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## REVIEW ARTICLE

# CARAMBOLA: MEDICINAL PLANT

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### ABSTRACT

The fruits of Carambola (*Averrhoa carambola*) are unique tropical fruits that has been used for various ailments. The phytochemical present in carambola has been utilized as herbal medicine for long time. As the plant has many medicinal properties, there is lots of potential for commercial development.

#### Key words:

Carambola, Medicinal Properties,  
Phytochemical Properties, Antioxidant.

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## INTRODUCTION

Carambola or star fruit (*Averrhoa carambola*) is an edible fruit that makes it popular in a number of dishes and desserts. It is also used in preparation of juice, pickles and salads. As the name denote, the fruit is star-like shape when cut horizontally. It is a unique tropical perennial woody plant from oxalidaceae family. It is native to Sri Lanka and Indonesia. It is also grown in other tropical and warm subtropical parts of the world. The tree grows to about 12 m tall, bushy shape with many branches. The compound leaves medium-green, spirally arranged around the branches. The flowers are small, red-purple colour, bell-shaped, with five petals that have whitish edges, arrange in small clusters on the ends of the branches. The golden yellow star fruit has a sweeter flavor. The fruits are fleshy, juicy, sour or sweet in the taste. There are number of varieties. Carambola is commonly propagated through seed though grafting onto suitable rootstock yields better for commercial production.

**Medicinal properties:** Traditionally leaves, roots, flowers and the fruits have been utilized as herbal medicine for a long time. The fruit has been used for treating various ailments such as diabetes, arthralgia, vomiting, lithangiuria, coughing, hangovers, and chronic paroxysmal headache (Carolino *et al.*, 2005).

In India, the ripe fruits of *A.carambola* are used for curing the hemorrhage, and also as a remedy for the treatment of eczema, fever, and diarrhea and as a digestive and tonic. Pharmacological studies have revealed that crude extracts from *A.carambola* exhibit multiple bioactivities, exhibits hypo-cholesterolemic and hypolipidaemic effect as it enhances the removal of cholesterol, lipid, and bile acid (Cazarolli *et al.*, 2012; Muthu *et al.*, 2016; Lakmal *et al.*, 2021).

**Phytochemical properties:** Extracts of star-fruit plant leaves, fruits and roots are potential source of a number of antioxidants, including proanthocyanidins and gallic acid, flavonoids, benzoquinone, and their glycosides (Manach *et al.*, 2004; Lambert *et al.*, 2005; Shui and Leong, 2006; Avinash *et al.*, 2012; Gheewala *et al.*, 2012). The fruit is a good source of several nutrients especially fiber and vitamin C, vitamin B1 and B2, and minerals but low in calories and also contains many beneficial plant compounds (Chau *et al.*, 2004). The presence of high amount of fibers in this plant contributes to the absorption of glucose and maintains normal blood glucose levels (Wu *et al.*, 2009). Antioxidants help fight free radicals that can damage cells, also help slow aging and reduce the risk of disease. The fruit is also having anti-microbial activity. The extracts in various concentrations were found to inhibit the growth of *Staphylococcus aureus* and *Klebsiella* spp. Extracts were also effective against *Escherichia coli*, *Pseudomonas aeruginosa* and *Bacillus cereus* (Dasgupta *et al.*, 2013; Silva *et al.*, 2021).

However, star-fruits are well known for the oxalic acid content or caramboxin in it which gives some harmful nephrotoxic and neurotoxic effect (Abeysekera *et al.*, 2015; Yasawardene *et al.*, 2021).

## Conclusion

As the carambola fruit has good medicinal and nutritional properties, the crop has the potential for commercial development.

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