



Study on medicinal properties of common plants used in Ayurveda

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Abstract

The ancient history of India has indicated the relationship of plants and human beings. Medicinal plants are those which contain many special substances and chemicals which are used for therapeutic purposes to their special properties by which they can be used for medicinal purposes for curing different types of diseases. They play an important role in supporting the health care system in India. They are considered as a rich resource of ingredients which can be used in drug developed pharmacopeia, non-pharmacopeia or synthetic drugs. In this article we report the medicinal properties of selected plants specially used in Ayurveda.

Keywords: medicinal plants, scientific name, classification, uses

1. Introduction

The history of medicinal plants is intimately connected with the history of Botany. Primitive man lived at the mercy of nature, in constant terror of diseases. From the earliest times tribal priests and medicine men used various plants, minerals and animal organs usually in association with strange rituals and incantations to drive out the evil spirits, which they believed to be the cause of the diseases. Records of early civilization in all parts of the world reveal that a considerable number of drugs used in modern medicine were in use even in ancient times. The use of plants for curing human ailments figured in the Bible, the Rig-Vedas, the Odyssey and the history of Herodotus. The use of medicinal plants as a source of relief from illness can be traced back over five millennia to written documents of the early civilization in China, India and the Near East, but it is doubtless an art as old as mankind. Neanderthals living 60,000 years ago in present-day Iraq used plants such as hollyhock, and these plants are ethnomedicines around the world [1, 2]. The medicinal properties of plants have been investigated in the light of recent scientific developments throughout the world, due to their potent pharmacological activities, low toxicity and economic viability. Ayurveda has a clinical specialty called *rasayana*, which prevents diseases and counteracts the aging process by means of optimization of homeostasis. It has been reported that the *rasayanas* are rejuvenators, nutritional supplements and possess strong antioxidant activity [3]. Several Indian medicinal plants have been extensively used in the Indian traditional (Ayurveda) system of medicine as rejuvenators (which prevent diseases), slowing the process of aging and related disorders. Information from ethnic groups or indigenous traditional medicines has played a vital role in the discovery of novel products from plants as chemotherapeutic agents. Herbal medicines have been the main source of primary healthcare in all over the world [4]. From the crude beginning of the earlier physician-botanist the study of drug and plant have developed into modern pharmacognosy which deals with history, botany, preservation and commerce of crude drugs. The medicinal value of the plants is mainly due to the

presence of certain substances such as alkaloids, glycosides, resins, volatile oils, gums, and tannins [5].

2. Objectives of the studies

The primary aim of this work is to collect names of plants from the English and Malayalam translations of Ayurvedic books of the all available single drug-remedies and thus offer data for research workers who try to access the original contributions of Kerala physicians to Ayurveda. The second objective is to present the medicinal uses of selected plants and giving an ethno-botanical orientation to the study. The final aim of this work is to give the taxonomical positions of selected plants and identification of valid names to reduce the confusion that may lead to substitution of the plants in Ayurveda.

3. Materials and Methods

For this study collected the locally available plants with maximum medicinal values that are used in Ayurveda and data from primary sources such as books and herbal pharmaceutical companies.

4. Result and Discussions

During this work, we selected 20 plants that are commonly available in and around us. Also these plants are highly used in the Ayurvedic system against several diseases like dysentery, cholera, diarrhea etc. Medicinal plants are the local heritages with global importance of people throughout the world are attracted back using the plant-derived medicines. Herbal medicines are most favorite for the people, and these attract the people more instead of allopathic drugs because these are cheap and have less side effect [6]. The results of the study are presented in Table 1 and images of plants are shown below. All the medicinal uses of the plants recorded in this study are either not reported earlier or not widely recorded in important publications on Indian medicinal plants. Though a lot of work on medicinal plants from different families has been documented in different literature, but this

paper is restricted to only 20 species of medicinal plants in Thrissur and suburbs. These are considered as home remedies in many parts of the country. This study showed that many people of Thrissur district still continue to depend on medicinal plants at least for the treatment of primary healthcare. The traditional healers are dwindling in number and there is a grave danger of traditional knowledge

disappearing soon since the younger generation is not interested to carry on this tradition. Different parts of medicinal plants were used as medicine by the local traditional healers. Among the different plant parts, the leaves were most frequently used for the treatment of diseases followed by whole plant parts, fruit, stem, root, stem and root bark, seed, flower and latex.

