

Medicinal plants of Kondajji dry deciduous forest, Davanagere, Karnataka, India

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Abstract: This study documents the medicinal plants found in the Kondajji Dry Deciduous Forest, Davanagere, Karnataka, highlighting their traditional uses and therapeutic properties. The documentation includes a diverse range of plant species from various families, used to treat a wide array of ailments, including skin conditions, fever, digestive issues, and more. The findings underscore the importance of preserving traditional knowledge and the potential for discovering new drugs from these natural resources.

Keywords: Medicinal plants, traditional knowledge, pharmacology

Introduction

The Kondajji Dry Deciduous Forest, located in Davanagere, Karnataka, is a rich repository of medicinal plants. For centuries, traditional healers and local communities have relied on these plants to treat various ailments, leveraging their therapeutic properties to maintain health and well-being (Devi et al., 2023). The forest's diverse flora is a testament to the region's unique biodiversity, with many plant species still unexplored for their medicinal potential (Kumar et al., 2021). The documentation of medicinal plants in this region is crucial for preserving traditional knowledge and understanding the therapeutic properties of these plants. By cataloguing the plants and their uses, researchers can identify potential leads for new drug discovery and development (Devi et al., 2024). Furthermore, this documentation can help promote the conservation of these plant species and their habitats, ensuring their continued availability for future generations. This study aims to contribute to the growing body of research on medicinal plants in the Kondajji Dry Deciduous Forest. By documenting the plant species found in this region and their traditional uses, this study seeks to provide a comprehensive understanding of the medicinal properties of these plants (Das et al., 2022). The findings of this study

have the potential to inform new drug development, promote conservation efforts, and support the continued use of these plants in traditional medicine.

Methodology

The Kondajji forest region is in the Karnataka state's Davanagere district's Harihara taluk. Kondajji Lake is a popular and visually appealing leisure area. It is encircled by a small, steep tropical scrub jungle and sits in the centre of the forest. The natural beauty of the lake attracts people. The lake is situated in the Karnataka district of Davangere's Kondajji village in the Harihara taluk. Davangere is only 15 kilometres away. To the south of the lake is Kondajji Lake, the main scout and guide training facility in south India. The lake is roughly 145.27 acres in size and lies between latitudes 14°34'08" N and 14°34'49" N and longitudes 75°53'27" E and 75°53'31" E. Here, the literature is used to identify the therapeutic plants. We cited several sources, including The Dhanvantari Book, The Encyclopaedia of Herbal Medicine, Green Pharmacy Herbal Handbook, Medicinal Plants of India (Gamble, 1914-1930; Kirtikar and Basu, 1975; Champion and Seth, 1968; Saldanha, 1984; Satyavati et al., 1990; Manjunath, 2004), and Invasive Plant Medicine.

Results and discussion

The documentation of medicinal plants in the Kondajji Dry Deciduous Forest revealed a diverse range of plant species used to treat various ailments. The plants were found to belong to different families, including Acanthaceae, Annonaceae, Erythroxylaceae, Euphorbiaceae, Fabaceae, Lamiaceae, Lecythaceae, Liliaceae, Loranthaceae, Lythraceae, Malvaceae, Meliaceae, Menispermaceae, Opuntiaceae, Oxalidaceae, Papaveraaceae, Passifloraceae, Pedaliaceae, Phyllanthaceae, Plumbaginaceae, Poaceae, Polygalaceae, Pontederiaceae, Portulacaceae, Primulaceae, Rhamnaceae, Rubiaceae, Rutaceae, Salvodoraceae, Santalaceae, Sapindaceae, Simaroubaceae, Solanaceae, and Verbenaceae (Table 1). The traditional uses of the medicinal plants documented in this study were found to be diverse, ranging from treating skin conditions, fever, and digestive issues to more complex ailments such as cancer, ulcers, and asthma. The plants were found to be used in various forms, including decoctions, infusions, and powders, and were often used in combination with other plants to enhance their therapeutic properties. The results of this study highlight the importance of preserving traditional knowledge and the potential for discovering new drugs from natural resources. The documentation of medicinal plants in the Kondajji Dry Deciduous Forest provides a comprehensive understanding of the therapeutic properties of these plants and their traditional uses. The phytochemical analysis of *Wendlandia tinctoria* flowers reveals the presence of bioactive compounds with potential therapeutic applications. Further research is needed to fully explore the potential of these plants and to promote their conservation.

