

## **Ethnomedicinal Observations among Forest Dwellers of the Daitari Range of Hills of Orissa, India**

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### **ABSTRACT**

Studies on hill tribes' dependence on forest for their livelihood security are few for Orissa. Ethno medicinal observations in the state with a rich diversity of medicinal plants are still meager. The present study enumerates 21 plant species belonging to 18 families used in the treatment of various diseases among the tribes of Daitari Hill ranges of Orissa. The forest dwellers usually collect those rare plants from the nearby forest which is easily accessible and the medicines are prepared under the guidance of Vaidya or the village medicine man and are applied according to the dosage prescribed by the Vaidya. So this article gives an idea about the application of traditional medicines against various common and serious diseases.

**KEY WORDS:** Daitari Hill Ranges, Traditional medicine, Indigenous communities, Vaidya or village medicine man.

### **INTRODUCTION**

The Indian subcontinent is well known for its rich diversity of medicinal plants and age old healthcare tradition. Medicinal plants provide affordable means of primary health care to the rural poor and marginalized people. A great deal of traditional knowledge about the uses of different plant species is still intact with these ethnic people. About 200 plant species are used in Siddha, Unani and Ayurvedic medicines and over 150 species are used commercially on a fairly large scale.

Orissa has a rich diversity of medicinal plants. But the medicinal plant sector is less documented <sup>(1-6)</sup>. Researches on medicinal plant diversity in Orissa, therefore, have great potentials to contribute to the sustainable livelihood of the indigenous communities living in different ecological habitat, by ensuring access to affordable traditional medicines for common ailments.

As part of a comprehensive study on the biomass utilization pattern in a village eco-complex, this paper deals with the traditional uses of medicinal plants by the indigenous people living in the Daitari range of hills of Orissa, India.

## STUDY AREA

This ethno botanical study was conducted in the Daitari range of hills of Keonjhar and Jajpur districts of Orissa. The district of Keonjhar, lying between 21°1'N and 22°10'N latitude and 85°11' E to 86°22' E longitude presents a panorama of millennia, both from the geographical and anthropological point of view. Spread over an area of 8,240 Sq. kms, it is as varied as the whole of Orissa with water-falls roaring gorges, mountains and minerals. The manifold expressions of nature in this district are unique in Orissa. About half of the area of this district spreading about 4043 sq.kms. Is covered by forests of Northern tropical moist deciduous type and contains Sal, Asan, Piasal, etc.



The river Baitarani comes out of Gonasika Hills and flows to the north touching the border of Singhbhum district of Jharkhand. It again flow East entering Anandapur Sub-division and the district of Bhadrak. The soil is mostly red throughout the district and in the South there is a small patch of black cotton soil. The important minerals available in huge quantity in the district are Iron-ore, Manganese and Chromites.

The climate of the district is characterized by an oppressively hot summer with high humidity. Summer generally commences in the month of March. Temperature begins to rise rapidly attaining the maximum in the month of May. During the summer maximum temperature is 38.2<sup>0</sup> C. The weather becomes more pleasant with the advent of the monsoon in June and remains as such up to the end of October. The temperature in the month of December is lowest i.e. 11.7<sup>0</sup> C. Sometimes it even drops down to 7<sup>0</sup> C. The average annual rainfall is 1534.5 mms.



The Scheduled Tribes of Keonjhar district which totaled 4,99,657 in 1981 census increased to 5,95,184 in 1991 census thus registering a growth of 11.90% in a decade (1981-1991). As per 1991 census there were 46 Scheduled Tribes in the district. Out of these the principal tribes were Bathudi, Bhuyan, Bhumij, Gond, HO, Juang, Kharwar, Kisan, Kolha, Kora, Munda, Oraon, Santal, Saora, Sabar and Sounti. These sixteen tribes constituted 96.12 % of the total tribal population of the district.

## METHODOLOGY

The Ethno medicinal observations were carried out in the five selected hamlet villages of Baliparbat area of Daitari Hill range of Keonjhar district, Orissa, India. The tribal population of this area includes Munda, Majhi and Sabar communities. More than 60% of the population depends on indigenous herbal drugs for their primary healthcare. The experimental villages were selected randomly representing different tribal communities. From each village the village headman and elderly persons were interviewed to study their dependence on plants for treatment of diseases they suffer from. Structured questionnaires were prepared to facilitate data collection as most of the respondents were illiterate. The native health-practitioners are known as “Vaidyas”. Structural interviews were conducted using questionnaires supplemented by group discussion. Frequent visits to those villages were made for spot verification of collection of rare medicinal plants and application as traditional medicines against various diseases.