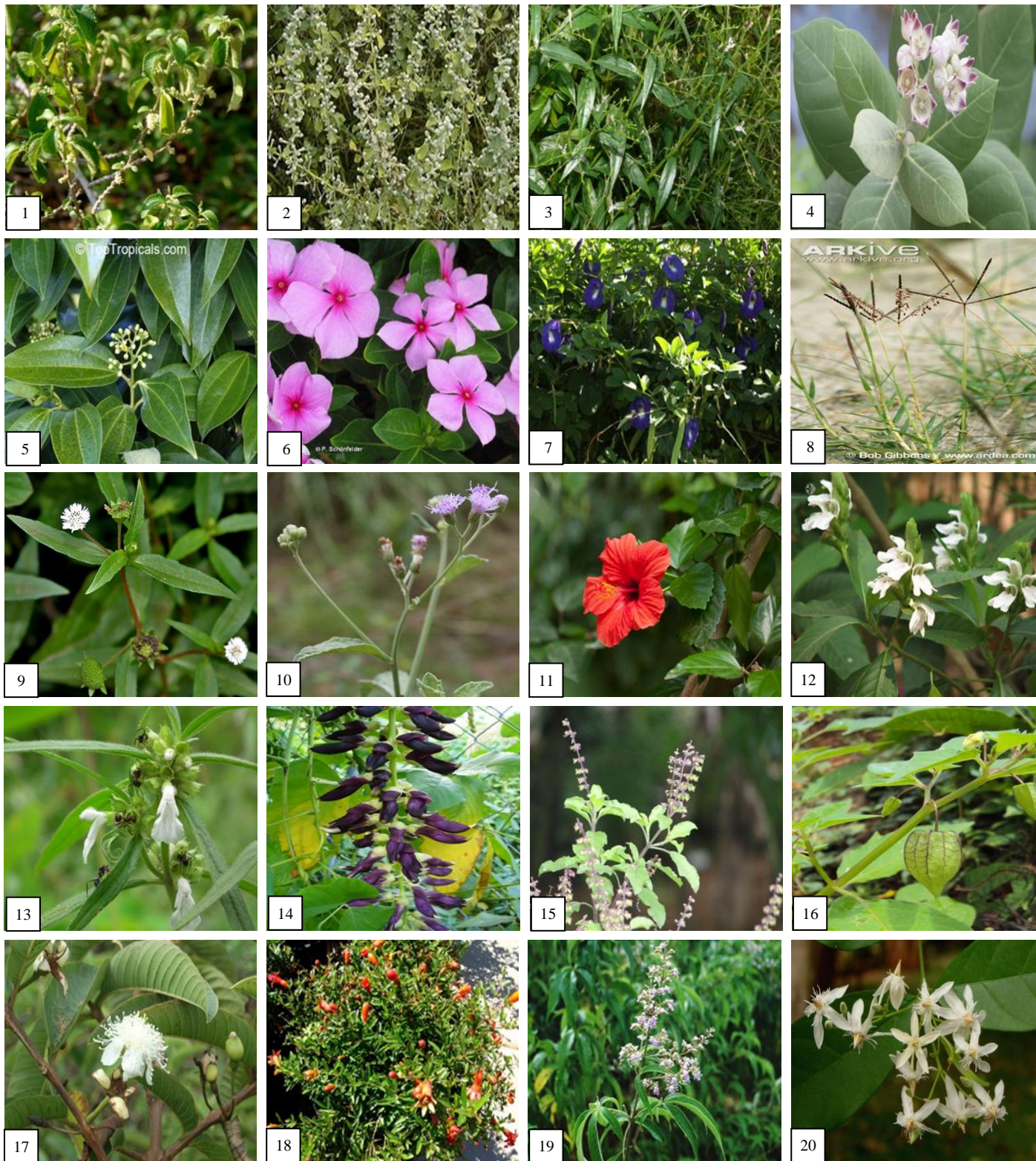


Table 1

S.NO	Plant/Family	Scientific Name	Taxonomical position	Medicinal uses
1	Munja/ Euphorbiaceae	<i>Acalypha fruticosa</i> .	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Euphorbiales Family: Euphorbiaceae	The juice extracted from the leaves mixed with lime and applied on skin to cure disease caused by ringworm. Fresh juice of leaves mixed with oil and salt is used for rheumatoid arthritis and to cure scabs. Leaves are used to cure bedsores and infected wounds. The active medicinal compounds like <i>acalyphine</i> and <i>triacetoneamine</i> are extracted from this plant. They contain cyanogen, glycoside and alkaloid. The paste of leaves can be applied to burns.
2	Cherula/Amaranthaceae	<i>Aerva lanata</i> .	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Caryophyllales Family: Amaranthaceae	Roots used in headache and also as demulcent. Decoction of the root is given as tonic to pregnant women. Also used for the treatment of gonorrhoea and kidney disorders, cutaneous affections and sugar in urine. This herb is described as "one of the best known remedies for bladder and kidney stones." Ayurvedic practitioners recommend a decoction of the plant to be taken internally for a few days to dissolve the stone and to clear the urinary path.
3	Nilavepu/ Acanthaceae	<i>Andrographis paniculata</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Scrophulariales Family: Acanthaceae	The herb has been widely used as a treatment for the common cold, flu, upper respiratory infections, and a variety of infectious diseases. It is a traditional herbal treatment for diseases and ailments such as diarrhea, dysentery, cholera, pneumonia, swollen lymph nodes, leprosy, bronchitis, sore throats, tuberculosis, chicken pox, coughs, headaches, ear infection, inflammation, burns and mumps. Used as a treatment for malaria, as a replacement for quinine. This bitter shrub has shown immunity-boosting capabilities by stimulating the body's natural immune systems.
4	Erikku/ Asclepiadaceae	<i>Calotropis gigantea</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Gentianales Family: Asclepiadaceae	The latex or milky discharge of plant has abortifacient (causing abortion), spasmogenic and carminative, anti-dysenteric, anti-syphilitic, anti-rheumatic, antifungal, diaphoretic properties and used in treatment of leprosy, bronchial asthma and skin diseases. The root bark powder is traditionally used for getting relief in diarrhea and dysentery. The root of plant is carminative and useful in indigestion.
