

ETHNOMEDICINAL STUDIES ON PTERIDOPHYTIC FLORA OF ADUKKAM HILLS, SOUTHERN WESTERN GHATS, TAMIL NADU.

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ABSTRACT

The study mainly focused on the pteridophytes used as food as well as medicine by the local peoples and tribes in Adukkam hills in Southern Western Ghats, India. An Ethnobotanical survey was carried out among the local inhabitants through questionnaires and consultations with age-old and knowledgeable tribals during June 2018 to Dec2018. A total of 20 species of plants were recorded in this study with their vernacular names, parts used as food either raw or cooked and medicinal uses. Due to indiscriminate exploitation, destruction of forests and changing scenario of rural life, the oral folklore of plants is on the way of extinction. The present investigation underlines the potential of Ethnobotanical research on pteridophytes and the need for documentation of traditional knowledge pertaining to the utilization of ferns for greater benefit of mankind.

Keywords: *Pteridophytes, Ethnobotany, Adukkam, Western Ghats*

INTRODUCTION:

Pteridophytes are non-flowering vascular plants which is scattered all over the world. In the Carboniferous period they constituted the dominant vegetation on earth surface. About 10,000 species belonging to 305 genera of pteridophytes occur in the wild flora of the world of which around 191 genera and 1080 species are distributed in different biogeographical regions of India mainly diversified in Himalayas, Western Ghats and Eastern Ghats (Fraser-Jenkins, 2008; Benniamin, 2012). The medicinal value of pteridophytes including their applications has been known to man for more than 2000 years. They have been used in Ayurvedha, Unani and Homeopathic medicines. The medicinal value of pteridophytes against bacteria, virus, cancer rheumatism, diabetes, inflammation, fertility, diuretic, pesticide, hepatoprotective and sedative had been reported. Traditionally peoples are using pteritophytes as medicines and anti bacterial agents. There is no record on medicinal value of pteridophytes on Adukkam hills. Hence the present study focussed on documentation of medicinal value of Pteridophytes used by the local inhabitants of Adukkam hills.

MATERIALS AND METHODS:

Study Area:

The study area Adukkam, is located in the Southern Western ghats of Tamilnadu and it is well known for its rich biological diversity. It is located approximately 550km south of the state capital Chennai. The area of investigation lies between 10.12°N latitude and 77.55°E longitude. The altitude ranges from 300 to 1100m. The temperature ranges from 17°C to 31°C and the relative humidity was about 50 to 80%.

Methodology:

An intensive field work was carried out during June 2018 to September 2018. The Ethnomedicinal information documented from local inhabitants and interviews were conducted based on Jain methodology (1980). The information regarding local name, part of the plant used, processing and preparation of medicine for treatment has been recorded. The specimens were identified with the help of “Fern Flora of Palani Hills” and “Pteridophytic Flora of Nilgiri hills”. Botanical names were authenticated by consulting Dr.V.Irudhayaraj, Department of Plant Biology and Plant Biotechnology, St.Xavier College, Palayankottai. Voucher specimens were deposited in the Saraswathi Narayanan College Herbarium.

ENUMERATION

From this study the important medicinal Pteridophytes in Adukkam hills were enumerated:

Botanical Name	Family	Part (s) Used	Medicinal Properties
<i>Actiniopteris radiata</i> (Sw.) Link	Actiniopteridaceae	Fronde	Used to treat gynecological disorders and tuberculosis
<i>Adiantum incisum</i> Forssk.	Adiantaceae	Fronde	Cough Diabetic and Skin diseases.
<i>Adiantum philippense</i> L.	Adiantaceae	Fronde	Chest complaints
<i>Adiantum raddianum</i> C.Presl	Adiantaceae	Whole plant	cough, asthma, fever and hair falling
<i>Asplenium nidus</i> L.	Aspleniaceae	Whole plant	Fever and Elephantiasis
<i>Blechnum orientale</i> L.	Blechnaceae	Fronde	Antioxdant, Antibacterial and Urinary bladder complaints
<i>Christella dentata</i> (Forssk.)Holttt.	Thelypteridaceae	Fronde	Reduce Swelling in the body
<i>Cyathea nilgirensis holtttum</i> var. lobatus Manickam & Irudayaraj	Cyatheaceae	Rhizome	Anti-diabetic
<i>Drynaria quercifolia</i> (L.) J.Sm.	Drynariaceae	Rhizome	Anti bacterial and used to cure typhoid fever
<i>Lycopodiella cernua</i> (L.) Pic. Serm.	Lycopodiaceae	whole plant	Cough and Skin eruptions
<i>Marsilea minuta</i> L.	Marsileaceae	Fronde	Cough, Bronchitis and Fever
<i>Microsorium punctatum</i> (L.) Copel.	Polypodiaceae	Fronde	Anti-inflammatory and Antibacterial
<i>Nephrolepis cordifolia</i> (L.) C. Presl	Nephrolepidaceae	Tuber	Cough and Intestinal disorder

