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# Ethnomedicinal Importance of Pteridophytes Used by Reang tribe of Tripura, North East India

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## Abstract

The present study mainly focuses on the ethnomedicinal importance of Pteridophytic floras used by the Reang tribes of Tripura state, India. As many as 16 pteridophytic plants species belonging to 14 genera and 10 families are presented in this research article. The botanical name, family name, vernacular name, habit, and their ethnomedicinal uses are provided.

**Keywords:** Pteridophytes, ethnomedicinal plants, Reang tribes, North East India.

## Introduction

The value of medicinal plants to human livelihood is essential and infinite. Obviously they make fundamental contributions to human health care needs. 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 ethnomedicinal 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. Over the years, folklore medicine has proved to be an invaluable treasure in present day screening of drugs.

The pteridophytes considered to be the primitive vascular plant group which are scattered all over the world. More than 1200 species of fern and fern allies have been reported from India (Dixit 1984, Chandra 2000), though new genuine findings are made from time to time. Being a group of lower

plants, they are always neglected and their useful aspects are largely ignored. Very less attention has been given towards the utility of pteridophytes though they possess economic importance and medicinal value as well.

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. Chowdhury (1973), Vyas and Sharma (1988) and Padala (1988) contributed to the ethnobotanical and medicinal uses of Pteridophytes. Kaushik and Dhiman (1995) published a compiled account on common medicinal pteridophytes of India. Dutta Choudhury and Bhattarcharya (1996) reported *Dipteris wallichi* from Hailakandi district of Assam. Das (2007) has reported fern and fern allies of Tripura.

Tripura is one of the hilly states in N.E Region of India located between $22^0$ –56/ to $24^0$ – 32/ North latitude and between $90^0$ – 09/ to $92^0$ – 20/ East longitude. It is bounded on the North West, South and South East by Bangladesh, where as in the East it has a common boundary with Assam and Mizoram. Total area of Tripura is - 10496 Sq. Km. The forest of Tripura is divided into 2 major categories. These are - Evergreen forest and Moist deciduous forest. Evergreen forest occupies the more humid areas of the state.

Reang is the second most populous tribe of Tripura. Total Reang population of the state is 1,43,478. Out of the 19 scheduled tribes, the Reangs mostly residing in inaccessible forest areas were recognized in the seventies by Government of India as the only Primitive Tribal Group (PTG) in Tripura.

There are very few reports on ethnomedicinal uses plants found in this area (Deb 1968, 1975, 1976, 1978 and 1981; Devbarma 1976; Datta and Chakraborty 1983; Singh *et al*. 1997; Shil and Sharma 2002; Chakraborty 1989 and 2003). However, similar reports on pteridophytes are very scars. Deb (1961), Das (1991 and 1992) worked on fern flora of Tripura state. Again in the year 2007 Das worked on Ferns and Fern Allies of Tripura.

**Materials and Methods**

Exhaustive field survey have been undertaken from 2003 to 2004 covering all the seasons for gathering information on each and every species useful in herbal medicine among the Reangs. Survey conducted in different villages of North Tripura, Dhalai, West Tripura and South Tripura district of

Tripura state.

**Enumeration**

Information regarding botanical name followed by family name, vernacular name, sporulation, occurrence and their ethnomedicinal uses are provided. Specimens are arranged alphabetical order.

**1)** ***Angiopteris evecta*** (Forst.) Hoffm. [**Family** – Angiopteridaceae]

**Vernacular name**: Skemamuidui.

**Sporulation**: June to July.

**Occurrence**: Frequent on dense natural forest, especially near watercourses and slopes.

**Usage in Ethnomedicine**: The rhizome paste *Angiopteris evecta* is applied externally in case of bone fracture along with some other plants. The poultice is applied externally on the broken or fractured part of bone to get cured. This treatment is given to the patients every 3 days of regular interval for a period of 30 days.

Apical parts of caudex is cut into pieces and boiled with water till the contents become half. This extract is applied locally over carbuncle twice a day to get relief from pain, at the same time the abscess dried up within a week.

**2)** ***Blechnum orientale*** L. [**Family** – Blechnaceae]

**Vernacular name:** Sikiomamoidu.

**Sporulation**: June to July.

**Occurrence**: Common along moist and shady base of hillocks and roadside cuttings.

**Usage in Ethnomedicine**: Hot decoction of pinnae is applied externally over abscess to liberate pus and also for its antiseptic action. Fresh decoction is applied once a day till abscess dries up.

**3)** ***Cheilanthes tenuifolia*** (Burm. f.) Sw. [**Family** – Pteridaceae]

**Vernacular name:** Dalamkhundruj.

**Sporulation**: May to August.

**Occurrence**: Common on shady road side cuttings.

**Usage in Ethnomedicine**: Fronds cut into pieces, made to a paste and 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.

**4) *Cyathea contaminans*** (Wall. ex Hook.) Copel. [**Family –** Cyatheaceae]

**Vernacular name:** Bongreng.

**Sporulation**: May to August.

**Occurrence**: Rare and found mostly on shady places.

**Usage in Ethnomedicine**: Apical soft portion of the caudex cut into pieces and crushed in a mortar and added water to make a paste. The paste is then applied locally on major cuts or wounds for immediate clotting of blood. The same also prevent microbial growth in cut surface so that no abscess could develop. Fresh paste is applied everyday till the wound is healed.

**5) *Cyathea henryi*** (Bak.) Copel. [**Family** – Cyatheaceae]

**Vernacular name:** Bongreng.

**Sporulation**: April to July.

**Occurrence**: Rare on moist on shady hill slopes.

**Usage in Ethnomedicine**: Apical portion of the trunk cut into pieces and crushed. The paste so obtained is applied on major cut or wound for immediate arrest of bleeding. The same also prevents microbial growth in the cut portion so that no infection takes place. Fresh paste is applied everyday till the wound is healed.

