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RESEARCH ARTICLE

MEDICINAL PTERIDOPHYTES OF SITHERI HILLS, EASTERN GHATS, TAMIL NADU

Moorthy, D.[1,*] and Kavitha, T.[2]

[1]PG and Research Department of Botany, Kongunadu Arts and Science College (Autonomous), Coimbatore-641029, Tamil Nadu

[2]Department of Botany, Periyar University Constituent College of Arts and Science, Namakkal, Tamil Nadu

ABSTRACT

Investigation on medicinal properties and nutritional values of higher plants were commonly reported but often neglected the pteridophytes. Despite the rich flora in and around Sitheri, study on their medicinal uses were limited. The objective of the investigation is to document of medicinal pteridophytes in sitheri hills.

Keywords: Vascular plants, Pteridophytes, Sitheri hills.

1. INTRODUCTION

Pteridophytes are primitive vascular plants in the plant World. The fossil plants evidence shows that five classes of fern and fern allies were present in the Devonian period and they dominated the vascular cryptogam until the mesozoic era when angiosperms proliferated. The Ferns are found scattered all over the Pteridophytes are known to man for than 200 years for their medicinal values. Theophrastus (327 -287 BC) and Discorides (50 AD) had referred the medicinal values of certain ferns. Caius [1] is supposed to be the first man who has described the medicinal uses of some ferns of India. Besides Nayar (2) and Kaushik & Dhiman (3) also reflected lights of medicinal uses of some pheridopytes of India.

The pteridophytes had an important role in folklore medicine. These plants have been successfully used in various systems of medicines like Ayurvedic, Unani, Homeopathic and other systems of medicines. Kiritical (4) had described 27 species of ferns having varied medicinal values. Chopra (5) have included 44 Species and Nadkarni (6) recorded 11 species of pteridophytes having medicinal importance. May (7) published a detailed review of the various uses of ferns and listed 105 medicinal ferns.

Singh (8) reported 160 species of pteridophytes in India on the basic of phytochemical, pharmacological and ethanobotanical studies. Among the pteridophytes occurring in India, 173 species have been used as food, flavor, dye and medicine (9). Ghosh (10) reported some edible pteridophytes as vegetables and medicines. The present article outlines a list of 16 medicinally useful pteridophtes found in Sitheri hills with their recent nomenclature, family and their brief uses.

2. METHODOLOGY

Sitheri is a hill station in Dharmapuri district and one of the segments of Eastern Ghats of Tamil Nadu. It is situated at an altitude of 1097.3m (3600ft) above the sea level. Sitheri hills comprises various kinds of vegetation such as the evergreen, semi green, riparian, dry deciduous scrub and thorn scrub forests. The maximum and minimum temperature is 19^{0}C in winter and 40^{0}C in summer respectively. The average annual rainfall is 900mm attained from southwest and northeast monsoons. Topographically, the area is undulating with an altitude varying from 240 to 1260m.The total area of Sitheri is found to be 400km^2.

3. ENUMERATION

Some of the important medicinal pteridophtes in sitheri hills have been enumerated:

Selaginella involvens (Sw.) spring

Ladies use spore powder as substitute to vermilion powder. The 'sindoor' in napali language. plant is considered to help to rejuvenate life, also used in the prolapse of rectum, prevents cough, bleeding piles and as an antibacterial (8,11).

Psilotum nudum (L.)

The oil spores are given to infants to arrest diarrhea. Herb juice showed antibacterial activity against micrococcus phygenes and pseudomonas nerugionsa and also used as a purgative.The shoots yield a phenolic psilotin. The plant contains the following bi flavones – apigenin, acacetin, genkwanin, amentoflavone and hinokiflavone (12).

*Correspondence: Moorthy, D., PG and Research Department of Botany, Kongunadu Arts and Science College (Autonomous), Coimbatore, Tamil Nadu. E.mail: ycdferns@gmail.com

Lygodium microphyllum (Cav.) R.Br.

In Liberia the stems are used for catching fish by making fence or weir across a small stream. The slender graceful fern is cultivated in gardens to cover pillars and bowers. The young leaves are eaten in Java. A decoction of the leaves is given in dysentery. It is used in many lotions. Leaves are applied in the form of poultices for skin diseases and swelling. Old stems which become tough are used for binding, basket-making and plaiting. Crushed leaves are used to cure hiccups in Ivory Coast (12).

