Evaluation of Anti-helmenthic Activity of Leaves Extract of *Tabebuia Pallida (Lind.l) miers*

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Abstract- ***The present work was done on Anti-helminthic activity of Tabebuia Pallida (Lind.l) miers leaves. The leaves are hand-picked and then washed then the leaves to remove dust and pollutants and are dried under shade until the leaves are dried fully at room temperature. The Tabebuia Pallida (lind.) miers leaves are put into grinder and made into fine dried powder and then passed through sieve no.40 and kept in tight air closed container and the subject is put into the maceration and soxhlation process. The phytochemical screening was done to get results of carbohydrates, proteins and amino acids, glycosides, flavanoids, alkaloids, steroids, tannins and phenolic compounds. The obtained extracts are used for the study of anti-helminthic activity against Indian Earth worms: Pheretima posthuma. The methonolic extract shows that the dose-dependent activity of paralysis time and death time on Indian earth worms.***

Indexed Terms- ***Anti-helminthic, Tabebuia Pallida (lind.l) miers, Pheretima posthuma, Maceration, Soxhlation***

I. INTRODUCTION

The present plant *Tabebuia pallida (lind.l) miers* is a species of *Tabebuia* native to Caribbean. Also called as Cuban pink trumpet tree is semi-deciduous tropical tree that grows to an height of 50ft. The plant contain very ornamental palmately compound leaves.

Family Name	Bignoniaceae
Synonyms	Bignonia Pallida
Comman Name	Cuban Pink Trumpet Tree, Cuban Pink
Native Distribution	Caribbean
Desirable Plant Features	Ornamental Flowers
Landscape Uses	Roadside Tree / Palm
Light preference	Full Sun
Water Preference	Moderate Water
Plant Growth Rate	Moderate
Mature Foliage Colour's	Green
Flower Colour(s)	Pink

The word helminth is obtained from greek word which gives meaning the interference as worm. The problem associated with worms / helimenths is known as helimenthiasis having unique types and transmitted from various sources[1]. These mainly affect the health of human in intestine causing problems and leads to complications in health. Some sufferings of heliminthiases are ascariasis, intestinal helminth and hookworm, followed by schistosomiasis and lymphatic filariasis (LF)[2]. These cause various problems in humans and leads to death sometimes, these may show blind, skin diseases, deformities in newborn babies[3]. So, cause more problems, the awareness and medication should be present more, especially for people living in underdeveloped places and countries[4].

II. REQUIREMENTS

- Collection of Plant Leaves

For the present process *Tabebuia pallida (lind.l) miers,* plant leaves was collected from roadside planted tree after some research, from Karimnagar District. The plant was identified and authenticated by

Dr. E. Narasimha Murthy, Department of Botany, Satavahana University, Karimnagar-505 001, Telangana, India No:ENM-100130. The leaves were kept for drying in shady region in an room temperature. It was powdered and passesd through sieve no:40 and it is stored in air tighted container.

- Choosing of Worms

Indian Adult Earthworms (pheretima posthuma) are used to study anti-helminthic activity. The earth worms are collected from agricultural field contaning moist soil and washed with distilled water to remove soil and carvel matter. Earthworms 4-5 cm in length and 0.1-0.2 cm in width were used for experiment. They have same morphological characteristics similar to the human intestinal worms.

- Management of Albendazole

Albendazole was collected and taken (10mg/ml) is prepared by using 1% v/v of tween 80 as a suspending agent as it is per methodology of extract.

- Preparation of Tween 80 (1% v/v)

The suspending agent is taken by dissolving the 1ml of Tween 80 in 100ml distilled water or 0.9% Nacl.

- Administration of extract

The suspension of methonolic extract of *Tabebuia pallida (lind.l) miers*, leaves of different extract of maceration and soxhlet was taken. Firstly, a standard sample is taken in that albendazole containing suspending agent was taken in 10mg/ml in a petri dish with well cleansed and dried. Then a control sample containing water is taken 20ml in petri dish with neat cleansed and dried. Total of 20ml for each concentration should be prepared for both extract samples of maceration and soxhlet of different concentrations like 10, 20, 30 mg/ml should be prepared. For maceration and soxhlet extract samples are prepared separately (200mg in 20 ml =10mg/ml, 400mg in 20ml = 20 mg/ml, 600mg in 20ml =30 mg/ml). Groups of approximately equal size worms consisting of total 8 earthworms are taken and released in different of samples containing 20 ml of desired concentrations of drug and extract preparations in the 8 petri dishes[5].

