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Research Article

# The flamboyant Delonix regia(Gulmohar) - A review

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**Abstract**

Medicinal plants have been of age long remedies for human diseases since they contain valuable components. In india indigenous herbal remedies such as Ayurveda and other indian traditional medicine since ancient times had used plants in treatment of various diseases. Delonix regia, a well known plant with high medicinal valve reported to have a number of biological activities including antioxidant, antibacterial, antimicrobial antipyretic and anti inflammatory and nutritional properties in all over world. Seeds of Gulmohar possess insecticidal and Anti- bacterial properties. it is used in illuminating and pharmaceutical preparations, fertilizer. The seed is carminative, purifies and enriches the blood and is used in cases of inflammation, ear ache and chest complaint.

**Key Word:** pharmaceutical preparations, fertilizer,anti bacterial, Anti microbial, Antinflammatory.

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## INTRODUCTION

Gulmohar is well known for its nutritional and medicinal properties and regarded as one of the most beautiful tropical trees in the world.The Gulmohar grows well in the tropical and sub tropical areas of the world. It prefers the sun and does not like shade and doesn't grow well in shaded areas. The trees ia an evergreen deciduous, Although the gulmohar has all but disappeared in the wild in its original home in Madagascar. This plant is well known for the comfortable shadow it provides with the help of its feathery foliage. In india it is planted along road sides and gardens especially in the warmer parts.

**Botanical Classification**

Kingdom:-Plantae Pylum:-Tracheophyta Class:-Spermantopsida Orcler:-Fabales Family:-Leguminousea Genus:-Delonix
Species:-regia(hook)raf. Botanical name:-Delonixregia(hook)raf.

**Botanical Description**

Gulmohar is an ornamental flowering tree. The tree grows to a height of about 20-25 feet, stems are woody, erect or ascending and decumbent. Sometimes, roots close to the trunk are exposed to provide additional support to the trunk. These are called "buttresses". The tree has a clear bole of with smooth pale grey bark. A characteristics feature is that there are crases or folds in the bark, especially where the branches fork out. It looks like a elephant skin. Seeds: seeds are olive brown or black in colour, slightly elongated to rod-shaped smooth with hard seed coats and streake. They are neatly arranged linearly within the fruit approx 2 cm. broad. Fruit- Fruit is legume, stipulate, unilocular, elongate and ablong. In maturation fruit splits into 2parts. Fruit is approximately 30-75 cm long, 3.8 cm thick and 5-7.6 cm broad. Flower Flower is actinomorphic or somewhat irregular slightly fragrant, calyx is 5 lobed. Sepals are thick reddish with yellow border with in and green outsides.There are five petals. The species is thought to bepollinated by sunbirds. There are ten stamens surrounding the pistils.stamens are completely free, seprate and .filaments are hairy, villous and red or pink in colour. Leaves Leaves are bipairipinnate, slightly hairy, alternate light green and 20-60cm. long leaves are compound and feather–like. Each leaf is made of between 10 and25 paires of pinnae, with each pinnae having 16-30 oppsitely arranged leaflets. A mature leaf could have between 1500-2500 leaflets.

**Phytoconstituents**

Phytochemicalsceening yielded. Sterols, phenolic compounds triterpendoids and falvonoids.Flowers yielded saponins,flavonoids, carotenoids, tannins, steroids,alkalois, and AY-sito sterol. Bark yield AY-Sistosterot .Carotene,hydrocarbons, Phytotoxins,Saponins,Alkaloids .and flavoroids.Stem bark yielded four triterpenes. AY-sistosterol, Stigmasterol, lupeol, epilupeol and an aromatic, Compound P-methoxybezadehyde. Leaves yield AY-sistosterolandlupeol.

**Pharmacological profile**

Anti-diabetic activity Anti-bacterial activity Anti –diarrheal activity Hepatoprotective/cytoloxic property Anti-microbial activity Anti-Inflammatory activity Antiuoxident Antidiabetic Carminative Antipyretic Gulmohar leaf is used in folk medicine of Bangladesh for the treatment of diabetes,but so far no scientific studies appears to have been done to confirm this use in traditional medicine .It appears that the seed purifies and enriches blood and is used in cases of inflammation ,ear ,ache and chest complaints .The oil appears to possess insecticidal and anti-bacterial properties leavesand flowers of this plant may be edible seeing fondness of cows and other animals for them howeverthis we of the tree needs to be explored and verified further.

**Chemical constituent**

Fractionation of the 95% ethanolic extract of the leaves of Delonix regia (Hook) Raf (led to the isolation of three sterols and its glucoside namely, Stigmasten-diol-3-o-glucoside, (Soltam *et al*.2002) 12,15-Dihydroxy-chol-8-en-24-oic-acid-3-oxy-6'-acetyl-glucoside and sodium, potassium Adduct of 12,15- Dihydroxy-5-chol-9-en-24-oic-acid-3-oxy-rhamnosyl-rhamnoside,one flavonol, namely, Kaempferol (Gangwal *et al*. 2010).

**Importance:**

The heartwood is yellowish to hight brown and the sapwood is light yellow .It is drable and resistant to water. Gum or resin is used in textile and food industries. The gum obtained from the dried seed is used as a binder in the manufacture of tablets. Large pods are used for fuel. Flowers are used to produce bee forage and natural dye. Oil known as "karanga" or "pangam" used in tanning industries. The oil also finds use in soap making illuminating and pharmasuticalpreparations.The oil cake is a fertilizer. The seeds cake can also used in poultry rotions to substitute black til component. It is host for lac insect. It is a good tree to control soil erosion in the semi-ai=rid and arid areas.

## CONCLUSION

Gulmohar is an ornamental plant in all over world widely plantd in the subtropics and tropics area. Its part are used as a traditional medicine. Although this needs to be researched further, the oil is likely to be a good bio-fuel too. Gulmohar has show many medicinal properties like Anti-diabetic activity. Anti microbial activity etc.Gulmohar also have economic importance. One impediment towards modern research is what appears to be the abominable practice of modern research. However this use of the tree needs to be explored and verified further.

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