

Phytochemical Screening of Flower Extract of *Butea Monosperma*.

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Abstract:

Butea monosperma (B.M.) belongs to Fabaceae family, in Hindi commonly known as 'Palash'. Due to its bright orange and scarlet colour flowers the palash tree is also known as the flame of the forest. It is well-known medicinal plant which is a medium sized deciduous tree widely distributed in India, Sri Lanka, Bangladesh, Nepal, Myanmar, Thailand, Laos, Cambodia etc. Flowers are used as drug in many ailments like eye disease, chronic fever, enlargement of spleen, leucorrhoea, epilepsy, leprosy, antifungal activity, anti-inflammatory activity, liver disorders, antifertility activity and gout. etc. The present study revealed that alkaloid, phenols, tannins, flavonoids, saponins, glycosides, oil & fats, protein & amino acids, steroids, carbohydrates etc.

Keywords: - *Phytochemical screening, Flowers, Butea monosperma, Qualitative Analysis.*

Introduction:

Umred Karhandla Wildlife Sanctuary is a protected area located about 50 km from Nagpur city and 60 km from Bhandara district in the Indian state of Maharashtra. It is spread over the Pauni tahsil of Bhandara district and the Umred, Kuhi, and Bhiwapur Talukas of Nagpur district. The sanctuary is home to a diverse range of flora and fauna, including several endangered species. *Butea monosperma* (BM) is a plant species from fabaceae family. The most common name of this tree is palash. It is deciduous tree with small to medium size generally about ten-meter height palash is a beautiful tree with number of traditional and medicinal uses. It is called as "The flame of forest". It is widely used in the medicines.¹ Its flowers are odourless and looks reddish in the flowering season during springs and leaves are trifoliate. The plant is having numerous medicinal properties like appetizer, laxative, anthelmintic and aphrodisiac etc. The following parts of plants may be used such as flower, gum, seed, leaf, and bark.²⁻⁹ As per Ayurveda, BM also has the property of reducing Kapha and Vata¹⁰. The various parts of BM contain many active constituents e.g. butein, butrin, flavonoids and steroids (flower), glucose, glycosides (roots) tannins (gum), oil, proteinase and polypeptidase (seed) etc.¹⁰ BM has a great impact as a medicinal herb used in Ayurvedic medicine. The specific name monosperma means one seeded and refers to the fruit with a single seed near its apex¹¹. On exhaustive review of Ayurveda, BM was originated as Palash. Its characteristic is well defined in Charaka Samhita, Susruta Samhita, Astanga Sangraha, Astanga Hridaya, Vedas and Upanisads. In Charaka Samhita, the plant is defined in Mahakasaya¹². Present study describes the phytochemical Screening of the flowers of *butea monosperma*.

Methodology:

All the flowers of *Butea monosperma* are collected from Umred Karhandla reserve forest in March 2022. The handpicked select method was used to separate and to get good quality flowers, further the flowers are allowed to dry in shadow at room temperature and converted in powdered form with the help of mortar and pestle and passed through 0.4 mm mesh screen. The prepared sample was kept in tight borosile glass container and store at room temperature for an analysis.

Phytochemical screening (Qualitative analysis):

Extraction : The powdered flowers of *butea monosperma* was subjected to extraction with methanol using Soxhlet apparatus. Qualitative phytochemical test were carried out adopting standard procedure¹.

Results and Discussion: The present study deals with the phytochemical analysis of flowers of *butea monosperma*. The powdered flowers of *butea monosperma* was subjected to extraction with methanol using Soxhlet apparatus. The qualitative phytochemical analysis results are shown in Table 1.

Table 1:- Qualitative Phytochemical Analysis

Sr. No.	Name of Activity	Name of Test	Procedure	Observation	Results
1.	Alkaloids	Detection of Alkaloids (Hager Test)	2 ml extract + picric acid	yellow PPT obtained	Present
2.	Saponins	Detection of	2ml extract + small	Foam	Present

		Saponin (Foam Test)	quantity of distilled water	formation persist 10 min.	
3.	Tannins/Phenols	Detection of Phenolic and Tannins	2 ml extract+ 5% ferric chloride	Deep blue colour obtained	Present
4.	Carbohydrates	Detection of Carbohydrates (Benedict Test)	2 ml extract + 2ml benedict's reagent heated 5 min.	Green Yellow PPT obtained	Present
5.	Oil & fats	Detection of Oil and Fats (Soap Test)	2ml extract + ether benzene and chloroform, formed PPT and insoluble in ethanol.	Formation of soap	Present
6.	Glycosides	Detection of Glycosides (Killer kiliani Test)	2ml extract+ acetic acid+ FeCl ₃ + H ₂ SO ₄	Reddish brown color appeared at junction of two liquid layer and upper layer appeared bluish green color	Present
7.	Proteins and amino acids	Detection of Proteins and amino acids (Biuret Test)	2ml extract+ sodium hydroxide+ copper sulphate solution	Appeared purple violet colour	Present
8.	Steroids	Detection of Steroids (Salkowski Test)	2 ml extract + chloroform+ H ₂ SO ₄	Appeared acid layer & greenish yellow color obtained	Present
9.	Flavonoids	Detection of Flavonoids (Alkaline Reagent Test)	2 ml extract + few drop sodium hydroxide solution	Intense yellow colour appears but it gradually becomes colourless in presence few drops of dil. HCl	Present

Conclusion :

Preliminary phytochemical screening of the powdered flower contains various phytochemicals such as alkaloids, glycosides, phenolic compounds, flavonoids, , tannins and saponins qualitatively , which can be used as a potential source for useful therapeutics. Truly butea monosperma is an gift from mothers nature.

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