations prove its importance as a valuable medicinal plant. It is locally known as 'Kaphgajri', 'Kaphkaturi'. In English it is called as 'Indian Copperleaf', 'Indian Mercury'; in Hindi 'Kuppi' and in Sanskrit it is called as 'Harita manjari'.

Acalypha indica is a popular medicinal plant in Ayurveda. It has been reported to possess hepatoprotective, anti-inflammatory, antitussive, antibacterial, antifungal and have also wound healing properties.^[2] Some earlier study on this plant revealed that the different plant parts such as root is used as tonic, astringent, febrifuge and strong purgative.^[3] The roots are used in chest pain, joint pain, and migraine and blood dysentery and lowering blood sugar.^[4] Root is useful in fever, heart diseases, retained excretions and biliousness.^[5] Leaves are used in jaundice, piles, rheumatism, ulcers and also external skin eruptions, ring worms, eczema and leaves extract are applied to pustules, insect bites.^[6] Juice of leaves is used in scabies and other skin diseases.^[7] The plant extract/ decoction is useful in asthma, pneumonia and rheumatism.^[8]

Botanical classification

Kingdom- Plantae
Phyllum- Tracheophyta
Class- Mangnoliopsida
Order- Euphorbiales
Family- Euphorbiaceae

Genus- *Acalypha*
Species- *Indica*

Brief description of the plant

It is a small herb of about 60- 70 cm height. Leaves alternate with long petiole, 3-5 cm long, ovate to rhomboid, serrate; petiole 1.5 – 5.5 cm long. Inflorescence is in axillary spikes. Male flowers minute, ebracteate, pale-green to yellow, found in the upper part. Female flowers below male flowers. Females flowers in foliar bracts. Fruit capsule, green with 1-seeded, aloid, glabrous.

Flowering and fruiting mostly in July to December.

Distribution: It occurs throughout plains of India, ascending the hills of Odisha up to 1500 m.

MATERIALS AND METHODS

Ethnomedicinal survey was conducted in different forest localities of western Odisha during 2015-17. People of different communities were contacted to gather information on ethnomedicinal uses of the collected species. An interview was conducted among the tribal traditional healers, *Kabirajs*, *Vaidyas*, experienced old men and women, village head and they have extended their cooperation and contributed their knowledge regarding the ethnomedicinal uses of *Acalypha indica*. The plant has been identified with some regional flora.^[9-10] The ethnomedicinal uses of *Acalypha indica* were compared with some relevant scientific literature.^[3-6,11-23] and found that the uses (except with asterisk marks) are not reported earlier or if reported then it differs from the use of the plant parts, hence it is presented in this paper. The collected plant specimen has been preserved in the herbarium of Botany department, Panchayat College, Bargarh.

Ethnomedicinal uses

Several earlier study on this plant revealed that the plant is of great importance and has been utilized by the tribal and non-tribal people of western Odisha to cure various diseases and ailments. The followings are the ethnomedicinal uses as reported by the local inhabitant of the study area.

1. Vomiting: Fresh leaf extract (3 ml) is taken 1-2 times daily to get rid from vomiting.
2. Diarrhoea: leaf extract (5 ml) is taken 2 times daily.
3. Earache: warm leaf extract (2-3 drops) is poured in to the ear.
4. Arthritis: Root extract (3-5 ml) is taken twice daily.
5. Dental problem: Stem is used as tooth brush.
6. Epilepsy: Leaf extract is applied over the eye lid to get rid from epilepsy. Leaf extract (5-6 drops) is poured in to the nostrils.
7. Paralysis: Root paste (5 gm) is taken twice daily.
8. *Itch, Scabies and Ringworm: Leaf paste and lime or salt are mixed together and applied over the affected part.

9. *Utricaria: Whole plant decoction and *Ricinus communis* seed oil are mixed together and massaged over the affected part.
10. Toothache: Leaf extract is applied on the affected area for some time.
11. Anthelmintic: The panchang (root, stem, leaf, flower and fruit) extract (3-5ml) is taken 1-2 times daily in empty stomach.
12. *Headache: Panchang extract is soaked with a cotton wick and inserted into the nostrils for some time.
13. *Asthma and cough: Leaf extract (5 ml) is taken 2 times daily.

CONCLUSION

The innumerable medicinal properties and therapeutic uses of *Acalypha indica* prove its importance as a valuable medicinal plant and that is why it attracts a number of scientists of different branches to work on it. The new uses may be beneficial to the scientists working on this plant for further study in pharmacology and biochemistry for safe use by the future generation. The people of the study area have a strong faith and belief on the efficacy of the crude method of preparation. It is evident from the above study that the plant is used by the local people in huge amount and that is why it is doubtful about the existence of the plant in near future. However the plant may be conserved and preserved through cultivation in large scale which will fulfil the requirement of the pharmaceutical companies.

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