The voucher specimens of the medicinal plants collected from the area were numbered and deposited in the Herbarium of the P.G. Department of Botany, Ravenshaw University, Cuttack. The specimens were identified with the help of local flora (Saxena and Brahmam, 1994-1996). The plant

specimens with nomenclature are arranged alphabetically followed by their family name (within parenthesis), Oriya name (O), English name (E) and Locality name along with voucher serial number.

## **OBSERVATIONS**

### **1. *Abrus precatorius* L. (Fabaceae)**

Kaincha (O), Crab's eye (E), Champanagar – 25

\*About 20 mg dry leaf powder is taken with cold water once daily for about 15 days to cure Leucorrhoea.

\*Freshly prepared and gently warmed leaf paste along with mustard oil is applied on the affected part to get relief from rheumatic pain.

\*About 10 mg of juice extract from seeds is taken orally twice daily for 2-3 days for abortion in early stage of conception.

### **2. *Achyranthes aspera*. L. (Amaranthaceae)**

Apamaranga (O), Prickly Chaff Flower (E), Nuasahi-70

\*Stem juice is applied on the root of the teeth to stop bleeding from the gum.

\*About 20 mg. of leaf juice is administered orally to the pregnant woman for easy delivery.

\*The leaves and inflorescence are boiled and the decoction is taken twice daily to cure fever.

\*Root or leaf paste is applied to cure boils in their early stage.

### **3. *Acorus calamus*. L. (Araceae)**

Bacha (O), Sweet Flag (E), Bandhasahi – 55.

\*About a half teaspoonful of powder prepared from dried rhizome is taken twice daily to cure asthma.

\*Half teaspoonful of rhizome powder is taken in empty stomach once in morning to increase appetite.

\*Freshly crushed rhizome is chewed for the treatment of dysentery.

### **4. *Aegle marmelos* Lorr. (Rutaceae)**

Bela (O), Bael tree (E), Champangar – 32

\*Two or three fresh leaves are chewed daily in empty stomach to cure severe gastritis and to reduce blood sugar level.

\*About one teaspoonful of dried leaf powder prepared from the leaves of Bael and Neem in equal proportion to reduce blood sugar level.

\*Leaf paste is applied in the affected part to cure burn injuries.

### **5. *Bauhinia vahlii* Wt. & Arn. (Caesalpeniaceae)**

Siali (O), Camel's foot climber (E), Bandhasahi – 88

\*Seed decoction (10 ml) is taken twice daily in empty stomach for the treatment of diabetes.

\*About 20 mg dried seed powder is taken orally along with water to cure diarrhoea.

\*Leaf paste is applied to cure pimples on the face.

**6. *Bombax ceiba* L. (Bombacaceae)**

Simili (O), Red Silk Cotton Tree (E), Nuasahi – 80

\*Fresh roots are grinded with water and applied on the affected part to get relief from pain due to boils.

\*Paste prepared from fresh root along with sugar candy is taken by females to restore fertility.

**7. *Dendrocalamus strictus* Nees (Poaceae)**

Salia Baunsa (O) Solid Bamboo (E), Hurlabahali – 42,

\*Wounds and cuts are treated with powder prepared from leaves and outer layer of stem.

**8. *Erythrina variagata* L. (Fabaceae)**

Paladhua (O), Indian coral tree (E), Nuasahi – 74.

\*Inhaling of well crushed leaves by nostrils relieves from the headache.

**9. *Fucus benghalensis* L. (Moraceae).**

Bara (O), Banyan tree (E), Nuasahi – 72.

\*About 20 ml of juicy paste prepared from tender tips of prop root is taken in empty stomach once daily for 21 days for treatment of nocturnal emission and restores vigour and strength in nerves if taken along with goat milk.

**10. *Gymnema sylvestre* R.Br.ex.Sch. (Asclepiadaceae)**

Gudamari (O), Gudmani (E), Champanagar – 28

\*Seven fresh leaves are chewed daily in the morning in empty stomach for seven days to reduce blood sugar level.

**11. *Hemidesmus indicus* L. (Asclepiadaceae).**

Anantamula(O), Indian Sarsapa rilla (E),Bandhasahi-98

\*About 10 mg of root paste is taken with coconut water in empty stomach for seven days to cure jaundice.

\*Leaf juice (10 ml) is taken thrice a day to cure fever.

