IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

# Uses Of Ferns Species By Rajbanshi People Of Cooch Bihar Of West Bengal.

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**Gushkara, Purba bardhaman**

**Abstract**

The study enumerates the Pteridophytes widely used by the people of Rajbanshi community and other tribes (Koch, Rava, Mech, etc.) in the treatment of various diseases in Mekhliganj a block under the district of Coochbehar of West Bengal State. They grow in terrestrial or epiphytic habitats. The present study deals with the ethno medicinal uses of available Pteridophytes which are prevalent in the study area, along with botanical name, family, habitat, plant parts used and mode of uses with their Photographs. The present study focus specifically on the ethno medicinal importance of Pteridophytes mainly observed in the study area, used by them and other aboriginal tribes residing in this region. The botanical name, family name, vernacular name, and their ethno medicinal uses with their original photographs are provided. The Rajbanshi and other tribes carried out a field survey of the study area to document the medicinal utility of plants occurring in the area. Traditional uses of these plant species are described in this paper.

Key words: Ethno medicine, Pteridophytes, Rajbanshi

## INTRODUCTION

The Pteridophytes considered the primitive vascular plant group, which are scattered all over the world. In comparison to higher plants, they have found little applications in medicine. The Pteridophytic plants are thought by most people to be useless members of the plant kingdom. Being a group of lower plants, it remains unattended and their useful aspects are largely ignored. Nevertheless, ferns had an important role in folk medicine. These plants have been successfully used in the different systems of medicines like Ayurvedic, Unani, Homeopathic and other systems of medicines. Obviously, ferns and its allies make fundamental contributions to human health

care needs. However, these can be used for food, fiber, crafts, building material, abrasives, and decoration, and as medicine, (Shankar and Khare, 1994; Vasudeva, 1999 and Shrivastava, 2007 a and b).India is blessed with rich and diverse heritage of cultural traditions. These traditions are associated with the use of wild plants as medicine. Interest on ethno medicinal plant research has increased dramatically in the present days. Each ethnic community has their own health care system, their ancient knowledge, sometimes referred to as ethno therapeutics.

