



## A review on *Capparis zeylanica* (Unripe fruit) - a seasonal vegetable and its medicinal perspectives

NJQ Tharshanodayan\*<sup>1</sup> and P Rohini<sup>2</sup>

\*<sup>1</sup>PG Scholar, Department of Gunapadam, Government Siddha Medical college, The Tamilnadu Dr. M.G.R Medical university Chennai, Tamilnadu, India), Palayamkottai, Tirunelveli (627002), Tamilnadu, India.

<sup>2</sup> Medical Officer, District Siddha Hospital, Mannar, Srilanka.

\*Corresponding author Email: <sup>1</sup>[njqtharshan@gmail.com](mailto:njqtharshan@gmail.com) | <sup>2</sup>[prohini165@gmail.com](mailto:prohini165@gmail.com)

### Manuscript details:

Received: 16.06.2019  
Revised: 02.09.2019  
Accepted: 17.09.2019  
Published: 30.09.2019

**Editor: Dr. Arvind Chavhan**

### Cite this article as:

NJQ Tharshanodayan and P Rohini (2019) A review on *Capparis zeylanica* (Unripe fruit) - a seasonal vegetable and its medicinal perspectives. *Int. J. of Life Science*, Volume 7(3): 569-572.

**Copyright:** © Author, This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

Available online on  
<http://www.ijlsci.in>  
ISSN: 2320-964X (Online)  
ISSN: 2320-7817 (Print)

### ABSTRACT

In traditional systems of medicine, *Capparis zeylanica* is considered as an important herb and unripe fruit as a seasonal food. Aim is to evaluate the medicinal perspectives of *C. zeylanica* as a seasonal vegetable. During the Muduvenil season Aadi amaavaasai day the Hindu traditional ritual is restricted to Srilanka. In summer season stage of Vatham is in accumulated and Kapam is in migrated state, preferred to consume Vatham neutralizing meals and medications. Common delicacy preferred to consume during *Aadi amaavaasai* day is unripe fruit of *C. zeylanica*. The unripe fruits are used to remove Tridosh, bitter removes Kapha and Vata. The unripe fruit is used for sedative, stomachic and as a bitter. *C. zeylanica* was found to have saponin, p-hydroxybenzoic acid, syringic acid, vanillic acid, ferulic acid pcoumanic acid,  $\beta$ -carotene, thioglycoside, glycocapparin, n-triacontane,  $\alpha$ -amyrin and fixed oil. The Capparis are used as a vegetable and fruits because of their high nutritive ingredients like proteins carbohydrate, minerals and vitamins. The unripe fruit as a seasonal food for the treatment of several diseases as we have illustrated in this article. Moreover, numerous research works have proven its uses beyond the ethno medicinal ones in experimental animals.

**Key words:** Capparis zeylanica, Aadi amaavaasai, Bitter, Summer

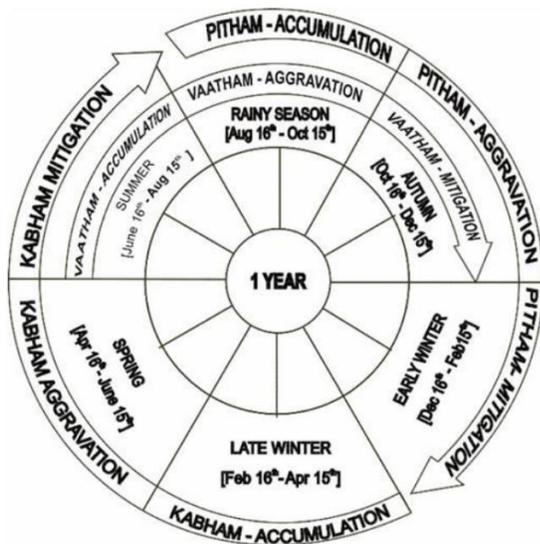
### INTRODUCTION

Plants have been an integral part of life in many local communities for food and medicine both. Medicinal plants are widely used by all sections of the populations either directly as folk remedies or indirectly in the preparation of modern pharmaceuticals (Sridhar, 2013). A variety of plants are used traditionally for nutritional or medicinal purposes. Since ages, the wild and cultivated plant species are the source of nutraceuticals of several communities.

