

Jackfruit

Artocarpus heterophyllus

- the largest edible fruit in the world!

The Jack Tree (*Artocarpus heterophyllus*) is closely related to figs, mulberries and breadfruit in the Moraceae family. There are about 70 tree and shrub species in the genus *Artocarpus*, mostly restricted to South-east Asia. Recent studies suggest that the genus originated and commenced radiating from Borneo in the Eocene Epoch about 55-34 mya, however, the greatest diversification and dispersal events occurred in the Miocene, 23.8-5.3 mya, when fluctuating sea levels resulted in land bridges between Indonesian islands and mainland Asia. *Artocarpus heterophyllus* is thought to have its origins in wet tropical rainforests of India. The tree has long had an association with human populations and is known to have been cultivated in India up to 6,000 years ago; it's now cultivated in most tropical lowland regions of the world, including parts of Africa, Asia, Australasia and the Americas.



Jackfruit – *Artocarpus heterophyllus*
Photo: Sasiphan Bilmanoch, Kasem Bundit University, Thailand



Each *Artocarpus* inflorescence (the arrangement of flowers) consists of hundreds, up to thousands of flowers. Following pollination, the fusion of the ovaries in each inflorescence produces the massive fruit which is known technically as a *multiple aggregate*

fruit, like an enormous raspberry or blackberry. Jackfruits are the largest edible tree fruits known and can weigh up to 55 kg. A mature tree can produce 200 – 500 fruits each year.

The ripe fruit is sweet and commonly used in desserts such custards and cakes or mixed with rice. Canned green jackfruit has a mild taste with a meat-like texture and is marketed as ‘vegetable meat’.



The Jackfruit is of cultural importance in many parts of India and Bangladesh; it's the national fruit of Bangladesh and the state fruit of the southern Indian States of Tamil Nadu and Kerala. Much of its cultural significance is related to the timber which is soft, golden-yellow, with a good grain and is termite-resistant. This is widely used in furniture manufacture as well as for doors, window frames and roof supports, for traditional string instruments, lutes and drums, and also many long-standing religious practices.



Photo: Sasiphan Bilmanoch

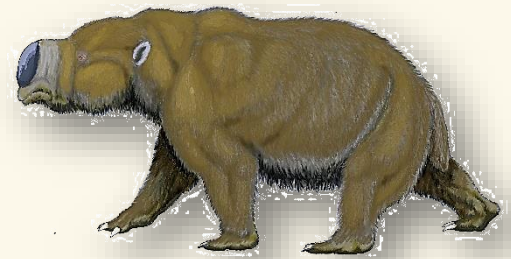
Living with a Jackfruit tree in suburban Bangkok can be challenging, both from safety and financial viewpoints. In Bangkok, fruiting can occur two or three times a year, so that there is almost always some risk of a huge fruit unexpectedly crashing down on passing people or



Photo: Sasiphan Bilmanoch

pets below! Safe harvesting in confined communal spaces is essential. Harvesting of higher, less accessible fruits, usually involves the use of a curved knife attached to a long handle. Ladders and/or upstairs windows can also facilitate access. Strategically placed suspended nets or mounds of leaves or coconut husks effectively soften the fall.

Jackfruit is one of many plant species with exceptionally large fruits that were dispersed by *megafauna*, large vertebrates that inhabited the Earth up until ~ 12,000 years ago, then suddenly disappeared at the end of the Pleistocene. *Megafaunal seed dispersal syndrome* refers to plants that produce fruits that are too large for most present-day herbivores to disperse and are assumed to have been adapted for dispersal by megafauna. These plants include Jackfruit, Breadfruit and Durian, and evolved with anachronistic systems of dispersal that are not ecologically effective today. It is presumed that the seeds are now dispersed by small vertebrates and birds and in place of the larger mammals. The disadvantages of dispersal by smaller animals are that fewer seeds are spread over shorter distances, restricting the distribution of the megafaunal fruit plants and also leading to diminished genetic flow amongst their populations.



Diprotodon optatum, a giant marsupial from the Australian Pleistocene. Creator: Dmitry Bogdanov, CC BY 3.0
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Jackfruit – lower trunk with fruit.
Photo: Sasiphan Bilmanoch



Jackfruit – close up of fruits growing from the trunk near the ground.
Photo: Sasiphan Bilmanoch



Jackfruit – long handled harvesting knife. Photo: Sasiphan Bilmanoch



Jackfruit growing from the trunk near the ground. Photo: Sasiphan Bilmanoch.



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