



## Research Article

**ANTHELMINTIC AND PRIMER PHYTOCHEMICAL EXAMINATION OF DISSOLVABLE CONCENTRATES OF HYPTIS SUAVEOLENS FROM SEEDS**Sankara Malathi<sup>1</sup>, Sidde Lahari\*<sup>1</sup>, P. Sahithya<sup>2</sup>, P. Ramalingeswar Reddy<sup>2</sup>, K.Sai Lakshimi<sup>2</sup>.<sup>1</sup>Assistant professor, Department of Pharmacy, KR College of Pharmacy, Bangalore, India. Assistant professor,<sup>\*1</sup>Department of Pharmacy, Balaji College of Pharmacy, JNTUA, Anantapur, Andhra Pradesh, 515001, India.<sup>2</sup>Department of Pharmacy, Balaji College of Pharmacy, JNTUA, Anantapur, Andhra Pradesh, 515001, India.

Article History:	Abstract
Received on: 15-09-2019 Revised on : 05-12-2029 Accepted on : 12-12-2019  <b>Keywords:</b>  Dengue fever, Aedes Aegypti, thrombocytopenia, myalgia, hypertension, diabetes.	Ethanol dissolvable concentrates from the seeds of <i>Hyptis Suaveolens</i> were researched for their Anthelmintic action and preliminary phytochemical against <i>Pheritima posthuma</i> . Primer phytochemical screening shows the nearness of unstable oil, starch, proteins, tannins, saponins, fats, alkaloids and glycosides and so forth. Each dissolvable packs was concentrated in the bioassay at 25 mg/ml, 50mg/ml and 75 mg/ml which included assurance of time of loss of motion and time of death of the worms. Entire plant of <i>Hyptis Suaveolens</i> displayed ANTHELMINTIC action. The ethanolic concentrate of seeds are likewise dynamic. Albendazole (20 mg/ml) and refined water were remembered for the test as standard reference medication and control, separately. The outcomes demonstrate that the entire plant concentrates of <i>Hyptis suaveolens</i> may prescribe to use in planning of home grown medications.

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**INTRODUCTION**

Conventional medication is the most established type of social insurance on the planet and has been utilized in the anticipation and treatment of different sorts of sicknesses. Truly, various social orders have created different valuable recuperating strategies to battle wellbeing and perilous diseases [1,2]. The Restorative plants are the foundation of customary medication, where more than 3.3 billion individuals in the less evolved nations use on a standard basis [3]. In addition, WHO assessed that over 80% of the total populace despite everything depends on

conventional medication for their essential social insurance needs [4].

It is additionally essential to take note of that WHO underlined the significance of customary medication in the wellbeing framework, and made methodologies, rules and measures for organic medicines [5]. Restorative plants are restricted to conventional utilization as well as considered as a rich wellspring of fixings in the improvement of the cutting edge drugs [6]. For instance, the disclosure of current medications, for example, quinine, vincristine, digoxin and digitoxin, artemisinin, and so forth, from restorative plants connotes the tremendous possible that despite everything exists for the creation of a lot progressively novel pharmaceuticals [7].

*Hyptis suaveolens* (L.) Poit. is a plant having a place with family Lamiaceae, or the Mint family. It is a group of plants of around 210 genera and somewhere in the range of 3,500 species [8]. The lamiaceae can be perceived as any herb or bush having square stems, inverse leaves, and emitting a minty smell. They incorporate various restorative and sub-therapeutic plants of incredible worth. This significant request has no harmful individuals. They for the most part show fragrant or unpleasant sweet-smelling, energizer and astringent properties. They are utilized as tonics, emmenagogues, diaphoretics and against spasmodics. The leaves of numerous individuals contain fragrant fundamental oils [9].

The nonexclusive name *Hyptis* has been gotten from Greek word *Hyptis* is "laid back or resupinate", alluding to the appendage of the corolla, which is turned on its back [10]. It is a huge variety of around 400 species and is local of warm tropical America. Various species have gotten naturalized in the hotter pieces of the old world. A few animal types have been accounted for to have therapeutic properties. The variety is set apart by diaphoretic, carminative, antifungal, antibacterial, anticonvulsant and vulvery properties and is as often as possible detailed in the treatment of gastrointestinal diseases, to ease spasms and agony, just as in the treatment of jungle fever. Four species are found in India [11].

