

An Overview On Marang - *Artocarpus odoratissimus*

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SUMMARY

Marang (*Artocarpus odoratissimus*) is one of the underutilized fruit species of genus *Artocarpus*. It is rich source of vitamins, minerals and antioxidants, the fruit is also eaten as fresh and cooked as vegetable. Due to lack of knowledge about the nutritional value of fruit, it is not widely cultivated and used by people. Hence there is need to exploit potential of this fruit to address various health and nutritional issues. This paper gives out the detail review of information about its origin and distribution, botanical description, its uses, medicinal and nutritional values.

INTRODUCTION

Genus *Artocarpus* consists of approximately 50 species of small to large evergreen trees and is native to South-East Asia. One of these species, Marang, also known as Terap, is one of the tastiest tropical fruit. It is botanically known as *Artocarpus odoratissimus* and is a member of the Moraceae family. According to its morphology, the fruit have the shape between jackfruit and breadfruit (Galang, 1955 and Subhadrabandhu, 2001). *Artocarpus odoratissimus* originated in Borneo (Brunei, Darussalam, Sabah and Sarawak). However, the fruit is now cultivated in other southeast Asian countries such as Thailand and the Philippines (Mindoro, Mindanao, Basilan, and Sulu). Nowadays, it has also been introduced into Australia, Brazil and some other tropical countries. Today it has been cultivated in many areas for its edible fruit. (Bakar and Bakar, 2018).

Marang grows wild in subtropical regions, also known by various names in the area such as Terap (Malaysia), Marang (Sulu), and Khanun Sampalor (Thailand) (Subhadaraandhu, 2001). Usually, the fruits are eaten fresh and have a strong aroma like durian, while the pulp of the fruit is white and juicy and the fruit skin is covered with soft expanded spines, yellowish green and easily resolved. When it matured, the fruit should be plucked from the branches of the tree itself to avoid fruit damage (Noorfarahzilah *et al.*, 2017).

Botanical Description:

It grows to a height of 35-39 m tall with branches in the middle of the canopy, low buttresses, a 45 cm trunk diameter, grey to dark brown bark with sticky white latex, and a spreading canopy. Twigs have long, yellow to red, spreading hairs and stipule-scar rings. Stipules are ovate. 1–8 cm long, yellow to red and pubescent. Leaves are spirally arranged. Juvenile leaves pinnatifid. Mature leaves are broadly elliptic to obovate, 16–50 cm by 11–28 cm, cuneate at base to slightly winged, margin entire or shallowly crenate, upper half often 3-lobed apex blunt or shortly acuminate, both surfaces sparsely pubescent, leathery with 13–15 pairs of lateral veins; petiole 2–3 cm long. Inflorescences axillary, solitary; Male and female flowers, small, 0.5 mm diameter, yellowish, on the same tree but in separate axillary inflorescence heads. Male heads solitary or in pairs, are ellipsoid to clavate and 4–11 × 2–6 cm. Female heads solitary with pubescent peltate bracts mostly shed and simple styles exerted to 1.5 mm. Fruit (syncarp) sub globose, 15–20 cm × 13 cm, green turning yellow brown when ripe, densely covered with stiff, hairy protuberances of about 1 cm length; rind 8 mm thick; flesh (fruiting perianths) white, juicy, aromatic, sweet; peduncles 5–14 cm long. Pericarps (including the seeds) ellipsoid, about 15 mm × 8 mm. As the fruit matures, it changes colour from green to yellow and becomes hard and brittle. Until over-ripe, the fruit does not fall to the ground. (Lim, 2012).

Nutritional Importance:

The proximate composition shows that the seeds of *A. odoratissimus* possessed good protein content (21.89±0.01%) compared to the flesh (14.59±0.19%). This fruit could be an alternative source of protein for the rural people. The seeds also contain higher crude fat 18.23±0.20%. Additionally, higher carbohydrate content was recorded in the flesh ranged 82.27-83.41%. A higher concentration of K was recorded in the flesh (1210.40±28.00 mg/100 g). Significantly higher Ca was found in the core (1300.97±23.51 mg/100 g), whereas Mg content was found to be higher in the skin parts (263.52±7.02 mg/100 g). The Na values obtained for the flesh and seed are comparatively lower than the non-edible parts. Copper was found in trace quantities in all the fruit parts ranging

0.89-2.49 mg/100 g. Fructose comprised a larger portion in the flesh followed by glucose and the least amount was sucrose. *Artocarpus odoratissimus* flesh contains an excellent vitamin B complex content, which is Thiamine followed by Niacin, Folic acid, and Riboflavin, and vitamin C. (Ismail *et al.*, 2021).



Health Benefits :

Marang fruit provides a wide range of health advantages and has been used for generations to treat a lot of illnesses. It is a rich source of dietary fiber, vitamins, minerals, and antioxidants. It is also low in calories and fat, making it a great snack for those who want to lose weight. The strong antioxidant content of marang fruit is one of the most significant health advantage. Some of the antioxidants presents are vitamin C, flavonoids and carotenoids etc. Marang fruit is also a good source of dietary fiber. Dietary fiber regulates the absorption of food in the stomach and intestines and can help to avoid constipation, both of which are crucial for maintaining a healthy digestive tract. Fiber can also help lower cholesterol levels and reduce the risk of heart disease. It is high in Vitamin B6, which is essential for healthy skin, hair, and nails. It is also a good source of Vitamin A, which helps to improve vision, and Vitamin E, which helps to protect the skin from damage caused by the sun. It is also a good source of Potassium, which helps to control blood pressure. Marang fruit is a beneficial addition to any diet because it has a wealth of antioxidants, vitamins, and minerals that can enhance general health.

Other Uses:

The big leaves are utilised for temporary field huts, long home partitions, and thatching. Locally, the wood is used for light construction, for making boxes, crates and wooden pallets. The wood is used for decorative purposes like furniture, joinery and panelling. The unripe fruits can be cooked as boiled vegetable. The riped fruits can be eaten fresh, dried, or made into a juice. It can also be used to make jams and jellies. The rind of the fruit is said to be edible. Seed can be roasted or boiled and eaten. Seeds boiled for 30 minutes in salty water have a delicious nutty flavour. Roasted seeds have a flavour similar to sweet chestnuts.

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