



Short Communication

Anthelmintic Activity of Seeds of *Macrotyloma uniflorum*

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Abstract

Many traditional plants and herbs are reported to have anthelmintic activity. *Macrotyloma uniflorum* is a legume plant which is used as food in India. It is found to have many traditional values such as anthelmintic, diuretic, expectorant, ophthalmic and tonic. The seeds are also useful for haemorrhoids, tumors, bronchitis, and splenomegaly and in asthma. The anthelmintic activity of the seeds of *Macrotyloma uniflorum* has been investigated using the ethanolic extract and it was found to have profound activity.

Keywords: *Macrotyloma uniflorum*, Anthelmintic activity, Ethanolic extract.

Macrotyloma uniflorum belonging to the family Fabaceae is one of the lesser known beans. It is distributed in Asia and Africa and is a common twining plant growing all over India. It is much branched, sub-erect, annual herb with cylindrical slight hair of 30-60cm tall. The leaves of this plant are trifoliate, ovate, rounded at base, acute or acuminate, 2-4cm broad. The flowers are sessile and yellow to greenish yellow in colour. The seeds are trapezoidal and sometimes reniform and ovoid in shape. Usually they are reddish brown in colour, 4-6mm (l) and 3-5mm (w). The whole seeds are utilized as cattle feed. However it is consumed as whole seeds by a large population in rural area of Southern India. The seeds of *Macrotyloma uniflorum* are used in traditional medicine as bitter, thermogenic, astringent, anthelmintic, diaphoretic, diuretic, expectorant, ophthalmic and tonic.

The seeds are also useful for haemorrhoids, tumors, bronchitis, splenomegaly and in asthma. The main objective of this study is to evaluate the anthelmintic property of seeds of *Macrotyloma uniflorum*. The seeds were obtained from Payangadi and were authenticated by Mr. P V Rajasekharan Nair, Lecturer, Department of Botany, Payyanur College, Payyanur. The seeds were dried, powdered and passed through sieve no-10 to remove fines. It was then subjected to successive solvent extraction using petroleum ether, chloroform, alcohol and water. The extract was concentrated by distilling of the solvent. A preliminary phytochemical screening was carried out on each extract and it was found to contain carbohydrates, proteins, alkaloids, tannins and steroids. The alcoholic extract contained the maximum number of constituents, so it was

Serial No.	Treatment	Concentration (mg/ml)	Time in min	
			Paralysis	Death
1	Vehicle	1% CMC	—	—
2	Alcoholic extract	100mg/ml	7.53±0.12	11.56±0.9
		50mg/ml	17.33±0.27	20.57±0.11
		100mg/ml	51.53±0.63	56.86±0.32
3	Piperazine citrate	15mg/ml	42.89±0.21	48.35±0.11

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selected for the evaluation of anthelmintic activity. The anthelmintic activity was evaluated on adult Indian earth worm *Pheretima posthuma* due to its anatomical resemblance with the intestinal roundworm parasites of human beings. The activity was carried out using Mathew *et al* method. Five groups of Indian earth worms each containing six earthworms approximately of equal size was used for the study. Each group of earth worms were tested with vehicle (1% CMC), ethanolic extract (100, 50, 10mg/ml), piperazine citrate (15mg/ml). Observations were made on the time taken for paralysis and death of individual worms. Paralysis was said to occur when the worms do not revive even in normal saline. Death was concluded when

the worms lost their motility, followed with fading away of their body colour. It was found that the alcoholic extract of *Macrotyloma uniflorum* shows a comparable anthelmintic activity as that of reference control, piperazine citrate. The extract caused paralysis followed by the death of worms at all tested dose levels. The activity confirmed dose dependent nature of extract. The anthelmintic activity of the seeds of *Macrotyloma uniflorum* was found to have comparable effect with that of standard piperazine citrate. Being a freely available legume it is one of the best herbs that can be used as nutraceuticals. It can be used as dietary food for infants to eradicate worms.

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