Actinopteris radiata (S.w.) link.

Plant is bitter having the properties like styptic, anthelmintic, astringent sweet, loosing, serve conditions of kapha and pitta, diarrhea, dyseutery, heliminithiasia, haemorstysis and fever (13).

Cheilantheis farinosa (Forsk.) Kaulf.

Roots are used to treat eczema and stomachache, fronds are used to treat menstrual disorders (14).

Heminoitis arifolia (Burm.) Moore.

The fronds are used in the treatment of aches and as vermifuge (15). In the Philippines, crushed juice from the fronds is used for burns.

Adiantvm Caudatum (L)

Fronds extract is effective in wound healing. It is used in skin diseases, diabetes, cough and fever[5,14].

A. lunulatum Burn

Leaf and root decoction is used for the treatment of chest complaints in Malaya. It is used tn blood related disease, for strangery and in fever due to elephantiasis. Fronds are burnt in oil and applied to itch (2).

Christella parasitica (L.) H.Lev.

It is used in the treatment of gout and rheumatism (12).

Nephrolepis auriculata (L.).Trimen

Tubers are edible and decoction of the fresh frond given in cough (15,16).

Hymenophyllum Javanicum Spr

The dried fern mixed with garlic and onions is sometimes smoked by the local people to cure headache (12).

Drynaria quercifolia (L.) Jsm

The rhizome bitter, it is used as an antibacterial anodyne, constipating, anti in flammatory ronic, in the treatment of typhoid fever, phthisis, cough, arthralgia, cephalagia, diarrhea, uvcers and inflammations (15). It is very specific in the treatment of migraine. The decoction of the plant is used in typhoid fever and is also used as amthemintic pectoral, expectorant,tonic, dyspepsia and astringent. Fronds are useful as poulticing swellings (13).

Pyrrosia lanceolata Fore well

A decoction of the fern is used in South Africa curing for colds and sore throats. In Mexico, a tea prepared from the fronds is used for itch (12).

Marsilea Minuta L

Plants are used in cough, spastic condition of leg muscles, etc. and also in sedatum and insomnia. The leaves and sprouts are cooked as vegetables and sold in the market [15] It is a cumbersome weed in paddy fields. Plant is sweet, astringent, refrigerant, acrid, diuretic, expectorant, anodyne, constipating, aphrodisiac, depurative and febrifuge. It is useful in psychopathy, opthalmia. Strangury, diarrhoea, leprosy, skin diseases, haemorrhoids, dyspepsia and fever (13).

Salvinia molesta Mitch

The pulp of this plant possesses the properties for the formation of paper which can be suitably used in various ways. The plant can act as a additional source of raw material in the paper industry for the manufacture of low grade papers (17).

Azolla pinata R.Br.

Used as an important bio fertilizer in paddy and other crops (18).

4. CONCLUSION

1. Pteriphytes, the fern and – allies as they are called are of great medicinal values. In addition to this, quite a number of them are used as food, shelter and ornamentals. (Pteridophytes are lightly prized as foliage ornamentals due to their beauty and grace whether indoor or outdoors).
2. With the present information it is clear that the hills and forests where majority of pteridophytes grow, natives frequently use their young fronds and dried rhizomes as source of food and extracts of different parts and their decoction as medicine for various ailments. These information serves as a base for new compounds with active principles for phytochemical, pharmocognostical and clinical research, indigenous people use many of the pteridophytic medicinal plants traditionally for treating their common ailments like stomach ache, diarrhea, dysentery, skin problem……etc. at present a number of pteridophytes have been eradicated (or) lose due the deforestation the existing deforestation and habit

fragmentation would pose a serious threat to the growth of wild plants.

3. Researchers have stressed that need of conservation of the various pteridophytes.
4. Therefore, the Exploitation of the pteridophytes for their economic utility including ornamental use must be done, but at the sometime care should be taken for their conservation. If these guide lines can be followed strictly and if we can maintain are biodiversity, further studies on pteridophytes can bring many more medicinally important species to light.

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