CASSIA SOPHERA LINN. A REVIEW ON AYURVEDIC MEDICO

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ABSTRACT
Cassia Sophera (L.), or kasundi, is an important plant in traditional medicinal system belonging to family caesalpiniaceae. The leaves extract of this plant is known for various pharmacological activities including, anti-inflammatory, anti-rheumatic, purgative property etc. It is one of the important medicinal plants in the tropical and subtropical region in Asia especially in India, Sri Lanka, Pakistan, Malaysia, Myanmar, and Bangladesh. In Bangladesh, the plant is locally known as “Kulkashunda.” It grows abundantly in the plain land, hilly areas of Chittagong Hill Tracks, Sylhet, and patches throughout Bangladesh. It has a number of traditional and medicinal uses in the traditional system of medicine such as Ayurveda and Unani.

KEYWORDS: Cassia sophera, Analgesic, Antioxidant, Anti-inflammatory.
INTRODUCTION

Plants have nice potential uses, especially as ancient medication and Pharmacopoeial drugs. Associate in Nursing oversized proportion of the world’s population depends on ancient medication because of the insufficiency and high costs of orthodox medicine.\textsuperscript{[1]} medicinal plants have provided the trendy medication with numerous plant derived therapeutic agents.\textsuperscript{[2]} many plants contain a spread of phytopharmaceuticals, that have really important applications inside the fields of agriculture, human and veterinary medicine. Natural product play a dominant role inside the event of novel drug leads for the treatment and hindrance of diseases.\textsuperscript{[3]} the need to screen plants for pharmaceuticals is very imperative in the light of speedy deforestation and so the concurrent loss of heterogeneity throughout the world. it is vital to possess sufficient information regarding herbs not only because of their wide unfold uses, but also as a results of they have the potentials to cause reactions or move with completely different drugs. as an example, ligneous plant (Cassia acutifolia) and suffrutex (Teucrium polium) can induce hepatotoxicity.\textsuperscript{[4]} Although in ancient medication Cassia species square measure documented for his or her laxative and purgative properties and for the treatment of skin diseases\textsuperscript{[5]} there is presently an increasing body of scientific proof demonstrating that the plants possess many other useful properties.\textsuperscript{[6]} The aim of this paper were to review the biology description, distribution, phytochemistry of Cassia sophera and their biological activities, and highlight their potentials as candidates for new medication which can be valuable inside the treatment and hindrance of human and livestock diseases.

Figure 1: Flowers of cassia sophera.
Cassia sophera, Linn. (Caesalpinaceae) known as ‘Kasondi’ is a vital drug of Islamic System of drugs (Unani Medicine). The plant is found throughout India\textsuperscript{[7]} and in most tropical countries\textsuperscript{[8]} It is common in waste lands, on road sides and in the forests\textsuperscript{[9]} Root bark in used for preparation of the medication. it's been used by ancient Indian physicians for its efficacy in metabolism disorders\textsuperscript{[10]} According to the physicians of Unani medicine\textsuperscript{[3]} plants viz., Cassia occidentalis Linn., Cassia sophera Linn. And Cassia sophera, Linn. Var. purpurea, Roxb. are varities of ‘Kasondi’ and square measure invariably used in similar pathological conditions. ‘Kasondi’ is delineated in unani literature to be repulsive of morbid humors, resolvent, blood apparatus, carminative, purgative, digestive, diaphoretic and reportable to be useful in brain disorder, ascites, ill health of liver, skin disorders, piles, jaundice, fever, articular pain and palpitation. In ethno botanical literature it's mentioned to be effective within the treatment of dermatosis, psoriasis, asthma, acute respiratory illness, cough, diabetes and convulsions of kids. The chemical analysis of seed of Cassia sophera, Linn. disclosed the presence of antioxidant, dehydroascorbic acid and β-sitosterol, but no scientific\textsuperscript{[11]} study is reportable on thevarietal level of plant.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{Figure2.png}
\caption{Cassia sophera fruits.}
\end{figure}

[A] Botanical description plant character

\textbf{Habitat:} Hill Plant, Plain land

\textbf{Plant type:} Herb,\textsuperscript{[12]} shrub
Foliage: Evergreen

Roots: Deep roots, tap roots

Type of stem: Soft wooded

Leaf type: Lanceolate, Oblong, Pinnate compound

Leaf arrangement: Alternate

Leaf color: Green

Leaf surface: Glabrous

Plant height: Very small (0-5 meters)

Actual height: Maximum 3.0 meters Minimum 0.70 meters

Plant feature: Bushy, erect, Forest plant, Hill side plant

Plant utilities: Industrial/commercial,

[a] Fruit character

Fruiting season: Monsoon, Summer

Type of fruit: True fruit

Fruit classification: Dehiscent Fruit.\textsuperscript{[13]} Dry Fruit, Legume, Pod, Simple Fruit

Fruit habit: Cluster

Seeds: Many

[b] Flower characters

Flowering season: Summer Flower

Color: Yellow\textsuperscript{[14]}

Flower type: Hermaphrodite

Characteristics: Cluster flower

[c] Climatic conditions

Altitude (m): 000-750

Rainfall (mm): 500-3500

Temperature (0C): 10-15, 35-40, 25-30

Climate: Hot climate, Humid climate\textsuperscript{[15]}

Sunlight: Full sun

[d] Soil features

Soil type: Peaty Soil, Sandy Loam, Alluvial Soil,\textsuperscript{[16]} Black Soil, Red Soil, Virgin Soil