*Hyptis suaveolens* is a typical plant in India. The plant might be gathered in enormous amounts from the wild just as from those refined as a yield by the Indians. Indians used to call it "Chan/Wilayathi tulsi" and the morning soup made by blending it in with corn is designated "Bate" which implies memory help. The plant is a sweet smelling woody herb with tetragonal hispid stem, leaves long petioled, pubescent, extensively elliptic-praise, base angled, shorten or intense, edge coarsely serrulate, peak intense, chartaceous. It is ordinarily found in thick bunches on street sides, corrupted wet and dry deciduous woodland, squander lands and over-touched field. Seeds are given in trouble some work. Ethanolic concentrate of the seeds is accounted for to have Anthelmintic action.

## MATERIALS AND METHODS



Figure 01: *Hyptis suaveolens* plant and seeds

## PLANT MATERIALS

The plant seeds of *Hyptis suaveolens* ( figure 01) are gathered from Sri Krishnadevaraya College, Ananthapuramu, 515003, A.P., India, in the long stretch of Spring and verified by Dr. B. Ravi Prasad Rao, Professor, Biodiversity conservation Division, Department of botany, the plant voucher number 57405 (SKU). The plant seeds materials were washed altogether for 3-4 times with running faucet water to expel dust from the surface and twice with clean refined water, conceal dried at room temperature on a clean smudging paper, after complete drying the plant seed materials were powdered utilizing the blender and put away in independent water/air proof containers at that point utilized for the arrangement of ethanol extricates.

## PREPARATION OF EXTRACTS

Dried and coarsely powdered seeds (500 gm,) of *Hyptis suaveolens* were exposed to extraction in Clevengers contraction extractor utilizing ethanol was showed in Figure 2. The concentrates of seeds were concentrated by vacuum refining and afterward dried in open air [12].



Figure 02. Extraction of of *Hyptis suaveolens* seeds

## ANIMALS

Adult earthworms were collected from the Vermi compost from Ananthapur. Then, the earthworms was washed with ordinary saline to expel all the fecal issue, were utilized for the Anthelmintic investigation. The worms of 3-5 cm long and 0.1-0.2 cm in width were utilized for all the test convention because of its anatomical and physiological similarity with the intestinal roundworm parasites human beings [13,14].

## DRUGS & CHEMICALS

The following drugs and chemicals were used. Drugs: Albendazole (BANDY, Mankind Pharma Ltd., New Delhi), Chemicals: ethanol (MERC company, Banglore), DMF (PCL, Pune), Saline water (Claris Lifesciences Ltd., Ahmedabad).

## QUALITATIVE PHYTOCHEMICAL EVALUATION

The various qualitative chemical tests were performed for establishing the profile of the aromatic plant *H. suaveolens* extracts for its chemical composition. Qualitative phytochemical analyses were done by using the procedures of Kokate (1994) [15] and Kokate *et al.*, (1995) [16] Sofowara (1993) [17], Alkaloids, Flavonones, Terpenoids, Steroids, Tannins, Saponins, Anthraquinones, Aldehydes, Ketones.

## ANTHELMINTIC ACTIVITY

All the concentrates of *H. suaveolens* were broken down in least measure of DMF and the volume was acclimated to 10 ml with saline water. All medications and concentrate arrangements were newly arranged before beginning the examination. For each situation, six night crawlers were discharged into 10 ml of wanted details as follows; vehicles (5% DMF in typical saline), Albendazole (20 mg/ml), or all out ethanolic concentrates of seeds of *H. suaveolens* (20 mg/ml, each) in typical saline containing 5% DMF. ( Figure 03)



**Figure 03: anti helmenthic activity**

Perceptions were made for the time taken to loss of motion and demise of individual worm. Loss of motion was said to happen when the worms couldn't move even in typical saline. Passing was closed when the worms lost their motility followed with blurring endlessly of their body hues as our past method [18-20].

## RESULTS AND DISCUSSION

### IR SPECTRA STANDARD VALUES

**Table 01: IR spectra values**

S.NO	Function al groups	Observed value	Standard value
1	C-H	2906.17	2850-2970
2	COOH	1761.12	1690-1760
3	Aromatic Group	1644.08	1500-1600
4	OH	3419.78	3200-3600
5	C=C	2980.35	3010-3095

### PHYTOCHEMICAL SCREENING

Phytochemical screening of twenty different chemical compounds such as steroids, alkaloids, phenolic groups, saponins, tannins, flavonoids, anthraquinones, reducing sugars, triterpenoids, terpenoids, cardiac glycosides, glycosides, phlobatannins, quinones, aromatic acids, essential oils, anthocyanins, leucoanthocyanins, emodins, gum and mucilage, carbohydrates, coumarins, aminoacids and xanthoprotein) were tested in the medicinal plant *H. Suaveolens* seeds crude extracts. Thus out of (6×20 =120) tests for the presence or absence of the above compounds (Table 02).

