



## RESEARCH ARTICLE

### QUANTITATIVE ESTIMATION OF PHYTOCHEMICALS FROM STEM BARK OF *SOYMIDA FEBRIFUGA*

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#### ABSTRACT

*Soymida febrifuga* and their dried stem bark (10 gm) was extracted with different solvents and used for screening of phytochemicals. The phytochemicals are the basic constituents of medicinal plants therefore in order to know the type, nature and action of different phyto-components. In this text the stem bark of *Soymida febrifuga* was tested for their phytochemicals analysis and alkaloids and tannins were found. The highest concentration of tannins and alkaloids were detected in stem bark of *Soymida febrifuga* while carbohydrate was not found in their presence.

#### Key words:

Phytochemicals,  
Stem Bark,  
*Soymida febrifuga*.

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## INTRODUCTION

*Soymida febrifuga* belongs to family *Meliaceae* is well known as differentially in various regional languages with different name in Maharashtra, such as Rohuna, Ragatrohin and Indianred wood tree. *Soymida febrifuga* or *Swietenia rubra* is a lofty deciduous tree frequently found on hills, forest, mountains and laterite soil. It is widely distributed in Chota Nagpur, Kerala, Gujrat, Uttar Pradesh, Bihar and Ceylon also found in various tribal areas of Kinwat and Mahur forest (Shinde 2008), Bhandra and Gadchiroli (Attarde et al., 2008). District the *Soymida febrifuga* collected from Kinwat and Mahur forest in Nanded district of Marathwada region during 2008. The stem bark were used ethno-medico-botanically for treatment of various ailments of human beings (Shinde 2008). It was used in Unani Ayurveda system of medicine as astringent to bowels and fever. *Soymida febrifuga* is a better tonic, antiperiodic and antimalerials and also beneficial to, apply a decoction for rheumatic swellings, (Kirtikar, 1984; Nadkarni 1976).

Many researchers in India and abroad have been work carried out on stem bark, as per the literature, methyl angolensate and steryl glycosiden were isolated from the bark of *Soymida febrifuga* (Adesida et al., 1971; Adesogan et al., 1972 and Ambaye et al., 1971).

### Phytochemical Test

The substances like carbohydrates, proteins and lipids from plant sources are being used as food since antiquity by man and different chemical compounds like alkaloids, glycosides, saponins exert a physiologic effect on human body. In this context it was significant to undertake a preliminary phytochemical screening from stem bark of *Soymida febrifuga* for the detection of chemical constituents. These chemical compounds can be utilized by human being (Bhakuni, 1997). The dried powder of plant material was used for extraction of alkaloids, carbohydrates, tannins and gallotannins. The following tests are adopted for the determination of compounds.

### Alkaloids

Dragendorffs test: Dissolve a few mg of alcoholic or aqueous extract of the drug in 5 ml of distilled water, add 2 ml

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hydrochloric acid until an acid reaction occurs, then add 1 ml or dragendorff's reagent, an orange or orange-red is produced immediately.

### Carbohydrates

Molisch's test: in tube containing 2 ml of aqueous extract of the drug add 2 drops of freshly prepared 20% alcoholic solution of alpha-naphthol and mix 2 ml concentrated sulphuric acid so as to form a layer below the mixture. Carbohydrates, if present, produce a red-violet ring, which disappears on the addition of an excess of alkali solution.

### Tannins

1-2 ml extract of the drug, add few drops of 5% neutral FeCl<sub>3</sub> solution. A green colour indicates the presence of Gallo tannins, while brown colour indicates the presence of tannins.

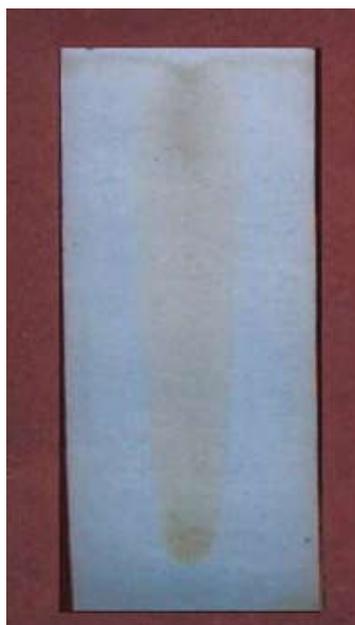
### TLC

25 gm of sample powder was soaked in 100 ml of acetone and alcohol separately for 24 hrs. and the mixture was warmed and filtered through filter paper. The filtrate was utilized for loading on Merck plate Silica gel 60 F254 plate. Varied proportions of solvent were utilized to run the spots. The plate was kept in an iodine chamber for about 15 minute and sprayed with Anisaldehyde sulfuric acid reagent to visualize the bands. The plates were heated at 105°C. for 5-10 minutes in oven to dry and calculated the R<sub>f</sub> values of the bands.

**Table 1. Detection of Phytochemicals**

Sl.No.	Name of the plants	Part used	Alkaloids	Carbohydrates	Tannins
1.	Soymida febrifuga	STEM BARK	++	--	++

++ = Present -- = Absent



Name of the plant	R <sub>f</sub> values		
Soymida febrifuga	0.32	0.80	0.93

### Phyto chemical studies

The phytochemicals are the basic constituent of medicinal plants and it is base for antimicrobial potentiality in the plants. In order to know the type, nature and action of different components, the phytochemical studies are more significant. In this text, the aried stem bark parts of highly medicinal *Soymida febrifuga* was tested for their phytochemical investigation and the results are noted in Table 1.

The results are summarized that, three categories of chemical compound were yielded from phytochemically test. Alkaloids, tannins and gallo-tannin were detected from stem bark of *Soymida febrifuga*. The highest concentration of tannins were observed in stem bark of *Soymida febrifuga*.

### *Soymida febrifuga*

TLC of stem bark powder acetone extract on Merck plate silica gel 60 F<sub>254</sub> plate using Ethyl acetate: Benzene: Methanol: Acetic acid in 60 : 20 : 5:15 proportion showed spots when sprayed with anisaldehyde sulphuric acid reagent and the plate was heated at 105°C for 10 minutes. The R<sub>f</sub> values of spot was calculated and presented in the table.

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