\*About 5 mg of root powder is taken with Luke warm water thrice daily for about 21 days to cure rheumatic pain.

**12. *Justicia adhatoda*. L. (Acanthaceae).**

Basanga (O), Justicia (E), Daitari Hill top – 102.

\*Leaf decoction (about 20 ml) taken with honey twice daily in empty stomach for 7–10 days to cure acute cough and cold.

\*Powder made from leaf is taken with warm water once daily for 20 days to get relief from rheumatic pain.

**13. *Madhuca indica*. Gmel. (Sapotaceae)**

Mahula (O), Butter tree (E), Vatisahi – 50

\*Powder obtained from dried leaves is applied to cure burn injuries.

\*Flower decoction (20ml) is taken twice daily for about 2 weeks for treatment of asthma.

**14. *Ocimum sanctum* L. (Lamiaceae)**

Tulsi (O), Sacred basil (E), Nuasahi – 78

\*Leaf juice with honey is taken in empty stomach for treatment of cold and cough.

\*3 to 4 fresh leaves are chewed along with honey daily in the morning in empty stomach to prevent malaria.

\*About 10 ml of leaf juice is taken in empty stomach for 15 days to check excess urination.

**15. *Pongamia pinnata* L. Pierre. (Fabaceae)**

Karanja (O), Indian Beech (E), Nuasahi – 79

\*Tender twig is used as tooth brush to cure pyorrhoea.

\*Oil extracted from seed is massaged on the body to cure skin disease.

**16. *Rauvolfia serpentina*. L. Benth.ex.Kurz. (Apocynaceae)**

Patalagaruda (O), Rauvolfia (E), Bandhasahi – 53

\*About 10 ml of root paste is taken orally for treatment of snake bite.

\*Bark obtained from root is grinded with water and about 10mg of this paste is taken with cold water to cure stomach ache.

\*About 5mg root paste is taken twice daily in empty stomach for a week for the treatment of high blood pressure.

**17. *Saraca asoca* (Roxb.)deWilde (Caesalpiniaceae)**

Ashoka (O), Ashoka tree (E), Champanagar – 20.

\*Powder prepared from dried petals of the flower is taken with cold water twice daily in empty stomach to cure dysentery.

\*About 20 ml. of bark decoction is taken in empty stomach twice daily for about a month to cure irregular menstruation and excessive bleeding.

**18. *Smilax zeylanica* L. (Liliaceae)**

Muturi (O),Muter(E), Nuasahi – 75

\*About 20 ml of root decoction is taken for 15 days to cure rheumatic pain.

\*Root paste is taken for a week to cure venereal disease.

\*Powder of dried root is applied on chronic ulcers.

**19. *Streblus asper* Lour. (Moraceae)**

Sahada (O), Nuasahi – 76

\*Regular brushing of teeth by fresh tender twigs cure toothache.

\*Root paste is used against dog-bite.

\*Leaf paste with castor oil is applied to cure eczema.

### **20. *Syzygium cumuni* L. Skeels. (Myrtaceae)**

Jammu Coli (O), Java plum (E), Champanagar – 15.

\*About 20 ml fruit juice is taken once daily in empty stomach to cure dysentery.

\*About 10 mg of dry seed powder is taken in empty stomach for 7-10 days reduce blood sugar.

### **21. *Terminalia bellirica* Gnerta. Roxb. (Combretaceae)**

Bahada (O). Beleric myrobalan (E), Bandhasahi – 51

\*Powdered fruit is taken orally to get relief from indigestion and acidity.

\*100 ml of decoction of fruit is taken once in the early morning for 7 days for the treatment of piles.

## **DISCUSSION**

The floristic wealth of the tribal habitat provides various plant species which are used by the tribal people as food, fuel, fiber, house building materials etc. Besides these basic needs, which are met with, the tribal of the study area heavily depend on the ecosystem for their primary healthcare. They use the local

Herbal medicine prepared from plant materials with strong religious-spiritual belief.

The study reveals the data on the uses of 21 plant species of 18 families for the treatment of different diseases. The herbal medicines are mostly administered in the form of juice, decoction, paste or powder, prepared in a crude method from different plant parts such as root, bark, leaves, flowers, fruits, seeds and whole plant. Tradition and beliefs are the only basis of use of the herbal medicines.

The knowledge of this traditional healthcare system is passed from generation to generation in oral form. The plant species identified as such for the treatment of different diseases, need chemical analysis to prove their efficacy. This will definitely help the Pharmaceutical industry to develop some wonder drug in a hygienic way for the betterment of the mankind.

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