5	Karuva/ Lauraceae	<i>Cinnamomum verum</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Laurales Family: Lauraceae	Cinnamon has traditionally been used to treat toothache and fight bad breath. It can improve cognitive function as well as memory. It helps in removing impurities from the blood, and is often recommended for pimples. It helps to stop bleeding, and facilitates the healing process. Used in digestion and is effective for indigestion, nausea, vomiting, upset stomach, diarrhea and flatulence. Also relieves acidity and morning sickness and helps in cold, flu, influenza, sore throat. It is an effective in providing relief from menstrual cramp and discomfort. Widely believed to be high in anti-oxidants. Regular drinking of Cinnamon tea could be beneficial to oxidative stress related illness in humans; It is diuretic in nature and helps in secretion and discharge of urine.
6	Savanari/ Apocynaceae	<i>Catharanthus roseus</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Gentianales Family: Apocynaceae	All parts of plant especially the root barks contain three alkaloids namely <i>ajmalicine</i> , <i>serpentine</i> and <i>reserpine</i> . These alkaloids possess hypotensive, sedative and tranquilizing properties. They also cause relaxation of pain muscles and depression of control nervous system. In addition to these, there are few or more important alkaloids also such as <i>vinblastine</i> , <i>ninoristine</i> and <i>ceucocrostine</i> . These are used as folk remedy for diabetes. The juice of its leaves is used as an application for wasp stings. It is also an antibacterial agent
7	Sankupushpam / Fabaceae	<i>Clitoria ternatea</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Fabales Family: Fabaceae	In traditional ayurvedic medicine, it has been used as memory enhancing neotropic, anti-stress, anxiolytic, anti-depressant, anticancer agent, tranquilizing and sedative agent. It has potent antimicrobial activity against <i>E.coli</i> , <i>K.pneumonia</i> and <i>P.aeruginosa</i> . It used as anticancer agent. Syrup of the deep blue flowers in a coloring agent and powerful cathartic action used in weakness of eye sight. Leaves used against poison