Table 1: Medicinal plants of Kondajji Dry Deciduous Forest, Davanagere, Karnataka

Name	Family	Medicinal uses
<i>Andrographis paniculata</i>	Acanthaceae	The plant is mostly used to cure snake bites, insects, and dyspepsia.
<i>Annona reticulata</i>	Annonaceae	It has several therapeutic qualities, including cytotoxic effects, wound healing, anti-inflammatory, antipyretic, analgesic, and anthelmintic actions. Ulcer, fever, and dysuria.

<i>Erythroxylon monogynum</i>	Erythroxylaceae	Used in the jaundice.
<i>Acalypha indica</i>	Euphorbiaceae	Hepatoprotective, hypoxic, wound-healing, anti-inflammatory, anti-bacterial, anti-cancer, anti-diabetic, anti-hyperlipidemic, anti-obesity, and anti-venom medications.
<i>Abrus precatorius</i>	Fabaceae	Medicines for urticaria that are laxative, expectorant, and aphrodisiac
<i>Acacia chundra</i>	Fabaceae	Leaves are used to treat diarrhea.
<i>Acacia ferruginea</i>	Fabaceae	Treating helminthiasis, ulcers, diabetes, piles, leukoderma, itching, and different skin infections.
<i>Acacia farnesiana</i>	Fabaceae	Pods are used to cure conjunctivitis, diarrhea, leucorrhea, sore throats, and dysentery.
<i>Acacia ferruginea</i>	Fabaceae	Treating helminthiasis, ulcers, diabetes, piles, leukoderma, itching, and different skin infections.
<i>Acacia leucophloea</i>	Fabaceae	Astringent, anthelmintic, demulcent, expectorant, antipyretic, snakebite antidote, and remedy for ulcers, dysentery, and bronchitis.
<i>Acacia sinuata</i>	Fabaceae	Astringent for skin conditions, burns, leucoderma, leprosy, hemorrhoids, and clenching of the scalp.
<i>Adenanthera pavonia</i>	Fabaceae	Treatment for cholera, arthritis, paralysis, epilepsy, indigestion, boils, diarrhea, inflammations, rheumatism, and decreasing blood pressure.
<i>Aeschynomene indica</i>	Fabaceae	Treat urinary tract infections and promote wound healing.
<i>Albizia odoratissima</i>	Fabaceae	Inflammatory disorders, such as leprosy, ulcers, burns and asthma.
<i>Bauhinia purpurea</i>	Fabaceae	Treating rheumatism.
<i>Bauhinia racemose</i>	Fabaceae	Fever, cough, malaria, skin conditions, diarrhea, cytotoxicity, antispasmodic, antiulcer, and hypotensive action.
<i>Butea monosperma</i>	Fabaceae	Antiviral, anticancer, antioxidant, anti-inflammatory, anti-ulcer, wound healing, hepatoprotective and antifertility.
<i>Caesalpinia bonduc</i>	Fabaceae	Anti-inflammatory, antimalarial, antimicrobial, antifungal, antispasmodic, adaptogenic, anthelmintic, antiestrogenic, antidiarrheal, anti-diabetic, and antioxidant.
<i>Caesalpinia pulcherrima</i>	Fabaceae	Anti-inflammatory, anti-ulcer, and analgesic properties.

