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## Review on “Extraction of *In vitro* anthelmintic activity using *Coriandrum Sativum*”

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### Abstract

*C sativum* belong to the family apiaceous, It is highly supposed ayurvedic herbal plant commonly known as Dhania.

It is aromatic herbaceous annual plant small sized herb growing throughout India, Bangladesh, china, Europe, Netherland and Italy.

The different Aerial parts of the contain Essential oils, Flavonoids fatty acid, and sterol have been Cloistered from different parts of dhania.

*C sativum* is a fragrant antioxidant rich herb that has many culinary uses and health benefits used as stimulation of heart, brain, skin, &Git health

The herbal flowers & seeds have contain anti-diabetic activity, anti-oxidant, anti-helminthic activity, Antifungal, anti-cancer activity, postcoital, anti-fertility, antimulgenic, sedative -hypnotic& various phyto& pharmacological have been reported evaluation.

**Keywords:** Anthelmintic Activity, Earthworm, Extraction, *Coriandrum sativum L* Apiaceous

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### Introduction

*Coriandrum sativum L.* was originated in Italy but is today widely distributed in Netherlands, Mediterranean and middle East regions, eastern and central Europe, China, India and in many places for its beneficial uses. It as a fragrance, antioxidant - rich herb. Used as both herb and spice. It will help to decrease blood sugar, fight against infections and useful to promote brain, heart, skin as well as digestive health which belongs to the family Apiaceae. The presence of volatile oil in the seeds gives aroma of coriander, alcohol d - linalool is responsible for its fragrance. Geraniol, borneol, beta pinene, acetic acid are some of the constituents of the oil. In India coriander was used for relieving GIT discomfort, respiratory and urinary issues and in some areas like Pakistan the whole plant has folk medicinal uses to treat flatulence, dysentery, diarrhoea and vomiting. It can be applied externally for rheumatism and painful joints. The infusion of decoction of dried fruits of cardamom is useful for treatment of sore - throat, indigestion, vomiting and other intestinal problems. Coriander leaves and seeds are rich in vitamin K, which plays an important role in blood clot, prevents problems like Osteoporosis. The photochemical screening of *Coriandrum sativum* showed that it contains essential oils, tannins, terpenoids, reducing sugars, alkaloids, flavonoids, phenolics, sterols and glycosides. It also consists of high nutritional value including oils, proteins, carbohydrates, fibres, minerals, trace elements and vitamins.

### Common Name

Cilantro, Chinese parsley, Mexican parsley, Arab parsley, Dhania



**Fig 1:** Flower of *C. SATIVUM*



**Fig 2:** Leaves of *C. Sativum*

### **Botanical Description and Taxonomy**

*C. sativum* belongs to the family Apiaceous (Umbelliferae), which is herbaceous and grows annually. *C. sativum* is known as “coriander” or “Chinese parsley” in English; “cilantro”. “kusthumbari” or “dhania” in Sanskrit; “dhane” in Bengali; “pak chee” in Thailand; and “Yánsuī”, “Yán qiàn”, “Hú suī”, or “Xiāngcài” in Chinese. It is thought to have found in the regions of the Middle East and the Mediterranean region, where its growth may have spreaded to China, Europe, India,

Africa, and Asia; nevertheless, several authors have considered coriander as a weed in and its origin is still not clear. The leaves are green with a variable lanceolate shape and glabrous surfaces, while the flowers are white and pink in umbels with asymmetrical shapes. Meanwhile, the seeds are dry schizocarps with two mericarps with oval-shaped globules. Furthermore, the stems of *C. sativum* are pale green with hollow branches and a glabrous surface.

