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A REVIEW ON COMMON MEDICINAL PLANTS BELONG TO APOCYNACEAE FAMILY FOUND IN MAVELIKARA TALUK

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ABSTRACT

The Apocynaceae family comprises a diverse group of plants known for their ecological significance and medicinal properties. Mavelikara Taluk, located in Kerala, India, is a region renowned for its rich biodiversity and serves as a botanical haven for various plant species, particularly those belonging to the Apocynaceae family. This paper presents a comprehensive study of these botanical treasures, focusing on their taxonomical diversity, ecological roles, traditional uses, and potential applications in modern science.

Through an extensive literature survey, we explore the remarkable biological diversity of Apocynaceae family plants found in Mavelikara Taluk. We examine their roles within the local ecosystem, highlighting their interactions with other organisms and their contributions to ecological stability.

Incorporating ethno-botanical knowledge passed down through generations, we investigate the traditional uses of these plants in local healthcare systems. Their significance as sources of remedies for various ailments and cultural practices adds a profound layer of relevance to these plants in the lives of the people of Mavelikara Taluk.

Additionally, we explore the contemporary scientific research conducted on Apocynaceae family plants, particularly focusing on their chemical composition and pharmacological properties. With the growing interest in natural products for drug discovery and therapeutic agents, these plants hold potential as valuable resources for modern medicine.

Through this comprehensive review, we aim to promote awareness and appreciation of the invaluable botanical heritage harbored by Mavelikara Taluk. By emphasizing the importance of conserving these plants, we advocate for the preservation of biodiversity and the preservation of traditional knowledge that weaves humans into the intricate fabric of nature. Understanding the rich diversity and potential applications of Apocynaceae family plants can unlock opportunities for sustainable utilization and future research, fostering a harmonious relationship between humanity and its natural environment

Keyword: Medicinal plants,Apocynaceae,Mavelikara Taluk

INTRODUCTION

Plants are a vital source of medicine and play an important role in world health. medical plants and herbs have long been considered as a vital source of medical or curative assistance. The use of medicinal plants has become increasingly important in worldwide health systems. This comprises not only employing medicinal plants for disease treatment, but also as a possible material for maintaining good health and situations. Herbal medicine is used for primary health care in many nations around the world, accounting for nearly two-thirds of the global population. The reasons for this are that they are more acceptable in society, have higher compatibility and adaptation with the human body, and have less adverse effects[1]. According to data, the majority of the medications in use involve plant extracts. Different species of plants are used to treat various types of disorders, revealing the most recent findings in biological relevance of their bioactive substances employed. Despite recent substantial improvements in the world population's health care system due to advances in science, technology, and medical science, 400 crores of people worldwide remain completely dependent on herbal medications[2]. Throughout history, humans have relied on nature for basic necessities such as medicines, housing, food, scents, clothing, flavours, fertilisers, and modes of transportation[3]. For huge chunks of the world's population, medicinal plants continue to play a dominant role in the healthcare system, particularly in poorer countries where herbal medicine has a long history of use. The discovery and acknowledgement of these plants' medical and financial benefits is increasing in both developed and developing countries[4]. Some contain active elements derived from plants (bioactive components or compounds). Plant-derived drugs were discovered through recent researches from the study of curative, therapeutic, traditional cures, and most especially the folk knowledge of indigenous people, and some of these claims and beliefs of people are irreplaceable despite recent advances in science and technology[5]. A significant effort has been made over the last decade, resulting in the extraction of many bioactive medicines from plants. In general, synthetic items are regarded as dangerous, whereas plant products appear to represent safety. Nonetheless, the plant material may be harmful due to the presence of naturally occurring toxic components, heavy metals, poisons, pesticides, or bacteria[6], so safety, dose, and potential interactions with routine conventional medicines are all critical.