Such practices are usually linked to different seasons as well as the rituals confined to this region (principle of siddha, TKDL).

The *Capparis zeylanica* Linn are widely used in the indigenous medicine. In traditional systems of medicine, *C. zeylanica* is considered as an important remedy and the unripe fruit as a seasonal food for the treatment of several diseases (Gayathri *et al* ,2015). The seasonal conduct structures out the guidelines to be followed in different seasons to prevent illnesses and help one’s wellbeing. The guidelines are related to modifications in diet and lifestyle with respect to a particular season. The lunar calendar is widely observed and followed which is divided into six seasons (or ruthu). Each season has been characterized by an important component of taste (e.g. sweet, sour, salt, bitter, pungent and astringent). Many traditional food and medicinally-valued plant parts will be utilized (Bhagya B *et al* ,2013)

during in *Aadi amaavaasai* day. After cutting the unripe fruit in to small pieces, soaked in salt and turmeric powder mixed water for 15 minutes to reduce the bitter taste and the pieces are used to prepare fry consisting of a strong pleasant characteristic dish. According to siddha medicine the unripe fruit of the plant is reported to possess sedative and stomachic activity (Sivashanmugaraja S ,2016). The female flowers of some of the *Capparis* are used as a vegetable and fruits are used in pickle production because of their high nutritive ingredients like proteins carbohydrate, minerals and vitamins. It will be valuable to evaluate utility potential of unripe fruit in cancer patients due to high titer of spermidine containing alkaloid which are implicated in tumorigenesis( Mishra S ,2006).



**Fig 1:** Presentation of seasonal effects on Three humors (*Ujir thaathukal*)

*Siddha* medicine mentioned during the summer June to August (*Muduvetil kaalam*). Stage of *Vatham* is in accumulated stage and *Kapam* is in migrated state. Preferred reside in ventilated area. Avoid food that is digested with difficulty and have to ingest *Vatham* neutralizing meals and medications. Common delicacy unripe fruit of *Capparis zeylanica* preferred to consume



**Fig 2 A & B:** Consuming form of unripe fruit of *C. zeylanica* during *Aadi amaavaasai* day

## METHODOLOGY

In this review, some main Siddha text books and data were collected from older people to extract important information about *C. zeylanica* and their traditional uses, and also data were collected from the journals through globally accepted websites. Data were analyzed.

### Botanical description.

*Capparis zeylanica* belongs to Capparidaceae family. Large climbing shrubs with hooked spines, stems woody, rough, young parts green, rusty tomentose with pungent smell, leaves ovate or elliptic, 3.5-6.5x2.5-4 cm, Rusty -tomentose when young, glabrous at maturity, base cuneate, entire, tip mucronate, flowers yellowish-white or white in supra-axillary, solitary, 2-3 pedunculated (Gayathri *et al.*, 2015). Regarding to *Capparis zeylanica* description, the unripe fruit is an ovoid berry. It is 4.5cm long and 3.5 cm wide, green turning reddish colored when ripe. The fruit contains numerous seeds.

### Scientific validations

#### Review on Phyto chemistry and pharmacology

*C. zeylanica* was found to have variety of chemical constituents. Whole plant showed the presence of saponin, p-hydroxybenzoic acid, syringic acid, vanillic acid, ferulic acid and p-coumaric acid. Seeds showed presence of  $\beta$ -carotene, thioglycoside, glycocapparin, n-triacontane,  $\alpha$ -

amyrin & fixed oil (Gayathri *et al.*, 2015). The fruit of *Capparis zeylanica* has also been reported to possess anti-allergic, anti-gout, anti-diabetic and astringent property. The seeds and fruits are reported to have anthelmintic activity.

### Medicinal properties

Un ripe fruit of *C.zeylanica* Severe head ache, cough, cold, nasal congestion, throat infection. *C.zeylanica* fruit have been considered as anti-dote to snake bite (Mishra, 2006).

