International Journal of Research in Pharmaceutical and Biomedical Sciences | ISSN: 2229-3701

Research Paper

Anthelmintic Activity of *Flemingia strobilifera* (R.Br)

Anil Kumar[1*], Jyotsna Dora[1], Kavita Gahlot[2] and Rishikant Tripathi[1]

[1]Pharmacy college, Itaura, Chandeshwar Azamgarh, Uttar Pradesh, India.

[2]College of Pharmacy, I.F.T.M, Moradabad, Uttar Pradesh, India.

ABSTRACT

Petroleum Ether, chloroform, alcoholic and aqueous extracts of leaves of *Flemingia strobilifera* was evaluated for anthelmintic activity. The results revealed that the alcoholic extract produced significant anthelmintic activity, both alcoholic and chloroform extracts showed significant anthelmintic activity as compared to other extracts. Piperazine citrate was used as standard drug.

Key Words: *Flemingia strobilifera*, anthelmintic activity.

INTRODUCTION

Flemingia strobilifera (R.Br) belonging to family Fabaceae, commonly known as Kusrunt is widely distributed in Sind, Rajputana, Bengal, South India and Andamans. The roots of this plant have been indigenously used in epilepsy and hysteria and the leaves were reported to be used as vermifuge. Arabian it is employed in cosmetic, anthelmintic and a remedy coughs and chills.

The vast ethno medical uses insisted us to investigate anthelmintic activity of the leaves of *Flemingia strobilifera*.

MATERIALS AND METHODS

Plant Material

The leaves of *Flemingia strobilifera* were collected from Tadikhet, Ranikhet, Uttrakhand, during November to December and authenticated through Govt Ayurvedic Research Institute Tadikhet, Uttrakhand, India. A voucher specimen has been deposited at the department of pharmaceutical sciences in the Pharmacognosy department of pharmacy college Azamgarh U.P., India. The leaves were dried under shade and coarsely powdered.

Preparation of Extract

The powdered plant material was successively extracted with petroleum ether, chloroform and alcohol using soxhlet apparatus. Finally the aqueous extract was prepared by decoction. The yield of petroleum ether, chloroform, alcoholic and aqueous extracts were 2.1, 2.3, 12.2 and 4.2 % respectively. The prepared extracts were tested for anthelmintic activity.

Study of Anthelmintic Activity

The anthelmintic activity of the extracts of leaf of *Flemingia strobilifera* was determined by using the method of Rao *et al*. The activity was evaluated on adult Indian earthworm (*Pheretima posthuma*) due to its anatomical and physiological similarity with the intestinal roundworm parasites of human being., Fifty milliliters of the extract solution containing three different concentrations, each of petroleum ether, chloroform, alcoholic and aqueous extract (25, 50, 100mg/ml in 1% Tween 80 in normal saline) were prepared and six worms were placed in it. Piperazine citrate (15 mg/ml) was used as reference standard while 1% Tween 80 in normal saline as control. The time taken to paralyze and kill individual worms was observed. Paralysis was noted when the worms became immobile even in the normal saline solution. Death was concluded when the worms lost their motility followed by fading away of their body color.

RESULTS AND DISCUSSION

Table 1 shows that the alcoholic extract at a dose of 100mg/ml has significant anthelmintic activity, whereas chloroform and aqueous extract showed moderate activity and petroleum ether extract is having least anthelmintic activity.

***Address for correspondence:**
E-mail: howruakpatel@gmail.com

Table 1: Anthelmintic Activity of Leaves of *Flemingia strobilifera*

Treatment	Time taken in minutes for	
	Paralysis	Death
vehicle	--	--
Piperazine citrate	20.2 ± 0.5	24.6 ± 0.6
Petroleum ether extract 25mg/ml 50mg/ml 100mg/ml	-- 162 ± 5.7 112 ± 3.5	 161.1 ± 11.4
Chloroform extract 25mg/ml 50mg/ml 100mg/ml	 116.3 ± 2.5 102.5 ± 5.0 76.9 ± 2.3	 143.0 ± 5.6 125.5 ± 2.7 92.9 ± 3.4
Alcoholic extract 25mg/ml 50mg/ml 100mg/ml	 91.1 ± 4.1 64.8 ± 2.6 49.2 ± 1.5	 116.3 ± 2.5 79.3 ± 2.7 61.5 ± 3.1
Aqueous extract 25mg/ml 50mg/ml 100mg/ml	 167.0 ± 6.3 123.3 ± 4.2 67.7 ± 2.5	 137.5 ± 2.2 75.5 ± 2.2

REFERENCES

1. Anonymous: Indian Pharmacopoeia 4th Edn, Vol.2, Government of India, Ministry of Health and Welfare, Controller of Publications, New Delhi, 1996:A53.
2. Sexena VK, Nigam SS and Singh RB. Glycosidic Principles from the leaves of Flemingia strobilifera. Planta Med. 1975;27:98-100.
3. Nigam SS and Saxena VK. Isolation and study of the aurone glycosides from the leaves of Flemingia strobilifera. Planta Med. 1975;27:98-100.
4. Chopra RN, Nayar SL and Chopra IC. Glossary of Indian Medicinal Plants. CSIR, New Delhi. 1956:121-148.
5. Saxena VK, Nigam SS, Singh RB. Planta Med. 1976;29:94-97.
6. Sexena VK. Epoxy Chromenes, Therapeutic agents from Flemingia strobilifera. Asian J Chem. 1995;7:307-310.
7. Sexena VK. Epoxy Chromenes, Therapeutic agents from Flemingia strobilifera. Asian J Chem. 1995;7:307-310.
8. Kirtikar KR and Basu BD. Indian Medicinal Plants, vol. 1, Lalit Mohan Basu M.B 49, Leader Road, Allahabad, India, 1935:813.
9. Chopra RN, Nayar SL and Chopra IC. Glossary of Indian Medicinal Plants. CSIR, New Delhi. 1986.
10. Khandelwal KR. Practical Pharmacognosy. 14th Edn, Vallabh Prakashan, Delhi. 2002.
11. Rao JV, Srinivas U, Krupanidhi AM et al. Anthelmintic activity of leaves of Clerodendrum phlomidis. Indian J Nat Prod. 2006;22(4):28-30.
12. Mali RG, Hundiwale JC, Sonawane RS et al. Evaluation of Capparis decidua for Anthelmintic and Antimicrobial Activities. Indian J Nat Prod. 2004;20(4):10-13.
13. Anonymous, British Pharmacopoeia. Pharmaceutical Press, London. 1953.
14. Vigar Z. Atlas of Medical Parasitology. 2nd Edn, P.G. Publishing House, Singapore. 1984.