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PHYTOCHEMICAL AND PHARCOGNOSTICAL REVIEW ON PALASH; AN AYURVEDA AND MODERN ASPECTS

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ABSTRACT
Palash is important plant scientifically known as *Butea monosperma* belonging to the family *Faboideae*. This plant found in many parts of India and offers enormous medicinal values. *Palash* is medium-sized tree, having 10-15 meters height and is found through- out India. *Palash* also found abundantly in Ceylon and Burma along with India. The plant commonly known as *Dhak* and its descriptions also found in classical Indian texts like; *Susruta Samhita, Upanisads, Vedas, Charaka Samhita, Astanga Hridaya* and *Astanga Sangraha*. Chemically it contains many active principles like isocoreopsin, sulphurein, coreopsin, butein, isobutrin, aurones, butin, chalcones, steroids and flavonoids, etc. The flowers, barks, seeds, fruits and leaves etc offers many pharmacological activities including hepatoprotective, antifilarial, anti-diabetic, antifertility, antiviral, anticonvulsant, antifungal, anthelmintic, anticancer, antiinflammatory, antiulcer, antioxidant, wound healing, anti-implantation, antimycobacterial and anti-diarrhoeal activities, etc. Considering importance of plant value present article explored various scientific aspects of plant in terms of modern as well as Ayurveda science.

KEYWORDS: Ayurveda, Plant, Palash, Butea monosperma.

INTRODUCTION

Palash is traditionally well known plant mainly found in forests of central and western India. Plant popularly known as *Dhak*, *Mutthuga*, *Bijasneha*, *Chichara* and *Khakara*, etc. There are four type of *Palash* as depicted in **Figure 1**. *Shweta* and *Nila* are seldom available but *Pita* is rare, the abundantly available *Rakta* variety commonly used for medicinal purpose.[1-4]

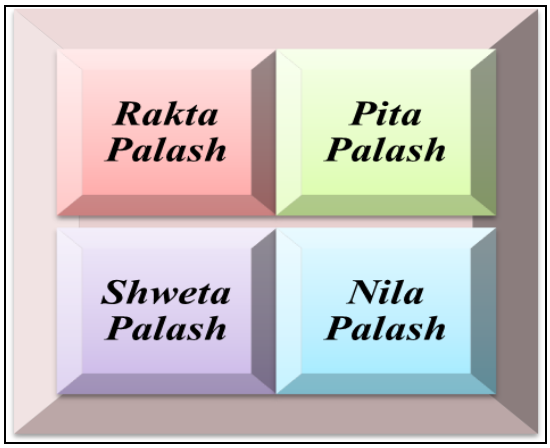

Figure 1: Various types of *palash.*

Plant description

This tree generally grows up to 50 ft with stunning clusters of flower, tree is leafless in spring season forms orange- red flowers at the upper portion, this look like appearance of flame that why this plant also termed as flame of forest. Phytochemical literatures suggested presence of triterpene, flavonoids, glycosides, chalcones, steroids and aurones, etc. The salient feature of plant includes pigmented bright orange and yellow parenchyma cell, pitted multicellular trichomes.[3-6]

It is medium size deciduous tree; looks like small bush when 1-2meters long, at this stage it possess more branching. Flower of tree is odourless, looks reddish during flowering season and leaves are trifoliate. The various parts of plan like gum, flower, seed, bark and leaf, etc. are used for medicinal purposes.

Botanical classification:
Kingdom: Plantae
Division: Magnoliophyta
Class: Magnoliopsida
Order: Fabales
Genus: Butea
Species: Monosperma

Macroscopical characters

- ✓ Seeds are flat and uniform, with size 25-38 mm long, 16-25 mm wide, 1.5- 2.1 mm thick.
- ✓ Leaves are 3-foliate, obtuse, glabrous, finely silky and reticulately veined beneath.
- ✓ Flowers are large, bright orange and rigid.

Chemical compositions

***Flower*:** Flower of *Palash* contains butrin, isobutrin, sulphurein, coreopsin, isocoreopsin, isomonospermoside, steroids, flavonoids and aurones.