The Apocynaceae family represents a diverse and fascinating group of plants known for their ecological significance and profound medicinal properties. Throughout history, these botanical treasures have played a crucial role in human civilization, serving as sources of food, shelter, and remedies for a wide range of ailments. Apocynaceae family is commonly known as the dogbane family, (Greek for "away from dog" since some taxa were used as dog poison). The former family Asclepiadaceae (now known as Asclepiadoideae) is considered a subfamily of Apocynaceae[7] and the Apocynaceae has 43 Genera and 170 species accepted
taxa overall. Among the numerous regions where these plants thrive, Mavelikara Taluk stands out as an exceptional botanical haven, richly endowed with a plethora of Apocynaceae species.

Nestled in the picturesque landscapes of Kerala, India, Mavelikara Taluk showcases a unique microcosm of biodiversity. Its lush greenery, fertile soils, and temperate climate provide an ideal habitat for the growth and proliferation of various plant species, including a remarkable assortment of Apocynaceae family plants. This paper aims to delve into the wealth of knowledge surrounding these botanical treasures, uncovering their taxonomical diversity, ecological significance, traditional uses, and potential implications for modern science.

With centuries of traditional knowledge passed down through generations, local communities in Mavelikara Taluk have developed an intimate relationship with the Apocynaceae family plants. From indigenous healing practices to cultural rituals, these plants have woven themselves into the fabric of daily life, providing a deeper connection between people and their environment.

In this review, we will explore the biological diversity within the Apocynaceae family, focusing on notable species found within Mavelikara Taluk. By examining their ecological roles, we aim to shed light on the complex relationships they share with other organisms and their impact on the region's ecosystem. Additionally, we will investigate the traditional uses of these plants in local healthcare systems, seeking to understand the therapeutic potential they offer in treating various ailments and diseases. By the end of this comprehensive review, we hope to foster a deeper appreciation for the wealth of knowledge and ecological importance encapsulated within the Apocynaceae family plants found in Mavelikara Taluk. Furthermore, we

aim to underscore the significance of preserving these botanical treasures, as their conservation is not only crucial for safeguarding biodiversity but also for sustaining the age-old wisdom that intertwines humanity with nature.

DISCUSSION

Commonly found Apocynaceae members with medicinal importance in MAVELIKARA TALUK are

1.Alstonia scholaris
2.Carrisa carandas
3.Catharanthus roseus
4.Cerbera odallam
5. Holarrhena pubescens
6.Ichnocarpus frutescens
7.Nerium oleander
8.Plumeria rubra
9.Rauvolfia serpentine

1.*Alstonia scholaris(L).R.Br*

Eng: devil tree, Shaitan wood

Mal: Tlilanpala, Yakshippala, Pala, Daivappala

San: Saptaparnah

Alstonia scholaris is a medium to large tree, to about 40 m high with a somewhat tessellated corky grey to grey-white bark. It is distributed throughout India in deciduous and evergreen forests, The plant is a large evergreen tree upto 3.0 m in height with a straight often fluted and buttressed hole, and about 110cm in diameter, bark grayish brown, rough lenticellate abounding in bitter, milky latex, leaves four to seven in a whorl; coriaceous, elliptic oblong, pale beneath; flowers small, greenish white, numerous in umbellate panicles; corolla tube short, very strongly scented; fruits follicles; seeds papillose with brownish hair at each end[8].

Parts Used : Bark, leaves, milky exudates.

Properties and Uses:

The Bark is bitter, astringent, acrid, thermogenic, galactagogue, stomachic, cardioplynia and toxic. It is useful in fevers, malarial fevers, abdominal disorders, diarrhea, dysentery, dyspepsia, anorexia, skin diseases, pruritus, tumours, chronic and foul ulcers, asthma, bronchitis, cardiopathy, and helminthiasis. The tender leaves in the form of poultice are good for ulcers with foul discharges. The milky exudates are bitter and are good for ulcers, vitiated conditions of vata and otalgia.