- Experimental design

The anti-helminthic activity was performed on adult Indian earth worms *pheretima posthuma* they have anatomical and physiological resemblance with the intestinal round worm parasites of human beings. *Pheretima postuma* was placed in petri dishes containing standard, control , maceration 10mg/ml, 20mg/ml, 30mg/ml and Soxhlation 10mg/ml, 20ml/ml, 30mg/ml, of different concentrations of methanolic extract of leaves of *Tabebuia pallida (lind.l) miers* . 8 earth worms were placed one in each petri dish and was kept for observation to note down the paralysis and death time[6]. Time for the paralysis was noted when there was no movement was observed in earthworms, then the worm was placed in the hot water of 60^{o}C if the worm moves the considered as paralysis time. The time of death of worm in (min) is recorded after ascertaining those worms were neither moved when shaken nor when given external stimuli. The test results was compared with the reference compound albendazole (10mg/ml) with treated samples[7].

- Results

From the results we have observed that *Tabebuia pallid (lind.l) miers* leaves extract made has shown a potent anti-helmintic activity while the *pheretima postuma* took more time for the death of worm. The earthworm selected for the anti-helminthic activity was most sensitive to the methanolic extract of *Tabebuia pallida (lind.l) miers.*

Leaves extract of *Tabebuia pallida (lind.l) miers.* The anthelmintic activity results revealed dose-dependent paralysis ranging from loss of motility to loss of response to external stimuli, which eventually progressed to death at 10mg/ml, 20mg/ml and 30mg/ml concentrations of both Soxhlation and Maceration extracts, paralysis and death time was observed and noted in the Table 1 which was compared with the standard drug (Albendazole) shows paralysis within 45 min and time of death 79 min. The observation of result show that the anthelmintic activity of Methanol extract is more potent. The earthworms were more sensitive to the extracts of Methanol at 30mg/ml concentrations as compared to the reference drug Albendazole (10 mg/ml).

CONCLUSION

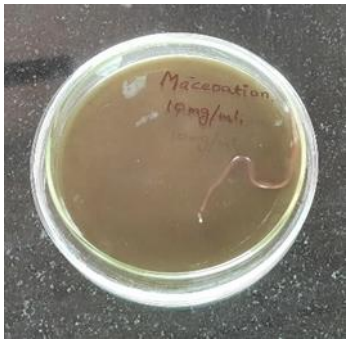
The comparative studies of maceration and soxhlation pharmacological screening was observed. The methanolic extracts of both solvents of *Tabebuia pallida (lind.l) miers,* had shown interesting results. Methanolic extracts exhibited the dose dependent anti-helminthic activity. These methanolic extracts was more effective in causing death of the worms as well as paralysis compared to standard.

Table:1 Comparative Studies of Paralyse and Death time

Group	Treatment	Concentration	Pheretima postuma	
			Paralyse Time (min)	Death Time (min)
1	1% Tween 80 (control) (ml)		140±10	
2	Albendazole (standard)	10mg/ml	45±5	79±5
3	Maceration	10mg/ml	110±5	130±5
		20mg/ml	98±10	108±10
		30mg/ml	93±10	105±10
4	Soxhlation	10mg/ml	100±5	110±5
		20mg/ml	95±5	105±5
		30mg/ml	90±10	100±10

Control (1%Tween 80)

Standard (Albendazole 10mg/Ml)

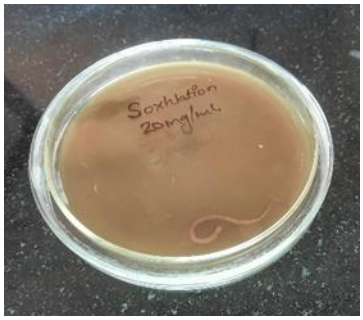


Maceration 10mg/ml

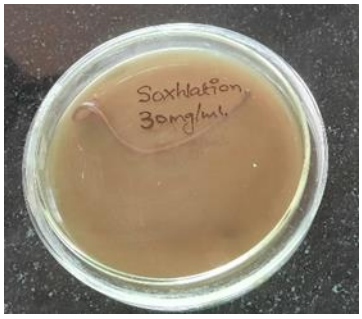
Maceration 20mg/ml

Maceration 30mg/ml

Soxlation 10mg/ml



Soxlation 20mg/ml



Soxlation 30mg/ml

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