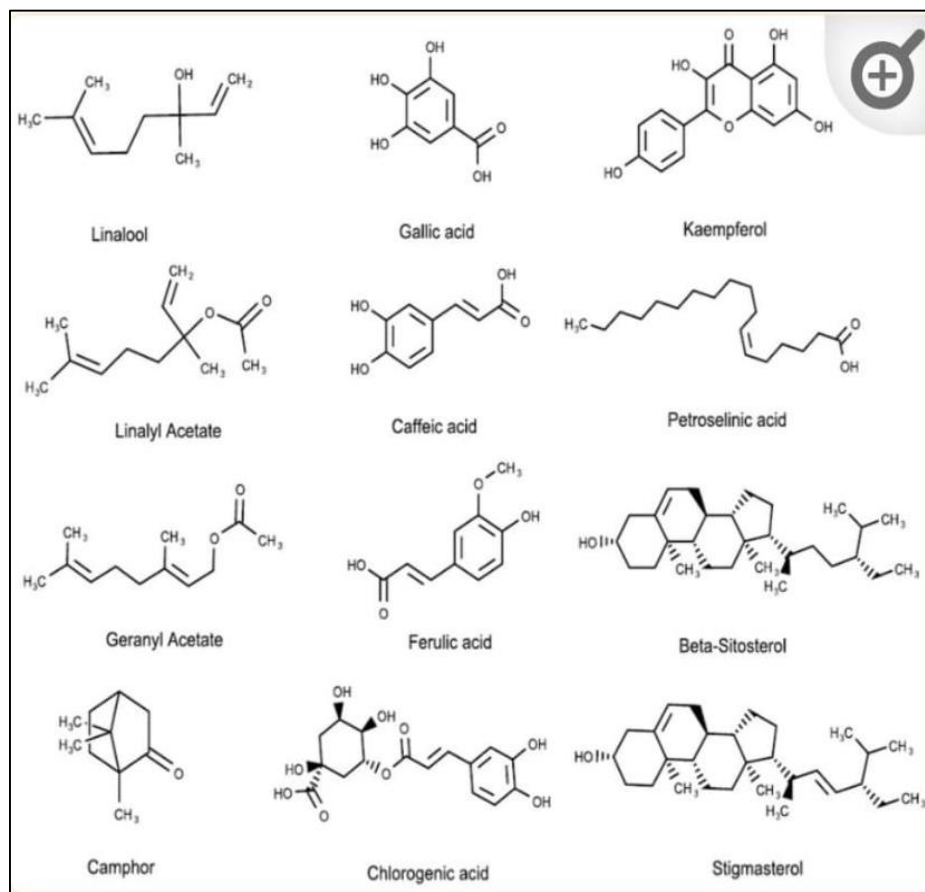


Fig 3

### Phytochemistry

Studies revealed that different kinds of alkaloids, essential oils, fatty acids, flavonoids, phenolics, reducing sugars, sterols, tannins, and terpenoids were extracted from *C. sativum*. In the leaves were reported to have an abundant concentration of folates, ascorbic acid, gallic acid, caffeic acid, ferulic acid, and chlorogenic acid. The investigation of the water-soluble components of *C. sativum* seeds showed the presence of 35 compounds, including monoterpenoid, monoterpenoid glycosides, glucosides, and aromatic compound glycosides such as norcarotenoid glucoside. In the vegetative part of the *C. sativum*, different phenolics and flavonoids were detected in significantly high concentrations, such as quercetin diverse glycosides, kaempferol 3-*O*-rutinoside, in addition to ferulic acid glucoside and *p*-coumaroylquinic acid. Another study of the polyphenolic contents of coriander grass showed that a 45% methanol extract contains many flavonoids, coumarins, and phenolcarboxylic acid.

Description of *Coriandrum sativum*;

### Leaf

The green colour range from dark green and light green to white, orange and sometimes, pale-yellow. They have wide spreading underground & erect square branched stems, coriander will grow 10-20Cm. Tall and leaves are arranged in alternate pairs, from oblong to lanceolate, often downy & with a Serrated margin. The flowers are produced in long bracts from leaf axils. They are white to brown the seed is a round, containing many seeds.

### Traditional uses of *C. Sativum*

*C. sativum* species, one of the World's most popular herbs, are widely used in working and as alternative or Complementary therapy, mainly for the treatment of Gastrointestinal disorders like Indigestion, nausea, vomiting, anorexia & ulcerative colitis. To treat throat ailments. The devotion of is used to treat diabetes, Headache & tiredness, uses to treat bronchitis, chest pain, Lung disorders, Kidney, diuretics & used to treat skin diseases.

### Materials and Methods

#### Raw materials

Raw materials fresh coriander leaves was cultivated and collected from the local farms.

Chemicals: methanol, Ethanol, Albendazole.

Glassware: Conical flask, Beker, Pippet.

#### Steps in preparation of coriander Powde

Pre -treatment to coriander: Fresh coriander leaves was were washed using water to remove adhere material then chop into pieces with knife. Then 2%Nacl was sprinkled and kept that for 15 minutes. Then by using muslin cloth to remove the excess water in leaves.

Drying: The treated leaves are uniformly spread in a single layer on steel trays & shade dry for 3 days in room temperature.

#### Preparation of Coriander leaves powder

Coriander powder was prepared by grinding the dried leaves of *C. sativum* and pulverized continuously till the whole



sample passed through 160-micron sieves. Obtained powder weighed and packed in HDPE pouch.

### Methods 2: Extraction Using Sonicator

The dried powder was extracted with methanol using a sonicator at 25c for 30min and then kept in a shaking incubator for 24hr at 250rpm and 30c. The extract was centrifuged at 1200rpm for 10min. The solvents was then evaporated using a rotary evaporator at 45c, and the extract was weighed and kept at -80c until use. Crude seed extract also prepared in a similar manner.

### Anthelmintic activity

The extract of various plant parts of *C sativum* including leaf, seeds have been investigated and found to be pharmacologically active against helminths.

### Conclusion

Leaves existing various biological activity such as anti-inflammatory, anti-bacterial, anti-viral, scolicidal, antitumor, neuroprotective among that one is anthelmintic activity. This present review has given the information regarding extraction, chemical constituent of *C. sativum*

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