<i>Cassia tora</i> (Figure 1)	Fabaceae	Leprosy, female infertility, worm infestation, diarrhea, and pitta.
<i>Cassia fistula</i>	Fabaceae	Leaves are used to treat skin infections.
<i>Crotalaria bifaria</i>	Fabaceae	Remedies for rheumatism, joint pain, gout, eczema, hydrophobia, pain and swellings, cuts and wounds, infections, renal discomfort, and gastrointestinal issues.
<i>Anisochilus carnosus</i>	Lamiaceae	Lamiaceae herb with an aroma. Traditional medicine uses the sections of leaves and aerials to treat stomachaches and ulcers in the stomach.
<i>Anisomeles indica</i>	Lamiaceae	Most illnesses are treated using traditional knowledge. Tribal lore and other traditional, natural health care methods are used to make the medicine available.
<i>Hyptis suaveolens</i>	Lamiaceae	Used as a regional flavoring, it is also used in ethnomedicine to cure headaches, cancer, eczema, diabetes mellitus, fever, and flatulence.
<i>Leucas aspera</i>	Lamiaceae	Cytotoxic, antibacterial, antifungal, prostaglandin inhibitory, antioxidant, and antinociceptive properties. Used to cure snake bites in philippine traditional medicine.
<i>Leucas zeylanica</i>	Lamiaceae	The plant is widely used in traditional medicine as an anthelmintic agent.
<i>Careya arborea</i>	Lecythdaceae	Treatment for skin conditions, bronchitis, tumors, epileptic episodes, astringents, snake venom counteragents, abscesses, boils, and ulcers.
<i>Urginea indica</i>	Liliaceae	Dropsy is cured with the bulb. Its rhizome strengthens weak cardiac muscles and helps with irregular heartbeats.
<i>Dendrophthoe falcata</i>	Loranthaceae	The traditional Indian and Indonesian medical systems treat conditions like cancer, ulcers, asthma, paralysis, skin conditions, tb, and menstruation issues.
<i>Ammannia baccifera</i>	Lythraceae	An efficient treatment for every blood condition. The leaves are used in india to lower an animal's sexual drive.
<i>Abutilon indicum</i>	Malvaceae	It boosts vitality, strength, and vigor. It is used to treat joint problems and facial paralysis.
<i>Bombax ceiba</i>	Malvaceae	Bark decoction is taken orally to treat fever; diabetics should take heartwood decoction; and bark juice is taken to ease stomachaches.
<i>Sida cordifolia</i>	Malvaceae	Cold and flu, chills, bronchial asthma, head pain, nasal congestion, hurting joints and bones, coughing, wheezing, and lack of sweating.
<i>Sida rhombifolia</i>	Malvaceae	The mucilage is used as an emollient, the root is used to cure rheumatism, the crushed leaves are used to reduce swelling, and the fruits are used to reduce headaches.
<i>Sida spinosa</i>	Malvaceae	Treatment for snakebite, skin conditions, asthma, and other chest conditions, as well as diarrhea and dysentery.

<i>Sterculia urens</i>	Malvaceae	Blisters, blood dysentery, joint discomfort, stomach disorders, throat infections, tonics, jams, and confections are all treated with gum of karaya.
<i>Thespesia populnea</i>	Malvaceae	According to Indian traditional medicine, they are astringent, antibacterial, anti-inflammatory, antinociceptive, and hepatoprotective.
<i>Triumfetta rhomboidea</i>	Malvaceae	Used to cure dysentery or skin conditions. Conjunctivitis can be treated with the roots.
<i>Byttneria herbacea</i>	Malvaceae	In ethnic medicine, leaves, roots, and stems are frequently used to treat a variety of illnesses, including impaction and diarrhoea.
<i>Azadirachta indica</i>	Meliaceae	Used in ayurvedic medicine for several skin conditions, diabetes, tooth decay, lice, wound healing, and antiviral properties.
<i>Chukrasia tabularis</i>	Meliaceae	The seed coat is crushed, cooked, or consumed raw to treat diarrhea, while an extract from the leaves is used to treat fungal issues and malaria. The bark extract is also used as a febrifuge and to treat diarrhea.
<i>Melia azedarach</i>	Meliaceae	Utilized as an anti-inflammatory, anti-oxidant, analgesic, insecticidal, and antidiarrheal medication in Arab countries and as an ayurvedic remedy in India.
<i>Melia dubia</i>	Meliaceae	Antioxidant, anti-inflammatory, anti-cancer, anti-diabetic, anti-arthritis, antimicrobial, biopesticidal, antifeedent, and plywood industry.
<i>Cissampelos pareira</i>	Menispermaceae	Treating a wide range of illnesses, including cholera, rabies, snakebite, malaria, rheumatism, ulcers, wounds, fever, asthma, diarrhea, inflammation, and rabies. It is also advised for blood purifications.
<i>Cocculus hirsutus</i>	Menispermaceae	Illnesses of the skin, stomach, urinary tract, diabetes mellitus, leprosy, fever, dyspepsia, hepatic blockage, jaundice, and bronchitis.
<i>Cyclea peltata</i>	Menispermaceae	It used as a wound healer, poison counter, and treatment for several dermatological, inflammatory, and digestive conditions in indigenous Indian medicinal systems.
<i>Opuntia stricta var. dillenii</i>	Opuntiaceae	Traditional medicine has utilized opuntia species for ages.
<i>Argemone mexicana</i>	Papaveraaceae	Rheumatism, jaundice, inflammations, skin conditions, warts, and tumours.
<i>Passiflora foetida</i>	Passifloraceae	Asthma, biliousness, headaches, and giddiness are all treated with leaves.
<i>Pedaliium murex</i>	Pedaliaceae	Prevention of kidney stones.
<i>Phyllanthus amarus</i>	Phyllanthaceae	Treat inflammatory disorders, jaundice, sores, and swelling.