### Traditional uses

Traditionally *Capparis zeylanica* L. was first reported as vegetable (Deshmukh, 2010). For the treatment of diabetes ripe fruits are consumed twice for fortnight and during ingestion, stem bark extract is administered thrice daily (Shivana, 2010). *Capparis zeylanica* plant is also served as an appetizer prepared as a dipping paste with pepper, tamarind and garlic (Reddy K. N,2010). In *Siddha* called *Aathondai*, the unripe fruit of *C.zeylanica* is used for Sedative, Stomachic and as a bitter. The unripe fruits are used to remove *Tridosha*, bitter removes *Kapha* and *Vata* (Murugesu, 2013). The seeds and fruits are used in urinary purulent discharges and dysentery. *Capparis zeylanica* fruit has been considered as an anti-dote for snake bite. Traditionally it is used to cure swelling of testicle, small pox, boils, cholera, colic, hemiplagia, neuralgia, sores, pneumonic & Pleurisy (Gayathri *et al.*, 2015).



Fig 3 A: *C.zeylanica* unripe fruit

B: *C.zeylanica* unripe fruit transversal section

## CONCLUSION:

Documentation of indigenous traditional knowledge especially plant selection, season in which utilized, plant part used for nutrition/medicine and mode of processing assumes prime importance. Several rituals have directly or indirectly linked with regional cultivation and conservation of biodiversity of specific plant species by local people. The *Aadi amavaasai* Hindu traditional ritual is restricted to Srilanka. The diversity of regionally valuable plants and their associated ethno nutritional and ethno medicinal knowledge are have to be scientifically demonstrated. Documentation and developing databases of cultural practices towards human nutrition and therapy through various indigenous plant species may provide a greater dimension to conserve the tradition as well as plant diversity. The *Capparis* are used as a vegetable and fruits. because of their high nutritive ingredients like proteins carbohydrate, minerals and vitamins. They can eat raw or processed. The unripe fruit as a seasonal food for the treatment of several diseases as we have illustrated in this article. Moreover, numerous research works have proven its uses beyond the ethno medicinal ones in experimental animals. Various compounds which were isolated from this unripe fruit may be responsible for its pharmacological activities. The road ahead is to establish specific bioactive molecules, which might be responsible for these actions. Being such an important medicinal plant, it requires more exploration in all the pharmaceutical aspect.

## Conflict of interest:

The Authors declare no conflict of interest.

## REFERENCES

- Bhagya B *et al* (2013) Traditional seasonal health food practices in southwest india: nutritional and medicinal perspectives, NUJHS Vol. 3, No.1, March 2013, ISSN 2249-7110
- Capparis zeylanica* description /fruit, Virtual herbarium, Pichandikulam forest
- Deshmukh BS, Shinde V (2010) Fruits in the wilderness. International Journal of Pharma and Bio Sciences., 1(2): 1-5.
- Gayathri Devi V *et al* (2015) Physico-chemical standardisation and review on *capparis zeylanica* linn., a common siddha herbal drug, World Journal of Pharmaceutical Research, Volume 4, Issue 5, ISSN 2277- 7105, pg 588-599
- Mishra S (2006) Medicinal and food value of *capparis*- a harsh terrain plant, Indian Journal of Traditional Medicine, Vol 6(1), Pg 230-238.

Murugesu Muthaliyar KS (2013) Siddha material medica, part one, 9th edition, Indian medicine and Department of Homoeopathy, Chennai 106, Pg 68-69.

Principles of siddha- TKDL, tkdl.res.in>tkdl>siddha>Sid\_Principles

Reddy KN, Trimurthulu G, Reddy CS (2010) Indian Journal of Traditional Knowledge., 9(1): 184-190.

Shivana MB and Rajkumar N (2010) Indian Journal of Traditional Knowledge 9(1): 158162.

Sivashanmugaraja S (2016) Yaalpaana makkalin unavu palakka valakkangak( tHamilar vaalvil Siddha maruththuvam, Siddha medical development Society, Sivaranjanam offset printers, Pg 65-66

Sridhar KR (2013) Traditional seasonal health food practices in southwest india: nutritional and medicinal perspectives, Nitte University Journal of Health Science, NUJHS Vol. 3, No.1, ISSN 2249-7110