***Gum*:** Gum of *Palash* contains pyrocatechin, tannins and mucilaginous material, etc.

***Seed*:** Seeds of plant contain proteinase, polypeptidase and proteolytic enzymes. Nitrogenous acidic also found in seeds of plant along with monospermoside and allophanic acid. Flavone of seed is responsible for antiviral activity. Seeds also contain fatty acids and fixed oil.

***Resin*:** Resin contains laccijalaric esters, α amyrin, β-sitosterone and sucrose, etc.

***Saponin*:** The major saponin contains of plant are butein, flavanone and chalcones

***Leaves*:** Leaves contain linoleic acid, oleic, palmitic and lignoceric acid, etc.

***Stem*:** Stems of plant contain stigmasterol-β-D-glucopyranoside, dimethyl-8-oxo-octadec-11-enylcyclohexane and nonacosanoic acid.

***Bark*:** Barks contain kino-tannic acid, pyrocatechin, gallic acid, allophanic acid, shellolic acid, palasitrin, cyanidin, miroestrol and palasimide. Bark also contains cajanin, isoformononetin, buteaspermin A, buteasperminol, cajanin, isoformonentin and cladrin, etc.[6-11]

Descriptions in different ayurveda texts:

- *Charaka Samhita* defined plant in *Mahakasaya*.
- *Susruta Samhita* described plant as *Ambasthadi*, *Muskakadi*, *Rodhradi* and *Nyagrodhadi*.
- *Astanga Hrdaya* described *Palash* in *Ambasthadi*, *Nyagrodhadi Gana*, *Muskakadi* and *Rodhradi*, etc.
- *Astanga Sangraha* mentioned *Palash* in *Rodhradi*, *Muskakadi*, *Nyagrodhadi Gana* and *Asanadi*, etc.
- *Vagbhata* also mentioned *Palash* in *Muskakadi*, *Ambasthadi*, *Asanadi* and *Rodhradi*, etc.
- The description of *Palash* is also available in *Sharangadhar Samhita*, *Harita Samhita*, *Kasyapa Samhita* and *Bhela Samhita.*

Therapeutic properties as per ayurveda:

- ➢ *Deepana* property helps to promotes digestion
- ➢ *Sara* effect helps to promotes bowel movement
- ➢ *Vranajit* improves wound healing process
- ➢ *Vrushya* property impart aphrodisiac action
- ➢ *Gulmajit* effect is useful for abdominal disorders
- ➢ *Bhagnasandhanakrut* is good for fracture healing
- ➢ *Arsha* effect is good for haemorrhoids
- ➢ *Krimihara* property of *Palash* helps to cure intestinal worms
- ➢ *Grahanihara* effect relieves consequences of malabsorption
- ➢ Plant reduces aggravation of *Kapha* and *Vata*
- ➢ *Palash* offers *Kasaya* and *Tikta Rasa* thus can be used for *Arsa*, *Krimi* and *Vatakaphaja rogas*.

Ayurveda properties of plant:

- ➢ ***Guna*:** *Laghu* & *Rooksha*
- ➢ ***Rasa*:** *Katu*, *Tikta* & *Kashaya*
- ➢ ***Vipaka:*** *Katu*
- ➢ ***Veerya:*** *Ushna*
- ➢ The flowers of plant having *Madhura vipaka* and *Sheeta veerya*

CONCLUSION

Palash (*Buteamonosperma Lam.*) is a traditional medicinal plant also known as 'flame of the forest' used for its medicinal values. This moderate sized deciduous tree distributed throughout India, Burma and other Asian countries, etc. This tree generally grows up to 50 ft with stunning clusters of flower, tree is leafless in spring season forms orange- red flowers at the upper portion, this look like appearance of flame that why this plant also termed as flame of forest. Phytochemical literatures suggested presence of triterpene, flavonoids, glycosides, chalcones, steroids and aurones, etc. The plant offers therapeutic benefits in many health ailments including *Atisara*, *Jwara*, *Kushta* and *Prameha*, etc. The bark and flowers of plant used for the treatment of diabetes. Plant also possesses anti-oxidant, anti-bacterial, anti- fungal, anti- inflammatory and hypolipidemic activities. Flowers are used for fever, leucorrhoea, epilepsy, leprosy and liver disorders, etc. The extract, infusion, juice, gum and powder of plant used for therapeutic purpose.

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