<i>Phyllanthus emblica</i>	Phyllanthaceae	The Chinese pharmacopoeia classified it as a medication to cure diarrhoea and diabetes.
<i>Plumbago zeylanica</i>	Plumbaginaceae	Ayurvedic treatment for tumorous growths, skin conditions, and chronic rheumatoid arthritis that is difficult to manage.
<i>Alloteropsis cimicina</i>	Poaceae	Roots are used to treat wounds.
<i>Polygala arvensis</i>	Polygalaceae	To lessen irritation. It helps maintain intestinal health. Some polygala species are used to treat respiratory conditions.
<i>Eichhornia crassipes</i>	Pontederiaceae	Lessen inflammation in diseases such as arthritis.
<i>Portulaca grandiflora</i>	Portulacaceae	Used to treat hydrophobia, epilepsy, dropsy and leprosy.
<i>Anagallis arvensis</i>	Primulaceae	Plant that lowers inflammation. Possess antimicrobial qualities that aid in management.
<i>Ventilago madraspatmna</i>	Rhamnaceae	Aid in controlling blood sugar levels
<i>Canthium parviflorum</i>	Rubiaceae	The antimicrobial properties of the plant have been demonstrated.
<i>Chlorxylon sweitenia</i>	Rutaceae	Diarrhea, constipation, and dysentery
<i>Salvadora persica</i>	Salvadoraceae	It is used to promote gastrointestinal health and treat digestive diseases.
<i>Santalum album</i>	Santalaceae	To encourage dental hygiene, the bark and twinges are utilized as organic tooth brushes.
<i>Cardiospermum halicabum</i>	Sapindaceae	It is used to treat cough, gonorrhoea, cystitis (bladder inflammation), and dysuria, which causes increased urine.
<i>Alianthus excelsa</i>	Simaroubaceae	It can be used to combat some harmful illnesses because of their antimicrobial properties.
<i>Capsicum annum</i>	Solanaceae	Used to treat skin disorders and promote wound healing in traditional medicine.
<i>Clerodndrum inerme</i>	Verbenaceae	The leaves and bark are used to control diabetes and to lessen inflammation.



Figure 1: Flowers and leaves of *Cassia tora*

Conclusion

As we come to the end, we can state that some species are in danger of going extinct and that there is a huge need for medicinal plants as pharmaceuticals and for medical treatments worldwide. The use of medicinal plants to treat illnesses is still prevalent worldwide. In order to create novel pharmacological entities, thousands of plants are now being evaluated for biological activity. Plants are a reasonable source for new drug discovery. New antimalarial and anticancer medications have been created recently using plant materials. Even though there are many powerful and specialized medications available today to cure illnesses, people in developed nations are increasingly turning to alternative medicine, including the usage of herbal remedies. Rediscovering medicinal plants as a source of possible therapeutic candidates has garnered renewed attention in recent years. Thus, the current goal is to comprehend the knowledge of medicinal plants as a potential source of herbal medications in the future. In order to maintain a medicinal plant herbarium and museum, catalogue data for database development, and study the distribution, availability, and threats of medicinal species that are facing extinction, surveys of medicinal plants are essential to the drug research programs of Indian medical systems.

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