



In-Vitro Anthelmintic Activity of Hydroalcoholic Extract of Leaves of *Hemerocallis littoralis*

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ABSTRACT

Helminths have been intestinal parasites, which are the most typical bacterial infections. Like living beings through emerging economies, they usually generate a worldwide disease burden a certain outstrips better-known circumstances, including malaria and tuberculosis. Anthelmintics are the drug used to eliminate and live this same variety of intestinal parasitic parasite organisms from the gastrointestinal and epithelium like humans and other mammals. These same anthelmintic actions like hydroethanolic leaf extract like *Hymenocallis malicoides* code to alter computers have been analyzed through elderly Indian earthworms (*peridia post human*). This ended up finding that now the hydroethanolic extricate like *Hymenocallis malicoides* code to change the laptop decided to show anthelmintic actions at an intensity like 20mg/ml, 40mg/ml, and 80mg/ml of each. This same compared with the standard had been Albendazole (20 mg/ml).



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INTRODUCTION

These helminthic infections are among the most widespread human bacterial infections in developing countries [1]. Worldwide, helminth infection represents a danger to food security and is a significant issue in livestock production. Infection with whipworms, hookworms, and roundworms can cause helminthiasis. It threatens public health and raises the risk of pneumonia, inflammation, ane-

mia, and malnutrition in developing nations [2]. The World Health Organization states parasitic infections influence more than two billion individuals. Infections with helminths are now understood to contribute to several acute and chronic illnesses in humans and livestock [3].

The effectiveness of medicinal herbs as anthelmintic and antiparasitic agents are studied globally. Parasitic infections in humans and animals have been treated with various medicinal herbs [4]. Drugs called anthelmintics are used to treat illnesses caused by worms, flukes, nematodes, roundworms, tapeworms, and other parasites [5]. In therapeutic settings, plant substances like phytochemicals are essential, and plant substances are used in a conventional medical system to treat infectious diseases. The phytochemical tannin is renowned for its anthelmintic activity, which hinders various biological processes essential to the life cycle of parasitic nematodes [6]. Inside the various researchers, we have tried unsuccessfully to investigate the

anthelmintic activity of the conventional polyherbal formulation.

A plant species of the Hymenocallis called *Hymenocallis littoralis* [Figure 1], also known as the beach spider lily is endemic to warmer coastal regions of Latin America and is extensively cultivated and naturalized in many tropical nations [7]. Plant *H. littoralis* are well-known in pharmacology. Other *Hymenocallis* species, besides *H. littoralis*, have also been extensively employed as traditional medicines. A bulbous perennial ornamental plant called "Melongkecil" is *Hymenocallis littoralis* (Amaryllidaceae). It has historically been utilized in the Philippines as a vulnerability [8]. It is primarily found in Mexico, Central America, the Southern and Eastern United States, and the Northern States of America. Leaves, bulbs, blossoms, roots, and stems are used. The *H. littoralis* has medicinal benefits like anti-viral, anti-neoplastic, emetic, and anti-wound healing qualities.

Lycorine, littoraline, hippeastrum, lycorine, tazettine, pretazettine, macronine, homolycorine, lycorine, vittatine, as well as galanthamine are just a few of the compounds that have been discovered in the *Hymenocallis littoralis* plant. The bulb is the only part of the plant used for wound recovery. Other plant parts used for treating snakebites include root and rhizome extracts used as nasal drops [9]. Extracts of *Hymenocallis littoralis* have phenolic content arranged in ascending sequence by base, leaves, stem, bulb, flower, and another. *Hymenocallis littoralis* plant extracts contain flavonoids in the following order: bulb, base, leaves, flower, stem, and another [10].

MATERIALS AND METHODS

Principle

In just this procedure, primitive hydroethanolic helps in extracting *Hymenocallis* factors such as physical (20mg/ml, 40mg/ml, 80mg/ml) were compared to the standard Albendazole (20 mg /ml) such as anthelmintic action. This same neurological damage duration and the killing duration of both the meaning and application with each obtain have been documented [11]. Neurological damage has been said to occur because insects didn't resurrect even now in saline solution, and killing had concluded because insects lost their sperm quality while slowly fading like their own body color.

Plant Material

The plant of *Hymenocallis littoralis* was collected from Nellore district, Andhra Pradesh, India, in March 2023.

Fresh leaves were collected and washed under running tap liquid, dried, and chopped into small pieces.

This same leaf surface was shade-dried for seven days. The dried leaves were ground into a coarse powder using a high-capacity grinding machine.

Preparation of Extract

The method of separation, like solubilized substance from such a non-soluble residual oil which may have been solid from a liquid, even by remedy with such a solute known as even though separation [12]. This is the most usually employed method for collecting active ingredients that once plant matter. The extract was prepared by using the Soxhlet apparatus. About 40 grams of dosage form had been obtained, as well as the ethanol and water(7:3) at room temperature until the plant's color became pale. The extract obtained was filtered using Whatman filter paper. The filtrate was collected and concentrated at low temperatures on a heating mantle.

Experimental Animal

Indian independent person earthworm [peridia-posthuman (p. post-human)] has been used to research the anthelmintic action of both the organic extracts [13]. Worms with both a distance like 5-6 cm as well a thickness like 0.2-03 cm implemented the whole research, the earthworms acquired strongly resemble tiny intestine roundworm parasitic organisms like individual humans in either anatomical structure or neurologically and, therefore, have been taken into account, such as anthelmintic action.