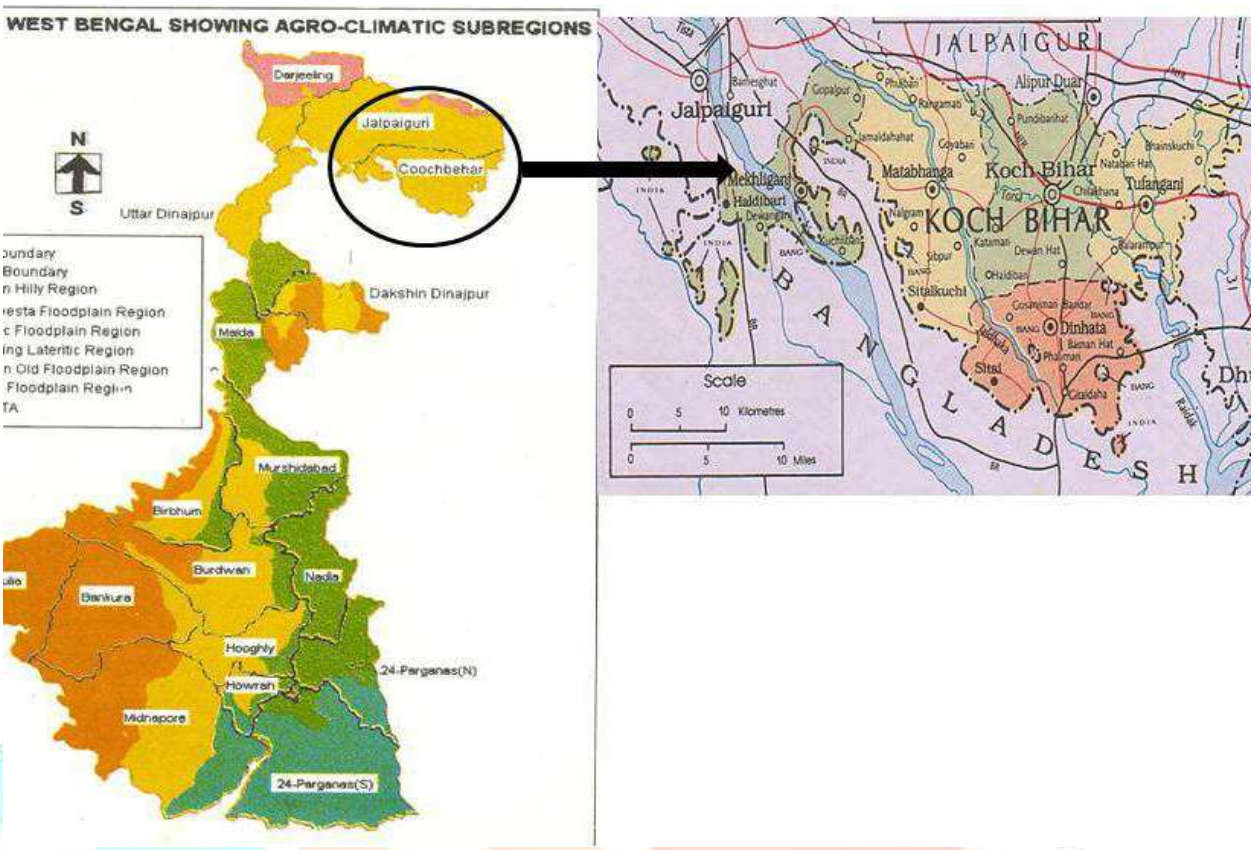
More than 1200 species of fern and fern allies have been reported from India (Dixit, 1984). It is Fern allies and Ferns, which have now been recorded as valuable drug yielding plants. Probably Caius (1935) is the first man who described the medicinal utility of ferns of India for the first time. Later on Nayar (1957) contributed to the same. Vyas and Sharma (1988) and Padala (1988) contributed to the ethno botanical and medicinal uses of Pteridophytes. Kaushik and Dhiman (1995) published a compiled account on common medicinal pteridophytes of India.

Today, ethno botany has become a crucial area of research and development in resource management and conservation of biodiversity. In the present paper, attempt has been made to gather indigenous information about the use of some common Pteridophytic plants, which may be further exploited for the benefit of society. The botanical name, family name, vernacular name, and their ethno medicinal uses with their original photographs are provided in this paper.

## MATERIAL AND METHODS

### Study area with Map

Mekhliganj is a marginal CD Block of Cooch Bihar district, delimited by Jalpaiguri district on north and Bangladesh on south, Haldibari Block on west and Mathabhanga on east and watered by the river Tista, Dharla, Saniajan, Sutunga and numbers of other small stream. Mekhliganj is the plain area under foothills of Dooars is one of the best habitat for fern population. It is located at 26°21′N 88°55′E has an area of 288.64 km with the elevation of. The area is humid and average rainfall* now covered with full of tea garden and naturally growing plantation. Fern population of this area is very little known to the pteridologists. People of Rajbanshi community are culturally and economically associated with fern As per 2011, Census of India. Mekliganj CD Block had a total population of 155,250, of which 150,767 were rural. Scheduled Castes numbered 110,595 and Scheduled Tribes numbered 1918 mainly of Santhal community are mainly confined to kuchlibari GP in Mekhliganj Block. Total Area available for cultivation in Mekhliganj CD block is 23,431 hectare. Raw data's are collected from jamaldaha forest, bank of sutunga river, vicinity of mou-priya tea estate, mainak tea estate and kuchlibari area for our present paper.




The ethno botanical data, gathered from tribal medicine men practicing in the study areas. The collection of specimens and indigenous data was done during 2014-2015. The information given by them regarding the medicinal uses of pteridophytes is recorded and interpreted.

