ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 8, Issue, 12, pp.43506-43507, December, 2016

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

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

[1]Bhagwan M. Waghmare, [1]Rahul K. Dhabale, [1]Suvarna T. Kadam and [2]*Surendra R. Shinde

[1]Botany Research Centre, Department of Botany, Maharashtra Mahavidyalaya, Nilanga, Dist. Latur (M.S.) India 413521
[2]Department of Botany, Baliram Patil College, Kinwat Dist. Nanded

ARTICLE INFO

Article History:
Received 23rd September, 2016
Received in revised form
17th October, 2016
Accepted 25th November, 2016
Published online 30th December, 2016

Key words:

Phytochemicals,
Stem Bark,
Soymida Febrifuga.

ABSTRACT

Soymida febrifuga and their aried 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.

Citation: Bhagwan M. Waghmare, Rahul K. Dhabale, Suvarna T. Kadam and Surendra R. Shinde. 2016. "Quantitative estimation of phytochemicals from stem bark of soymida febrifuga", *International Journal of Current Research*, 8, (12), 43506-43507.

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 decostion for rheumatic swellings, (Kirtikar, 1984; Nadkarni 1976).

Corresponding author: Surendra R. Shinde,
Department of Botany, Baliram Patil College, Kinwat Dist. Nanded.

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 corbohydrates, 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

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 Fecl3 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 1050c. for 5-10 minutes in oven to dry and calculated the Rf values of the bands.

Table 1. Detection of Phytochemicals

Sl.No.	Name of the plants	Part used	Alka loids	Carbohydra tes	Tannins
1.	Soymida febrifuga	STEM BARK	++	--	++

++ = Present -- = Absent

Name of the plant	R_f 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 phytochemicaly 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_{254} 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 105^0c for 10 minutes. The R_f values of spot was calculated and presented in the table.

REFERENCES

Adesida, G.A., Adesogen, E.K., Okorie, D.A., Taylor, D.A.H. and Styles, B.T. 1971. Identification of methyl angolensate from the stem bark of *Soymida febrifuga.* Phytochem., 10:845.

Adesogen, E.K., Adesida, G.A., Okorie, D.A., Taylor, D.A.H .and Styles, B.T. 1972. Extractives fro *Soymida febrifuga*. Phytochem., II (10):1520-1522.

Ambaye, R.Y., Indap, M.A. and Panse, T.B. 1971. Identification of methyl angolensate and steryl glycoside from inner bark of Soymida febrifuga. *Current Science*, 7: 158.

Attarde, D.L., Aurangabadkar, V.M., Belsare, D.P. and Pal, S.C. 2008. Pak J. Pham.Sci Vol. 21 No.3 July 2008- pp. 316-319.

Bhakuni, D.S. 1997. Some aspects of aromatic and medicinal plants. *J.Indian chem.. Soc.,* 74 : 349-356

Kirtikar, K.R., Basu, B. D. and An, I.C.S. 1984. Indian Medicinal Plants. 2nd ED Edited, revised, enlarged and mostly rewritten by Blatter E, Calus JF and Mhaskar KS, Bishen Singh Mahendra Pal Singh, Dehradun, India, 1:559-560.

Nadkarni, K.M. 1976. Dr. K. M. Nadkarni's Materia Medica, revised and enlarged by Nadkarni AK, Bombay Popular Prakashan, 1:1161.

Shinde S.R. 2008. Ph.D. thesis submitted to Swami Ramanand Teerth Marathwada University, Nanded.

****