8	Karuapullu/ Poaceae	<i>Cynodon dactylon</i>	Kingdom: Plantae Division: Magnoliophyta Class: Liliopsida Order: Cyperales Family: Poaceae	The plant is highly medicinal with anti-viral and anti-microbial activities. It is used for the treatment of urinary tract infection, Prostatic, Syphilis and Dysentery. Juice of this grass is applied for eye diseases and as nasal drops. The extract of whole plant is applied externally to control the bleed from the swelling. Together with turmeric it used against skin disease. Daily consumption of whole plant extract strengthens the nerve system. Decoction of root is valuable for secondary syphilis and cold.
9	Kanjunni/ Asteraceae	<i>Eclipta prostrata</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Asterales Family: Asteraceae	The fresh juice of leaves is given to the treatment of oedema, fever, liver disorder and joint pains. A mixture of <i>Bringivaja</i> and coconut oil keeps the hair dark and lustrous when applied to the scalp it promotes hair growth. It is used Ayurveda for hepatitis, enlarged spleen and skin disorder. It has also shown excellent antifungal, antimicrobial and anti-viral activities. Plant tops are used for skin diseases
10	Muyalchevian/ Asteraceae	<i>Emilia sonchifolia</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Asterales Family: Asteraceae	The leaf powder used to treat worm action. The plant extract (<i>samoolam</i>) used for sleeping. It is used for treating poisoning of snake, Mice. Leaf extracts used for all ear diseases and leaves eaten raw in salad in China. Juice of leaves poured into the eyes for night blindness and inflammation of eyes. It gives cooling as Rose water
11	Chembarathi/ Malvaceae	<i>Hibiscus rosa-sinensis</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Malvales Family: Malvaceae	The plant act as an antiseptic, astringent, purgative, sedative, tonic etc. All parts of the plant have medicinal value. Leaves are emollient, Ayurvedic and sedative. Seeds and mature calyxes exhibit diuretic and anti-scorbutic properties. Succulent calyx, boiled in water is used as drink bilious problems. Bitter roots are used as aperitive and tonic
12	Adalodagam/ Acanthaceae	<i>Justicia adathoda</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Scrophulariales Family: Acanthaceae	The leaves of plant contain <i>vasicine</i> an alkaloid with medicinal quality. This alkaloid along with other compounds in the plant makes its useful in treating variety of medicinal condition. It is used to the treatment of cold, cough and asthma also against skin infection, fever and inflammation. The juice of leaves used for diarrhea and dysentery
13	Thumba/ Lamiaceae	<i>Leucas aspera</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Lamiales Family: Lamiaceae	It is reported to have antifungal inhibition property and antioxidant and antimicrobial activities. It is used as traditional medicine of India to treat scorpion bite. It is also an antipyretic. Whole plant is used for the treatment of fever. The stem crushed with the <i>samoolam</i> can be inhaled to help treat nasal congestion, coughing, cold, headache and fever. Decoction of the flower used to help treat sinusitis as well as headache, it is also be used to intestinal worm in children
14	Naikurna/ Fabaceae	<i>Mucuna pruriens</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Fabales Family: Fabaceae	The seed have been used for treating many DYS function in tribe- <i>Unani</i> . The traditional system of medicine of Indo-Pakistan, used against <i>Bungarees</i> and used for prophylactic treatment of snake bite. It is used against Parkinson's disease. Roots used as tonic and in nervous complaints and for elephantiasis. Decoction of roots is given as remedy in rheumatism, impure blood, Asthma, cough and ulcers and stone in the bladder
15	Thulasi/ Lamiaceae	<i>Ocimum tenuiflorum</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Lamiales Family: Lamiaceae	Leaves are expectorant, ant catarrhal and diaphoretic. Decoction or infusion of leaves given against malaria, gastric diseases and liver disorders. It is used as prophylactic against malaria. Fresh leaves are taken along with the black pepper is improve the sound. Leaf juice given against the chronic fever, hemorrhage and dysentery. It is also used to check vomiting and as an anti-helminthic. Leaves are used externally in ringworms and other cutaneous diseases flower tops and slender roots is used as an antidote in snake poisoning
16	Njodinjotta/ solanaceae	<i>Physalis angulata</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Solanales Family: Solanaceae	It is used as folk medicine. Whole plant is used against the remedy for stomach due to krait bite. Plant is used against scabies and itching. <i>Physallins</i> are steroidal action constituents of <i>Physalis</i> . It possesses anti-inflammatory, immune modulatory and anti-pyretic activities. The secondary metabolites of plant including alkaloids, quinine and terpene used to cure protozoan and parasitic diseases. the use of quinine and emetine are example for the treatment of parasitic diseases such as malaria and amoebiasis