**RESULT**

All known 20 species of Pteridophytes are encountered for the study area. Botanical names, family name, plant parts used, mode of use with their original photographs are enumerated below

**TABLE : 1. ETHNO MEDICINAL USES OF PTERIDOPHYTES IN TUBULAR FORM**

| SCIENTIFIC NAME/ FAMILY/LOCAL NAME | PLANT PARTS USED | USE | PHOTOGRAPH (ORIGINAL) |
|---|---|---|---|
| ***Adiantum incisum*** **(Adiantaceae) Maidenhair fern/ Hanspadi** | Leaves | The leaf powder is used to reduce the burning of the external part of the body.Leaf juice is used in skin diseases. |  |
| ***Ampilopteris prolifera*** **(Thelypteridaceae) Scrambling fern** | Leaves and Rhizoids | Leaves and rhizoids paste is used as a tonic with warm milk. The leaf-sap is drunk to treat meningitis and encephalitis.The young fronds are laxative. |  |

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| ***Blechnum occidentale*** **( Blechnaceae) Hard fern** | Young leaves | Young leaves are eaten as vegetables and used to induce sterility in women. Total sterility can be achieved by eating new leaves for four successive days and repeat the treatment after fortnight. |  |
| ***Christella dentata*** **(Thelypteridaceae) soft fern/downy wood fern** | Whole plant and frond powder. | Whole plant juice ia mixed wih rice starch to cure urinary infection. The frond powder is used to relief cough & fever. The decoction is also used against Malaria and Bronchial disease. |  |
| ***Cheilanthes tenuifolia*** **(Sinopteridaceae)** | Fronds, Rhizome and root | Fronds paste are applied on abscess in the from of poultice to liberate pus and also used as antiseptic. The poultice is given once a day till the abscess is cured. Rhizome and root extracts are also used as a general tonic. |  |

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| ***Cyathea*** **(Cyatheaceae) Tree fern** | Pith of the Stem | Extract obtained from the pith of this fern has been traditionally used for treating wounds and diarrhea among other ailments. |  |
| ***Davallia*** **sp. (Davalliaceae) Deer's foot fern/hare'sfoot fern/rabbit's foot fern** | Rhizomes and Leaves | Rhizomes used as herb tonic and for treatment of osteoporosis and arthritis For newborns having difficulty sleeping, leaves are boiled in water, and the baby bathed in the cooled tea until calmed. |  |
| ***Dicranopteris linearis*** **(Gleichinaceae) Underwood** | Fronds | Fronds are used in asthma and aqueous extract of fronds used in fever. It is also used as an anthelmintic. The fronds of young plant are used to remove sterility in women by grinding them with cow milk. Freshly extracted fronds juice is slightly heated and the decoction is taken internally during throat pain. |  |

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| ***Diplazium esculentum*** **(Athyriaceae)** | Rhizomes and Fronds | The rhizomes are used to check them from insect and pests. Circinately coiled young and fresh frond is boiled with salt and taken internally for maintaining all round health. |  |
| ***Dryopteris cochleata*** **( Dryopteridaceae)** | Young leaves and Rhizomes | The young leaves are used in eczema and as anthelmintic. Whole plant extract is given in case of snake bite. Plant paste is applied on bite wound to prevent infection. The rhizome is antibacterial and antiepileptic. A small portion of powdered rhizome is taken with water twice daily in rheumatic fever and leprosy. It is also used in amoebic dysentery. |  |