Sample Preparation

Obtain for such vitro cell research seems to have been able to prepare even though experiencing concentration levels, like 20mg/ml, 40mg/ml as well as 80mg/ml in 1% def. (n, n-dimethyl formamide) through the saline solution as a vehicular attempt, make the quantity 10 ml. Traditional sterile saline was being used as someone's regulation, but also Albendazole was being used as the quality substance again for research.

Anthelmintic Activity

Anthelmintic research like obtain had been done sometimes when concentration levels 20,40,80 but also 160mg/ml against the Indian earthworm (p. post-human). Besides professing the tactic five bunch-like Indian earthworms, each comprising four earthworms roughly equivalent in size, were used for this research [14]. Three groups, like earthworms, have been evaluated as well, as the extricate of various intensities (20mg/ml, 40mg/ml, and 80mg/ml) one and bunch seem to have been



Figure 1: *Hymenocallis Littoralis*



Figure 2: Anthelmintic activity carried out on the *hymenocallis littoralis* leaves extract

Table 1: In vitro impact of varying accumulation like hydroethanolic retrieve like Hymenocallis littoralis leaf surface, saline solution, and Albendazole through continued existence through Indian earthworm

S.NO	GROUP	DRUG (mg/mL)	CONCENTRATION	TIME TAKEN IN MINUTES	
				PARALYSIS	DEATH
1		Saline	-	-	-
2	Standard	Albendazole	20(mg/ml)	0.47±0.02	
3	Test	Hydroalcoholic extract	20(mg/ml)	2.26±0.02	7.06±0.03
			40(mg/ml)	1.14±0.02	3.37±0.02
			80(mg/ml)	0.22±0.01	0.75±0.12

allowed to treat as well as the 20mg/ml as well as the compared with the standard even though Albendazole one and the bunch was being used as regulation which would be allowed to treat as well as the saline solution. This same anthelmintic forward earthworm has been recognized, as well as the amount of time needed regarding neurological damage and killing documented [15] [Figure 2].

RESULTS AND DISCUSSION

The influences of various concentration levels like hydroethanolic removal like Hymenocallis littoralis leaf tissue and Albendazole to either heretical post-human seem to be displayed in Table 1. This same significant dose-dependent through arranged neurological damage and death rate appears to have been noticed along the entire planet, clearly indicating allowed to treat with extrication, which would have been mainly in comparison with the Albendazole as just a marketed formulation. This same hydroethanolic extrication sometimes when 20,40,80 mg/ml concentration levels decided to show neurological damage duration as 2.26, 1.14, 0.22 minutes to reach as well as killing period just like 7.06, 3.37, 0.75 min including both. Sometimes when the highest percentage is something that generates neurological damage as well as murder brief moment which would be significant compared as well as Albendazole.

These same albendazole treatment patients sometimes, when intensity 20mg/ml had shown neurological damage duration of 0.47 min and killing time of 2.51 mins. The traditional sterile saline allowed to treat earthworms has just not decided to show every change in physiological interaction and managed to remain energetic like whole movement pat-

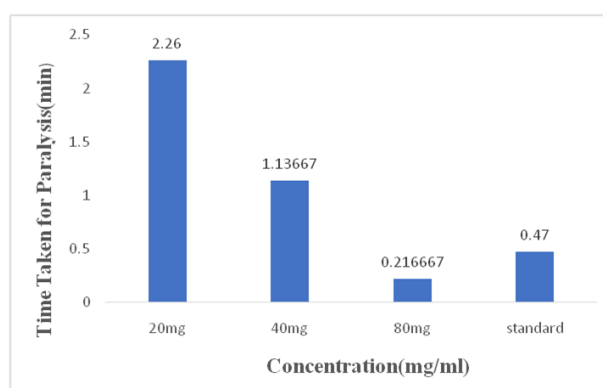


Figure 3: Time taken for paralysis of earthworm due to the effect of the drug and different concentrations of *Hymenocallis littoralis*

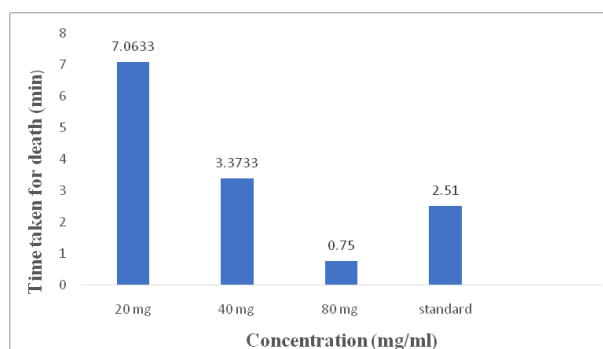


Figure 4: Time taken for earthworm death due to the drug's effect and different concentrations of *Hymenocallis littoralis*

terns. This completely paralyzed earthworm has not shown motion and remains widely dispersed inside the mainstream press. However, earthworms that also didn't decide to show neurological damage managed to stay militarized as well as lightweight aggregate again and again [Figures 3 and 4].

CONCLUSION

This same broad-spectrum antimicrobial exercise, like hydroethanolic extrication of *Hymenocallis littoralis* leaf surface, has been assessed. This same hydroethanolic extract was obtained from the leaf tissue like *Hymenocallis littoralis* had shown antiparasitic interaction sometimes when different concentrations that are between (20mg/ml, 40mg/ml, and 80mg/ml). Sometimes when (80mg/ml) accumulation, the utmost broad-spectrum antimicrobial exercise has been accomplished compared with the solution of known concentration.

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Conflict of interest

The authors declare no conflict of interest, financial or otherwise.

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