17	Perakka/ Myrtaceae	<i>Psidium guajava</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Myrtales Family: Myrtaceae	to treat gastrointestinal and respiratory disturbances and is used as an anti-inflammatory medicine roots, bark, leaves and immature fruits, are used in the treatment of gastroenteritis, diarrhoea and dysentery. Leaves are applied on wounds, ulcers and for rheumatic pain, while they are chewed to relieve toothache (Heinrich <i>et al.</i> , 1998). A decoction of the new shoots is taken as a febrifuge. A combined decoction of leaves and bark is given to expel the placenta after childbirth (Martínez and Barajas, 1991). A water leaf extract is used to reduce blood glucose level in diabetics. This hot tea was very common among the local people of Veracruz (Aguilar <i>et al.</i> , 1994).
18	Mathalam/ Punicaceae	<i>Punica granatum</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Myrtales Family: Punicaceae	The juice of wild pomegranates yields citric acid and sodium citrate for pharmaceutical purposes. Pomegranate juice enters into preparations for treating dyspepsia and it is considered beneficial in leprosy. Juice is used as tonic for fever. Bark of root and wood is used as vermifuge for tapeworm also used for diarrhea and dysentery. Fruit is a valuable astringent contain tannins. Root bark used to expel tape worms. Petals of flowers boiled in butter dropped into nostrils to remove neuralgia
19	Karinochi/ Verbanaceae	<i>Vitex negundo</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Lamiales Family: Verbanaceae	Leaves, roots and fruit used as medicine ashes used as an alkali for dyeing. Leaf used in rheumatic swelling. Pillows stuffed with leaves used to relieve headache' juice of leaves removes worms and discharges from ulcers. Decoction of roots given in fever and typhoid. Juice of roots increases growth of hair. Decoction of leaves and bark used to cure weakness of sight and fever
20	Vettupala/ Apocynaceae	<i>Wrightia tinctoria</i>	Kingdom: Plantae Division: Magnoliophyta Class: Magnoliopsida Order: Gentianales Family: Apocynaceae	The leaves are applied as a poultice for mumps and sometimes they also munched to relieve tooth ache. In folk medicine dried and powdered roots of <i>Wrightia</i> along with <i>Phyllanthus amarus</i> and <i>Vitex negundo</i> is mixed for improving fertility. The bark and seeds are effective against psoriasis. It has anti-inflammatory and anti-dandruff properties. Hence it is used in hair oil preparation. The <i>Indigo</i> prepared from the leaves called Pala-indigo.

5. Conclusion

This study concluded that even though the accessibility of Western medicine for simple and complicated diseases is available, many people in the studied parts of Kancheepuram district is still continue to depend on medicinal plants, at least for the treatment of some simple diseases such as, cold, cough, fever, headache, poison bites, skin diseases and tooth infections. Well-knowledged healers have good interactions with patients and this would improve the quality of healthcare delivery. The present-day traditional healers are very old. Due to lack of interest among the younger generation as well as their tendency to migrate to cities for lucrative jobs, there is a possibility of losing this wealth of knowledge in the near future. It thus becomes necessary to acquire and preserve this traditional system of medicine by proper documentation and identification of specimens.

6. References

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