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| ***Lygodium japonicum*** **(Lycopodiaceae or Schizaeaceae)** | Rhizome, Roots and Rachis | In skin diseases rhizome powder is used. Plants are used as expectorant, rheumatism, sprains, scabies, eczema and cut wounds. Fresh roots boiled with mustered oil used in carbuncles and rheumatism. Rachis of the plant tied over forehead to reduce headache. Rhizome is applied for piles, herpes and is also tied on the waist, plant juice is given to relieve fever. It is an antiovulatory and also used in the treatment of jaundice. |  |
| ***Marsilea minuta*** **(Marsileaceae)** | Whole plant | Plant used in cough, spastic conditions of leg muscles, in sedation and insomnia. Tribals cook the leaves as vegetable. The decoction of leaves along with ginger is used to cure cough and bronchitis. It is useful in psychopathy, opthalmia, stranguary, diarrhea,leprosy, skin disease, haemorrhoids, dyspepsia and fever. |  |
| ***Microsorium*** **sp. (Polypodiaceae)** | Rhizoids and Leaves | Chewed rhizome of the rhizoids is applied to lizard bites , rhizome paste containing is applied to the abdomen to treat difficult labour. It is also used as a remedy for chronic diarrhea. The juice from the leaves is used as a purgative, diuretic and to heal |  |

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| | | wounds. The leaves have been used to cure fever | |
| ***Onychium siliculosum* (Pteridaceae)** | Leaves | Juice from the crushed leaves of *O. siliculosum* is said to be a good preventive for baldness. A decoction of the leaves is used as a remedy for dysentery. it has been also used by the tribal people as laxative agents. |  |
| ***Asplenium viviparum (Aspleniaceae*** | leaf | It is ornamental plant and have the quality of conversion of $Co_2$ making it the best air purifying agent. |  |
| ***Polypodium* (Polypodiaceae) polypodies or rockcap ferns.** | Root and Rhizome | Roots are used as sweetener and as a purgative and vermifuge. The dried rhizome is used in as a purgative.Tribal people use the root powder for certain skin problems including |  |

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| | | sunburn, eczema and also use in alzheimer's disease. | |
| ***Selaginella* sp. (Selaginallaceae) spike moss** | Whole plant body | This plant is used to cure wound, menstrual disorder, skin disease, headache, fever,infection of urethra,rheumatism, bone fracture etc. |  |
| ***Pteridium aquilinum* Dennstaedtiaceae** | Leaves | It is believed to reduce joint pain |  |
| ***Lygodium circinnatum* Schizaeaceae** | **Leaf** | Mainly used as fibre. It is also used to wear in leg to reduce rheumatic pain |  |

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| ***Ceratopteris thalictroides*** **(Pteridaceae)** | **Leaves** | The plant can be used as manure and Its leaf decoction is used to treat in skin disease. |  |

## DISCUSSION

The study area is excellent place of rich biodiversity. The tribal community is solely depends on the forest products, not only this, they have their own herbal health care system. In this these peoples use various plants and their products to combat with numerous human diseases. There are several reports reciting the ethno medicinal uses of higher plants found in this area (Kambale and Pradhan, 1980; Shankar and Khare, 1994; Naik, 1998; Vasudeva, 1999; Rothe et al., 2004; Shrivastava, 2007 a and b). having medicinal importance. Nayar, (1959) recorded 29 medicinal ferns. May (1999) published a detailed review of the various uses of ferns and listed 105 medicinal ferns. Singh and Singh (2012) reported on useful pteridophytes on the basis of phytochemical, pharmacological, and ethnobotanical studies from Pachmarhi biosphere reserve of Madhya Pradesh. Similar reports on the use of pteridophytes as medicinal purposes are very limited (Benjamin and Manickam, 2007).

However, similar reports on the use of member of lower plant group as medicine are very scars. We attempted here to gain the indigenous knowledge of tribal peoples about the use of lower plant group members in medicine system of the community. The tribals of this area are found to use some common Pteridophytes in their routine health care system to treat the diseases like cold, fever, skin diseases, mental disorders, abdominal and respiratory disorders and sexual problems. Fifty important members (Pteridophytes) of ethno medicinally used lower plant group, which are used by the peoples of tribal communities. Here it is tabulated only twenty species of medicinally used pteridophytes.

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