2. Carissa carandas (L).

Eng: Karaunda, Jasmine flowered carrisa

Mal: Klavu, Perumklavu

San: Karamardah, Avighnah

The plant is distributed throughout India. The plant is a large dichotomously branched evergreen shrub with short stem and strong thorns in pair; bark light grey, scaly; leaves simple, opposite, elliptic or obovate; flowers white, inpubescent terminal corymbose cymes; fruit ellipsoid or globose berry; purplish black when ripe enclosing two or more seeds[9].

Parts used: Roots, fruits

Properties and Uses:
The roots are anthelmintic, stomachic and antiscorbutic and are useful in stomach disorders, intestinal worms, prurigo and prurits. The unripe fruit is sour, astringent, bitter, thermogenic, constipating and antipyretic and is useful in vitiated conditions of hyperdipsia, diarrhoea and intermittent fevers. The ripe fruits are sweet, cooling, appetizer and antiscorbutic and are useful in anorexia, vitiated conditions of pitta and vata, burning sensation, skin diseases, pyrexia and pruritus.

3.Catharanthus roseus(L.)

Eng:Madagascar periwinkle

Mal: Vsamalari, savanari

San: Nityakalyani

A native of Madagascar now found throughout India in all wastelands, also cultivated in gardens.The plant is an erect handsome, herbaceous, annual, leaves deep green, oval, oblong or obovate, glossy; flowers in cymose axillary clusters, white or deep rose coloured; fruits pairs of follicles.

Parts used: Whole plant

Properties and Uses:
The whole plant particularly the root bark contains alkaloids which have hypotensive, sedative and tranquilizing properties. It is used as a folk remedy for diabetes. The root is toxic, bitter, acrid and used as somatalgic and tonic. The juice of the leaves is good for wasp stings and abortifacient. The Vincristine' alkaloid obtained from this plant is useful in some kinds of leukaemia[10].

4. Cerbera odollam

Eng: Odallum tree, Dog bone

Mal: Otalam, Cattankaya, Otavalam

San: Auddalakah, Svanamarah

Cerebra odallam Gaertn. This plant is distributed throughout India, along salt swamps and backwaters. The plant is a moderate sized evergreen maritime tree with acrid milky poisonous juice; leaves bright green closely set at the ends of branches, lanceolate or oblanceolate, glabrous, tapering sharply to the base, nerves many and connected by an intra marginal vein; flowers large, white with a yellow throat; in terminal cymes, fruits large; green; drupes with fibrous pericarp; seeds usually solitary.

Parts used: Bark, leaves, fruits, milky juice.

Properties and Uses:
Bark, leaves and milky juice are purgative and emetic. The bark is used for ringworm infestation. Leaves are used for vitiated conditions of vata and for skin diseases in children. The fruits are poisonous and are used in hydrophobia and hydragogue[11].

5.Holarrhena pubescens

Eng: Tellicherry bark, Kurchi
Mal: Kutakappala
San: Kutajah

The plant is distributed throughout India, deciduous forest upto 900 m. A small lactiferous, deciduous tree with woody branches; bark is thick, brown, rough with abundant milky white latex; leaves are simple; opposite; ovate to elliptic; membraneous; flowers white in colour and are terminal corymbose cymes; fruits long, narrow, cylindric, penduloud follicles often dotted with white spots; linear, oblong tipped at the apex with a spreading deciduous coma of brown hairs[12].

Parts used: Bark, seeds, leaves

Properties and Uses:
The bark and seeds are bitter, constipating, astringent, acrid, anthelmintic, antiperiodic, aphrodisiac, carminative and toxic. They are useful in amoebic dysentery, diarrhea, asthma, hepatomeraly and skin diseases etc. Leaves are used in chronic bronchitis, boils, ulcers and dysentery.

6.Ichnocarpus frutescens(L.)