<i>Odontosoria chinensis</i> (L.) J. Sm.	Lindsaeaceae	Fronde	Diuretic and Chronic Enteritis
<i>Pityrogramma calomelanos</i> (L.) Link	Hemionitidaceae	Whole plant	Renal disorders
<i>Pteridium aquilinum</i> (L.) Kuhn	Pteridiaceae	Rhizome	Anthelmintic and Astringent,
<i>Pteris confusa</i> T.G. Walker	Pteridaceae	Rhizome	To reduce body heat
<i>Pyrrosia lanceolata</i> (L.) Farw.	Polypodiaceae	Fronde	Colds and sore throats
<i>Pyrrosia porosa</i> (Presl.) Hovenkamp	Polypodiaceae	whole plant	Cut injuries
<i>Selaginella involvens</i> (Sw.) Spring	Selaginellaceae	Root	Cough and Piles

DISCUSSION

The documentation of traditional knowledge through ethnomedicinal studies is important for conservation and utilization of biological resources. The present study highlights the medicinal uses of pteridophytes by the local inhabitants in the treatment of their diseases and ailments. A total of 20 species belonging to 16 families were documented. Out of 20 pteridophytes documented 18 are ferns, while *Lycopodiella cernua* (L.) Pic. Serm. and *Selaginella involvens* (Sw.) Spring are fern allies. In addition to medicinal uses, pteridophytes are also used as food, shelter and ornamentals.

Plate -1

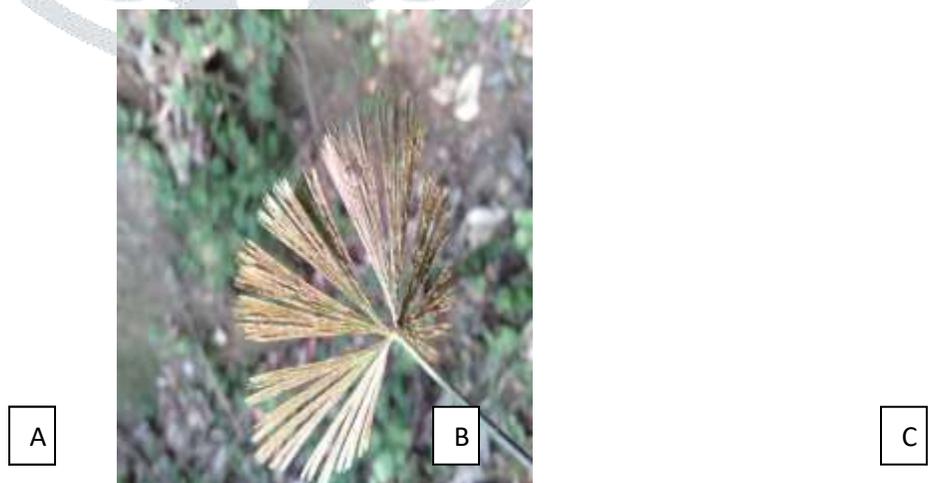




Fig. Some Pteridophytes of Adukkam Hills, Southern Western Ghats.

A. *Adiantum incisum* Forssk. B. *Actiniopteris radiata* (Sw.) Link C. *Adiantum philippense* L.

D. *Adiantum raddianum* C.Presl E. *Odontosoria chinensis* (L.) J. Sm.

F. *Pityrogramma calomelanos* (L.) Link

ACKNOWLEDGMENT:

The authors are thankful to Department of Botany Saraswathi Narayanan College, Madurai for providing lab facilities. The authors are grateful to Dr.V.Irudhayaraj, St.Xavier College, Palayamkottai and Dr.A.Benniamin, Botanical Survey of India -Western Regional Centre, Pune for their guidance and support.

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