

## A STUDY ON PROPERTIES OF CISSUS QUADRANGULARIS PLANT-A REVIEW

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### ABSTRACT

In this study is to investigate the Properties of the aerial parts of the plant *Cissus quadrangularis* Linn. Belonging to the family Vitaceae, commonly known as Pirrandai, in Tamil. The plant is believed to be useful in helminthiasis, anorexia, dyspepsia, colic, flatulence, skin diseases, leprosy, hemorrhage, epilepsy, convulsion, haemoptysis, tumors, chronic ulcers, swellings.

**KEYWORDS:** *Cissus quadrangularis*, Traditional uses, Properties

### INTRODUCTION

*Cissus quadrangularis* is a perennial plant of the grape family. It is also commonly known as Veldt Grape; Devil's Backbone, Asthisamharaka and Hadjod. *Cissus quadrangularis* reaches a height of 1.5 m and has quadrangular-sectioned branches with internodes 8 to 10 cm long and 1.2 to 1.5 cm wide. Along each angle is a leathery edge. Toothed trilobe leaves 2 to 5 cm wide appear at the nodes. Each has a tendril emerging from the opposite side of the node.



**Figure 1**

The whole plant including all parts such as stems, leaves, roots are documented to possess medicinal properties in ethno botanical surveys conducted by ethno botanists in traditional system of medicine. The present review will possibly help to bridge between traditional claims and modern therapy on *Cissus quadrangularis* L. and also pinpoints unexplored potential of it. *Cissus quadrangularis* is a succulent vine from Africa and Asia. It is one of the most commonly used medicinal plants in Thailand, and is also used in traditional African and Ayurvedic medicine.

### Other Names of Cissus Quadrangularis

Asthisonhara, Chadhuri, Chaudhari, Cissus, Cissus Extract, Cissus Formula, Cissus Formulation, C. Quadrangularis, Cissus Quadrangularis, Cissus Quadrangularis Extract, CORE, CQ, CQE, CQR-300, Extrait de Cissus, Hadjod, Hadjora, Harbhanga, Harsankari, Hasjora, Kandavela, Mangaroli, Nalleru, Namunungwa, Phet Cha Sung Khaat, Phet Sang Kat, Phet Sangkhat, Pirandai, Quadrangularis, Samroi To, San Cha Khuat, Stemmed Vine, Vajravalli, Vedhari, Veld Grape, Veldt-grape, Vitis quadrangularis, Winged Treebine.

### Scientific Classification of Cissus Quadrangularis

**Table 1**

<b>Kingdom:</b>	<b>Plantae</b>
(unranked):	Angiosperms
(unranked):	Eudicots
(unranked):	Rosids
Order:	Vitales
Family:	Vitaceae
Genus:	<i>Cissus</i>
Species:	<i>C. quadrangularis</i>

**Binomial Name:** *Cissus quadrangularis*

**Synonyms:** *Cissus quadrangula*, *Vitis quadrangularis*

### DISTRIBUTIONS

Found throughout the hotter parts of India alongside hedges, neighboring countries like Pakistan, Bangladesh, Shrilanka and Malaysia. It can be cultivated in plains coastal areas, jungles and wastelands up to 500m elevation.

### Various Properties of Cissus Quadrangularis

*Cissus quadrangularis* stem is traditionally used for the treatment of gastritis, bone fractures, skin infections, constipations, eye diseases, piles, anemia, asthma, irregular menstruation, burns and wounds. The leaves and young shoots are powerful alternatives powder is administered in treatment of hemorrhoids and certain bowl infections. The juice of stem is useful in scurvy and in irregular menstruation whereas the stem paste boiled in lime water is given in asthma. It is also used as a powerful stomachic. *Cissus quadrangularis* has potent fracture healing property and antimicrobial, antiulcer, antioxidative, antiosteoporotic, gastroprotective, cholinergic activity as well as beneficial effects on cardiovascular diseases. *Cissus quadrangularis* plant contains a high percentage of calcium ions (4% by weight) and phosphorous.

The special properties of *Cissus quadrangularis* since ancient times, and calls the plant “asthisamharaka,” or bone healer. The plant’s relatively wide range throughout the region made it a plentiful and popular resource for a variety of ailments, from venereal diseases to loss of appetite and it was even used as an aphrodisiac. The stems and leaves of the plant are indicated as the primary sources for *Cissus quadrangularis*’ restorative and healing properties, and these two parts are crushed, powdered, fried, or even made into a juice according to Ayurvedic tradition.

One of the most startling uses for *Cissus quadrangularis* is of course as a restorative for broken bones. In such instances, Ayurvedic applications call for a poultice to be made from crushed stems and placed externally at the site of the

fracture. Additionally, roasted stems are pressed for their juice and combined with ghee or clarified butter and taken internally. The plant is also a primary ingredient of a popular Ayurvedic pain reliever and anti-inflammatory. From the traditional uses of *Cissus quadrangularis* have stemmed inquiries into the herb's potential for healthy and resilient bone, tendon and muscle tissues. An important consideration for athletes and those concerned about skeletal tissue over the course of lengthy sicknesses as well as the natural course of aging, *Cissus*' ability to protect and restore muscles and tendons is an exciting frontier in herbal health.

The plant's mechanism of action is found in the presence of 3-ketosteroids, which are anabolic and impart anti-glucocorticoid properties to tissues. These constituents are able to help heal and protect muscles, tendons, and bones through their interaction with cortisol and other hormones and substances found in the body. These substances contribute to tissue breakdown by acting as "cleaners" in times of physical trauma or weakness, allowing dead proteins and other waste to exit the area. *Cissus quadrangularis*' active components prevent the over-activity of these substances, and help restore tissues to their normal, healthy state. The *Cissus quadrangularis* stem is also reported to contain a water-soluble glycoside, which produces a fall in blood pressure in anaesthetized cats. Fresh stems of *Cissus quadrangularis* produces irritating action on the skin, which may be attributed to the presence of calcium oxalate and 31 methyl tritriacontanoic acid along with taraxerylacetate, taraxerol and iso-pentacosanoic acid.

Traditional use of *cissus quadrangularis* to help heal the lining of the digestive tract, reduce inflammation, enhance antioxidant defenses, and control bacterial imbalance. Science confirms the value of *cissus quadrangularis* as a helpful bone support nutrient, and expands on its role in metabolic support.

## CONCLUSIONS

*Cissus quadrangularis* possesses various properties discussed in present paper. So many medicinal properties performed in this plant must be extended to generate novel textile applications.

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