The preliminary phytochemical analysis were performed by using various polar and non-polar solvent such as hexane, petroleum ether, acetone, chloroform, methanol and aqueous extracts of the medicinal plant *Hyptis suaveolens*. The phytochemical results showed that various kind of phyto constituents such as alkaloids, aminoacids, aromatic acids, anthraquinones, anthocyanides, glycosides, carbohydrates, cardiac glycosides, coumerin, essential oils, flavonoids, phenolic groups, quinones, reducing sugars, steroids, tannins, terpenoids, xanthoprotein and pholobatanins were present in the *Hyptis suaveolens* seed extract. Whereas saponins were absent in all the solvent seeds extracts of *H. suaveolens* (Table 02).

**Table 02: Phytochemical analysis of seed solvent extraction of *Hyptis suaveolens***

SL. NO	TEST	OBSERVATION
1	Volatile oil	+
2	Starch	+
3	Protein	+
4	Tannins	+
5	Saponins	-
6	Glycosides	+
7	Alkaloids	+
8	Fat	+
9	Flavonoids	+
10	Reducing sugars	+

### ANTHELMINTIC ACTIVITY

It is apparent from the exploratory information that, the unrefined ethanolic concentrates of *H. suaveolens* seeds demonstrated huge Anthelmintic action at 75 mg/ml. Results were similar with the standard medications, Albendazole, at same focus. (Table 02) uncovers that all out concentrate of seeds of *H. suaveolens* demonstrated the best Anthelmintic movement. This necessary minimal time for causing loss of motion and passing of the night crawlers followed by seeds. As appeared in Table 3 seeds of *H. suaveolens* showed natural Anthelmintic properties with 20 mg/ml giving a most limited time of loss of motion and demise for the *Pheretima posthuma*.

The capacity of the Anthelmintic medications like Albendazole is to cause loss of motion of worms so they are ousted in the faeces of man and creatures. The concentrates not just exhibited this property, they additionally caused passing of the worms, particularly at 75 mg/ml as contrasted and the Albendazole. Taking everything into account, these plants have been affirmed to show antihelmintc exercises.

**Table 03: Effect of ethanol extract of on *H. suaveolens* in Anthelmintic activity study**

Sl. No.	Test substance	Concentration (mg/ml)	Time taken for paralysis (min) (mean $\pm$ SD)	Time taken for death (min) (mean $\pm$ SD)
1	Ethanolic extract	25	2.16 $\pm$ 0.10	3.8 $\pm$ 1.40
		50	2.17 $\pm$ 0.02	2.5 $\pm$ 0.41
		75	1.16 $\pm$ 0.26	1.3 $\pm$ 0.07
2	Albendazole	25	2.0 $\pm$ 0.28	4.09 $\pm$ 0.29
		50	1.1 $\pm$ 0.7	3.18 $\pm$ 0.6
		75	0.5 $\pm$ 0.17	2.0 $\pm$ 0.15
3	Control (saline water)	---	----	-----

\* Values are expressed in mean  $\pm$  SD of three samples for each group. Three concentrations (25, 50 and 75 mg/ml) of ethanolic extract of *H. suaveolens* were used in the study. Reference standard used was Albendazole and normal saline was used as a control group.

## CONCLUSION

Ethanollic concentrates of *H. suaveolens* displayed Anthelmintic movement against uncovered numerous tests *Pheretima posthuma*. A few restoratively huge phytochemicals, for example, alkaloids, heart glycosides, flavonoids and terpenoids were recognized in the seed remove. The Ethanollic seed separate was non-harmful at the maximal portion at 75 mg/ml. In spite of the fact that various investigations have been directed on various pieces of *Hyptis suaveolens*, there is still need to disconnect and distinguish new mixes answerable for its pharmacological properties. Studies ought to likewise be stretched out to the edibility of the plant since research has demonstrated that it is wealthy in essential supplements that are required for development and legitimate working of the human body.

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