Malayalam Name : Palvalli, Parvalli

Sanskrit Name: Ulpalasariba

It is distributed throughout India, plains and lower hills upto 1200m. A much branched extensively climbing rusty villous evergreen, lactiferous woody climber; leaves simple, opposite, ellipticg to broadly lanceolate, flowers greenish white, fragrant, numerous in axillary or terminal panicles of cymose clusters; fruits straight or slightly curved, cylindrical follicles; seeds black, white[13].
Parts used: The whole plant

Properties and uses:
Roots are sweet, refrigerant, alterant, diaphoretic, diuretic, depurative, demulcent and tonic. They are useful in vitiated conditions of pitta, burning sensation, fever, skin diseases, lactifuge, vomiting, pruritus, dyspepsia, diabetes, general weakness.

7. Nerium oleander (L.)

Eng: Indian Oleander, Sweet scented Oleander
Mal: Arali, Karaviram
San: Karavirah

It is cultivated throughout India.It is a large glabrous evergreen shrub with milky latex; leaves three in a cohort, shortly stalked; linear; dark green and shiny above; flowers red, rose coloured or white; fragrant; fruits follicles, at length separating.

Parts used: Roots, leaves

Properties and Uses:
The roots are bitter, acrid, astringent, anthelmintic,thermogenic, aphrodisiac, stomachic, febrifuge and diuretic. They are useful in cardiac asthma, strangury, renal and vesical calculi, arthalgia, pruritus, acid ulcers. The root ark is very specific for ringworm. The leaves are a powerful repellent and are used for scabies and haemorrhoids as a remedy. The juice of the tender leaves is good in ophthalmopathy with copious lacrimation. The flowers are reported to have the property of purifying the air.

8.Plumeria rubra (L.)

English Name: Pagoda tree
Malayalam Name: Alari

Sanskrit Name: Ksiracampaka

It is throughout India, cultivated in gardens and near religious places.It is a A deciduous tree with thick and fleshy bran containing milky juice; leaves spirally arranged with an intra marginal vein, borne at the ends of branches, flowers white with yellow or cream coloured centre, sometimes pink outside in terminal panicles, very fragrant; fruit follicles, brownish black, rarely produced.

Parts Used: Root bark, leaves latex
Properties and Uses: Root bark is bitter, acrid, astringent, carminative, thermogenic and laxative. It is useful in ulcers, pruritus and gastropathy. Leaves are useful to treat inflammations. The milky juice is employed as a good rubefacient in rheumatism.

9.Rauvolfia serpentina(L.)

English Name: Rauvolfia root, Serpentina root
Malayalam Name: Amalpori
Sanskrit Name: Sarpagandha

It is distributed throughout India, as forest undergrowth. The plant is a small erect shrub, an under shrub with red pedicels and calyx, leaves three in a whorl, thin, glabrous, bright green above; flowers white often tinged with violet in irregular corymbose cymes; fruits drupes; purplish black when ripe. The roots when dry are very hard, less flexible tortuous with a yellowish brown surface provided with vertical and irregular cracks or wrinkles, when rubbed with water yields a light yellowish tinged paste. The bark does not separate easily from the woody portion when dry but separates easily in fresh conditions[14].

Parts used: Roots, leaves

Properties and Uses: The roots are bitter, acrid, laxative, anthelmintic, thermogenic and diuretic and posses sedative properties. It is highly reputed for hypertension and is useful in fever, wounds, colic, insanity, dropsy giddiness, dyspepsia and vitiated. The decoction of the root is used to increase uterine contractions. The juice of the leaves is used as a remedy for the removal of opavities of the cornea.

CONCLUSION

The goal of the current study is to collect details about plants belonging to Apocynaceae family found in Mavelikara Takuk with a particular emphasis on medicinal plants and their regional applications in healthcare. To the locals who are unaware of the significance of medicinal plants in the environment, the ethnobotanical also highlights a few specific medicinal plant species and their qualities. the use of herbal remedies for medical conditions . In conclusion, it was discovered that various plants in this family have exhibited a variety of different biological, anti-diarrheal, anti-bacterial, antidiabetic, anti-tumor, anti-inflammatory, anti-asthmatic, anti-cancer, anti-ulcer, wound healing, anti-convulsant, and pharmaceutical activities.

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