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NOTE

Anthelmintic Activity of *Annona squamosa*

G.P. CHOUDHARY
School of Pharmacy, Devi Ahilya Vishwavidyalaya
Takshashila Campus, Ring Road, Indore-452 017, India
E-mail: choudharygp@rediffmail.com

The aqueous extract of the leaves *of Annona squamosa* L. (Annonaceae) was evaluated for its anthelmintic efficacy *in vitro*. Graded doses of the extract (400, 800, 1200 µg/mL) showed significant anthelmintic activity, with their sensitivity when compared with the standard.

Key Words: ***Annona squamosa*, Anthelmintic.**

Annona squamosa L. (Annonaceae) commonly known as custard apple is a native of West Indies and is cultivated throughout India, mainly for its edible fruits. Bark is powerful, astringent and tonic. Leaves are anthelmintic and roots are violent purgative. Powdered seeds are insecticide and they also have antidandruff action[1]. Whole plant has been tested as having antifertility and antitumour activities in mice and rats[2, 3]. However, there is no scientific evidence to support the anthelmintic activity of *Annona squamosa* leaves.

Annona squamosa L. (Annonaceae) young leaves were collected in the month of September 2005 from rural areas of Indore district. The leaves were identified by Dr. S. Vyas, Department of Botany, Holkar Science College, Indore. A voucher specimen is preserved in the laboratory for future reference.

The aqueous extract was prepared by cold maceration of 300 g of shade dried leaf powder in 750 mL of distilled water for 7 d. The extract was filtered, concentrated and dried in vacuum (yield 93 g) and the residue stored in a refrigerator at 2–8°C.

Preliminary phytochemical screening revealed the presence of steroids, alkaloids, saponins, tannins, volatile oils and mucilage. Quantitative estimation revealed the presence of 2% volatile oil in fresh leaves and 15.26% of total mucilage content in the dried leaf powder[4, 5].

Anthelmintic activity (*in vitro*) was studied by microwell plate assay[6]. Levamisole and albendazole were used as reference standards. The extract was dissolved in 1% DMSO. The free living roundworm *Rhabditis pseudoelongata* (strain L. Lamy) was used for the anthelmintic screening. The worms were cultivated at 25°C in a moist atmosphere in darkness in a solid medium constituted

of autoclaved rabbit faeces. Three replicates were used for each concentration of aqueous extract.

The aqueous extract of the leaves of *Annona squamosa* (400–1200 μg/mL) exhibited potent anthelmintic activity (Table-1). This result may lend support for the traditional use of the plant as an anthelmintic.

TABLE-1
ANTHELMINTIC ACTIVITY OF THE AQUEOUS EXTRACT OF LEAVES OF *ANNONA SQUAMOSA*[a]

S.No.	Tested material	Concentration (μg/mL)	ED_{50} (μg/mL)
1.	*Annona squamosa*	400, 800, 1200	790.3 (648.7–952.1)
2.	Levamisole*	1, 2, 4, 8	3.6 (2.7–4.8)
3.	Albendazole*	100, 200, 400	277 (214.2–350.7)

[a]All determinations were done in triplicate
*Reference standards

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