**6) *Dicarnopteris lineris*** (Burm. f.) Underwood. [**Family** – Gleicheniaceae]

**Vernacular name:** Muikandochla.

**Sporulation**: April to August.

**Occurrence**: Gregarious in large patches.

**Usage in Ethnomedicine**: Freshly extracted fronds juice is slightly heated and the decoction is taken internally during throat pain.

**7) *Diplazium esculentum*** (Retx.) Sw. [**Family** – Athyriaceae]

**Vernacular name:** Sikiomamoidu or Maikhando.

**Sporulation**: May to August.

**Occurrence**: Common on marshy and flat areas of foot hills.

**Usage in Ethnomedicine**: Circinately coiled young and fresh frond is boiled with salt and taken internally for maintaining all round health.

**8) *Drymoglossum heterophyllum*** (Linn.) Trimen [**Family** – Polypodiaceae]

**Vernacular name:** Sikitang.

**Sporulation**: April to August.

**Occurrence**: Common on tree trunk of exposed areas and on humus deposit of rocks.

**Usage in Ethnomedicine**: Paste obtained by crushing pinnae applied externally in the form of poultice on fractured bones after setting up the bones. Bamboo splints are usually tired around so as to prevent dislocation of fractured bones.

**9) *Drynaria quercifolia*** (Linn) J. Smith. [**Family –** Polypodiaceae]

**Vernacular name:** Bandartala.

**Sporulation**: May to August.

**Occurrence**: Common on branches of trees.

**Usage in Ethnomedicine**: The rhizome paste mixing with molasses taken internally during cardiac problem.

Paste obtained by crushing rhizome applied externally in the form of poultice on fractured bones after setting up the bones. Bamboo splints are usually tired around so as to prevent dislocation of fractured bones.

Rhizome paste is applied externally in blood coagulation.

**10) *Lycopodium cernuum*** Linn. [**Family** – Lycopodiaceae]

**Vernacular name:** Shibjonta.

**Sporulation**: Found almost all round the year.

**Occurrence**: Very common in hill cuttings.

**Usage in Ethnomedicine**: The whole plant is pounded and the paste prepared so applied externally over the cut portion to reduce swelling and itching.

**11) *Lygodium flexuosum*** (Linn.) Sw. [**Family** – Schizaeaceae]

**Vernacular name:** Duoreng.

**Sporulation**: April to August.

**Occurrence**: Common on shady and moist road side cuttings.

**Usage in Ethnomedicine**: Rachis of the plant tied over forehead to reduce headache. The same when tied on hand, to be secured from evil spirit.

**12)** ***Microsorium superficiale*** (Bl.) Ching. [**Family** – Polypodiaceae]

**Vernacular name:** Hulowukto.

**Sporulation**: April to July.

**Occurrence**: Common on tree trunks of exposed areas.

**Usage in Ethnomedicine**: About 20 gm paste obtained by crushing fresh rhizome along with seeds of *Piper nigrum* is taken orally to cure cough and cold. It should be taken thrice a day till the disease is cured.

**13)** ***Pronephrium nudatum*** (Roxb.) Holttum. [**Family** – Thelypteridaceae]

**Vernacular name:** Uabamthu.

**Sporulation**: May to August.

**Occurrence**: Common on moist and shady forest floor, often grows along road side cutting.

**Usage in Ethnomedicine**: Cold decoction of pinnae is used as mouthwash during acute pyorrhoea. 2-3 wash is given a day till it is cured.

**14)** ***Pteris ensiformis*** Burm. [**Family** – Pteridaceae]

**Vernacular name:** Jobamfang.

**Sporulation**: April to July.

**Occurrence**: Common on moist and shady forest floor, on road sides and forest cleanings.

**Usage in Ethnomedicine**: Fronds pounded to paste with water, applied locally twice a day during swelling of joints till it is cured.

**15)** ***Pteris semipinnata*** Linn. [**Family** – Pteridaceae]

**Vernacular name:** Skaiumamoidu.

**Sporulation**: June to July.

**Occurrence**: Frequent along moist and shady base of hillocks and on moist road side cuttings.

**Usage in Ethnomedicine**: Fronds pounded to paste with water applied locally around carbuncle for getting it burst and also to reduce pain.

**16)** ***Pyrrosia adnascens*** (Forst.) Ching [**Family** – Polypodiaceae]

**Vernacular name:** Bormondi.

**Sporulation**: May to August.

**Occurrence**: Common on tree trunks of exposed areas.

**Usage in Ethnomedicine**: Cold decoction of rhizome mixed with a little powdered seeds of *Piper nigrum* is taken orally during cough and cold twice a day for 7 days.

## Discussion

Tripura is one of the floristically richest regions in North East India and provide an excellent piece of rich biodiversity. The Reang tribal community is solely depend on the forest products for their food and shelter. They have their own herbal health care system. The present work emphasized on medicinal utility of ever neglected pteridophytes from the Reang tribes of Tripura state. A total of 16 pteridophytic plants species belonging to 14 genera and 10 families are presented in the present work. The Reang medicine men used some common pteridophytes in their routine health care system to treat diseases like bones fracture, cough and cold, carbuncle, cardiac problem, pyorrhoea, headache, blood clotting, throat pain, cut or wound etc. A large numbers of lower group plant species including pteridophytes are endangered mainly due to indiscriminate collection as well as excessive cutting down of forest. So there is an urgent need for the conservation of pteridophytes which are important for their academic, medicinal and ornamental values.

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