Soil depth (m): 0.15-0.5
Drainage: Well drained

[e] Propagation information

Time of propagation: Monsoon\(^{17}\) Irrigation information
Crop type: Rainfed\(^{18}\) Soil reaction
Soil reaction (pH): Slightly acidic to neutral (6.3-7.3)

[f] Method of propagation\(^{19}\)
Seeds

[B] Classification

Botanical name: Cassia sophera
Family: Caesalpiniacea
Synonyms: Senna sophera

[C] Vernacular names in India

Telugu: Pydee tanghadu
Hindi: Kasaunda, Kasaundi
Tamil: Poonaverie
Manipuri: Thounam
Marathi: Kashawada
Bengali: Kolkasunda

[D] Uses

i. Homeopathic uses: The homeopathic Council has created extensive proving of this drug and lots of symptoms are clinically verified. Osteoarthritis- Pain in knee joints movement, rising from seat continuing motion & pressure.

ii. Asthma: Dyspnoea\(^{20}\) (breathlessness) in winters, from exposure to mud, change of weather, cold drinks, lightweight labor, smoke, morning, evening, night and from walking.

iii. Allergic Rhinitis: Inflammation with skinny nasal discharge and inborn reflex. Nose barricaded at night.
[1] Pharmacological activities

[i] Analgesic activity
The central analgesic\textsuperscript{[21]} action of the seeds of Cassia sophera studied by Eddy’s and Leimbach exploitation hot plate and technique of Davis exploitation Analgesiometer showed sturdy analgesic have an effect on most probably of opioid type because the positive impact against the thermal sensitive stimuli area unit indicative of opioid sort of analgesic impact.

[ii] Anticonvulsant activity
Anticonvulsant action of the ethanolic seeds extract of Cassia sophera studied by Maximum electroshock-induced seizures and medicine evoked seizure take a look at. In most electroshock-induced seizures test, the mean length of skeletal muscle section of test cluster reduced to important level as compared to manage cluster. In Pentylenetetrazole evoked seizure take a look at, onset of myoclonic spasm and convulsion convulsion was delayed within the take a look at showing antiepileptic impact. Death rate was 100% in both take a look at and management teams, while, in test group animals survived upto forty five minutes when Pentobarbitone injection. This demonstrates terribly putting and potent antiepileptic activity within the take a look at drug that may be helpful in each varieties of epileptic conditions viz., epileptic seizure and epilepsy minor epilepsy.

[iii] Antioxidant activity
The role of aerophilous stress and Reactive Oxygen Species (ROS) generation within the pathophysiology of inflammation, the fractions were assessed against one,1- Diphenyl-2-picrylhydrazyl (DPPH) radical serving because the oxidizing substrate, which can be reduced by Associate in Nursing inhibitor compound to its reducer spinoff via hydrogen donation, and because the reaction indicator molecule. The potential radical scavenging ability of Cassia sophera fraction can be because of radical substitution and presence of the constituents with higher massand proximity of the many aromatic rings and hydroxyl teams within the structure of flavanoids and organic compound like molecules which prove additional vital for free of charge radical scavenging. Ethanolic leaves extract of Cassia sophera scavenged the DPPH and hydroxyl atom at physiological pH more considerably as compared to alternative fraction of Cassia sophera. Cassia sophera exhibit dose dependent increase in reducing power successively suggests the antioxidant\textsuperscript{[22]} potential of the plant.
[iv] Anti-Inflammatory activity
Cassia sophera has each peripheral and central analgesic properties. Its peripheral analgesic activity was deduced from its inhibitory effects on chemical evoked nociceptive stimuli. The carboxylic acid evoked abdominal contractions elucidate peripheral activity, whereas solution test is extremely helpful technique for not solely assessing antinociceptive[23] medication however additionally helping within the elucidation of the action mechanism. The animal tissue section is probably an on the spot results of stimulation within the paw and reflects centrally mediate pain with unleash of substance P whereas the late phase is because of unleash of amine, serotonin, bradikynin and prostaglandins. Ethanolic leaves extract of Cassia sophera block each phases of the solution response but the impact was additional outstanding within thesecond section.

[v] Hypoglycaemic activity
The medication principles gift in ninetieth ethanolic leaf extract of Cassia sophera exhibits important hypoglycaemic activity by increasing peripheral aldohexose whereas streptozosin and also the medication principles may be because of β-cell restoration of duct gland against streptozosin induce injury. It also has antilipidemic activity. The investigation validates use of Cassia sophera as flavouring drug for antidiabetic[24] and antilipidemic activity.

CONCLUSION
A new anthraquinone diglycoside has been isolated from Cassia sophera root bark and characterized as 1, 8-dihydroxy-2- methylantraquinone 3-neohesperidoside along with sitosterol, chrysophanol and physcion. From the wood of Cassia sophera 2 new state anthraquinones, 1, 2, 7-trihydroxy-6, 8-dimethoxy-3-methyl and 1, 2, 6-trihydroxy-7, 8-dimethoxy-3. Two new anthraquinones are isolated from the foundation bark of Cassia sophera and characterized as one, 8-dihydroxy-3, 6- dimethoxy-2-methyl-7-vinylantraquinone and 1, 3-dihydroxy-5, 7, 8-trimethoxy-2- methylantraquinone. Cassia sophera leaves possess antiasthmatic activity, hepatoprotective activity, antiinflammatory activity, medicament and antioxidant activity. Seeds of Cassia sophera possess antiepileptic
drug and analgesic activity and also the mucilage obtained from the seeds is employed as a binder in pill formulations.

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All author participated Equally.

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None

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