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Chromatographic screening of the ethanolic extracts of *Butea monosperma* (Lam.)

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Abstract

Chromatographic profile of ethanolic extract of leaves of *Butea monosperma* were reported in present paper.

Key-Words: *Butea monosperma*, Leaves, Ethanolic Extract

Butea monosperma (Lam.) Taub (Syn. *Butea frondosa*; Family Fabaceae) popularly known as 'dhak' or 'palas' commonly known as 'Flame of forest', palash, mutthuga ,bijasneha, khakara, chichara , Bastard teak , Bengal kino· *Butea monosperma* (Fabaceae) commonly called Palash and "Flame of the forest" is a tree growing in abundance in most part of India, Berma, Srilanka and Pakistan is valued in Indian pensula for its religious general and therapeutic applications.

The plant part (leaves) were collected and authenticated by Department of Crop and Herbal physiology, Jawaharlal Nehru Krishi Vishwavidyalaya, Jabalpur (M.P.) in the month of November, 2013 and dried in shade and were coarsely powderd and used for prepration of extract.

The solvent system was poured to a depth of 0.5 cm in a rectangular chromatographic glass chamber. The chamber was lined with a piece of filter paper to ensure proper saturation. The spots of extract were applied on a silica gel-G plate with the help of capillary tube. The distance between two spots was kept approximately 2.0 cm. The applied spots were dried at room temperature and the plate was gently placed inside the glass chamber. The angle of the plate with the vertical was kept approximately 15°. The chromatogram was developed till the solvent front migrated to about 10.0 cm. The plate was taken out and the solvent front was marked. The plate was dried at room temperature and inspected either under UV light or sprayed with the specific detecting reagent. The colored spots were marked and the Rf value of each separated component was calculated and best resolution was obtained in, : Acetone-water-conc. Ammonia (90:7:3), Chloroform-acetone-formic acid (75:16.5:8.5).

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The TLC plate examined under sun light showed the presence of 8 spots. The same plates were derivatized with anisaldehyde-sulphuric acid reagent and ferric chloride soln., but after using these spraying reagents non of them showed good resolution of the spots so only sun light detection was choosed for the further investigations as it showed the best resolution. Many other solvent systems were investigated before developing the best solvent system but none of those gave the satisfactory resolution or the good separation. Ethyl acetate- methanol-water (81:11:8), gave the same separation as by Toluene-chloroform-ethanol (40:40:20) but the resolution of the spots were not as clear the best solvent chosen.

TLC of ethanolic extract was done in order to separate out as many as compounds possible.After trying to many solvents and solvents system Acetone-water-conc. Ammonia (90:7:3), came out to be the best solvent system as it gave 8 spots in glass plate coated with silica gel G .After that we conducted the Co-TLC of ethanolic extract.

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Table 1: Chromatographic results of ethanolic extract of leaves of *Butea monosperma*

Compound	Extract	Number of Spots	Rf value
Alkaloids	Ethanol	2	0.10, 0.37
	Aqueous	1	0.39
Cardiac Glycoside (Sterol) or Steroidal Glycoside	Ethanol	2	0.40, 0.63
	Aqueous	2	0.34, 0.41.
Terpenoids	Ethanol	2	0.14, 0.21.
	Aqueous	1	--
Flavonoids	Ethanol	1	0.48
	Aqueous	1	--

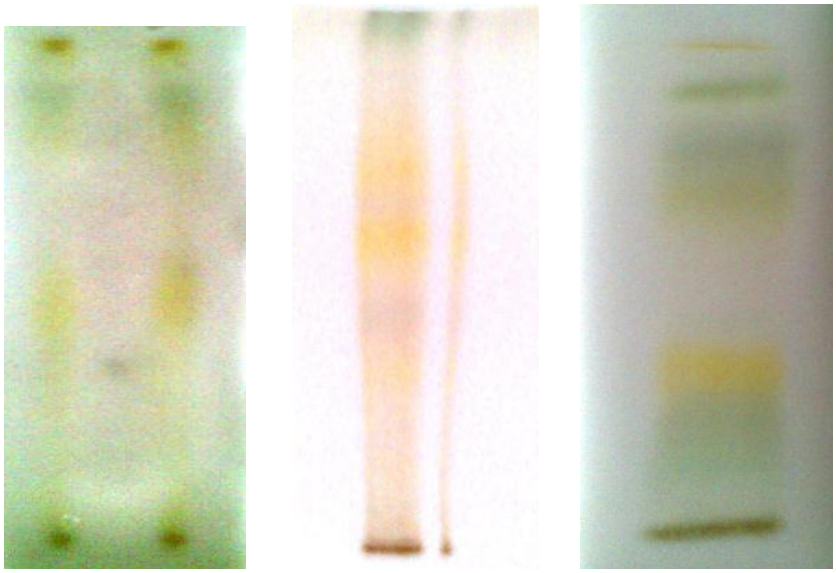

Fig. 1: Developed chromatogram

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