



## Less-known “Lakoocha”

Dipanjan Ghosh and Sayantan Jash

**L**AKOOCHA is botanically known as *Artocarpus lakoocha* Roxb. and belongs to the family Moraceae. The generic name is a combination of two Greek words, ‘*Artos*’ (meaning ‘bread’) and ‘*Karpos*’ (meaning ‘fruit’), while the species epithet is derived from the fruit’s common name in India. Monkey Jack fruit is the common English name of this plant.

India is the centre of origin of Lakoocha. It is native to sub-Himalayan

humid regions and grows up to an altitude of 1200 m above. This tree species is widely distributed in the peninsular tropical region, Western Ghats and Eastern and Northeastern sub-tropical regions where it is most abundant.

Outside India, Lakoocha is distributed in Bangladesh, Myanmar, and Sri Lanka as well as in Nepal and Bhutan of the Indian subcontinent. It is also common in Southeast Asian

countries such as Cambodia, Indonesia, Laos, Malaysia, Singapore, Thailand, and Vietnam. But most interestingly the tree has not been reported outside its native range, which indicates very specific climatic requirements for its growth.

Lakoocha is a medium to large tree, up to 20 m long, with a spreading crown of leaves. In Eastern India, the leaves of the plant fall in a specific season, i.e., deciduous in nature, though the



Irregularly rounded, single compound unripe fruits of Lakoocha  
[Photo: Rabiul Hasan]



After ripening fruits turn yellow  
[Photo: Prankrishna Debnath]



Inside a mature fruit, 10-30 single-seeded thecae and dark red pulp are present  
[Photo: Rabiul Hasan]

deciduous period is very short, beginning in February and ending in early March. But in Southern India, it is reported that the plant is evergreen. It is thought that ecological and environmental differences of these regions are the main reason behind these two different forms of the plant.

Lakoocha bears male and female flowers in the same tree, with flowering occurring in March and fruit ripening at the advent of August. A single fruit is about 200-350 gm in weight, containing 10-30 single-seeded thecae. Birds and monkeys usually disperse the seeds. Lakoocha fruit has a very pleasant sub-acidic taste. It is rich in vitamin C,  $\beta$ -carotene, minerals such as zinc, phosphorus, manganese, copper, iron, etc., and food fibres (Tomar *et al.*, <http://www.upsbdb.org/pdf/Souvenir2015/ch-22.pdf>). Presence of various alkaloids, flavonoids, phenols, steroids and tannins in Lakoocha has also been reported (Bishnoi, Shinde and Sarkar, 2017).

In India, almost every part of Lakoocha tree has been reported to be used in Ayurvedic as well as Unani system of medicine. The ethnomedicinal uses are centred mainly among the tribals of Chhotanagpur Plateau in Jharkhand and West Bengal, Bilaspur and Bastar in Chhattisgarh and Kannur in Kerala (Vijayan *et al.*, *Indian J. Traditional Knowledge*, 2007).

The macerated bark is applied externally for treating various skin ailments such as boils, pimples, cuts and

wounds. The powdered heartwood extract of Lakoocha is used as a skin whitening and smoothening agent. The decoction of the bark is also used to treat headache and waist pain. The bark and seed of the Lakoocha plant are useful against liver and stomach disorders (Gautam and Patel, *Journal of Complementary and Alternative Medicine*, 2014). Leaves are used in treating dropsy. The crushed dried root is administered against constipation (Bishnoi, Shinde and Sarkar, 2017).

In the Ayurvedic system of medicine (Bhattacharya, *Chiranjeev Vanaushadhi*, 1980), the juice extracted from unripe fruit is used in the control of obesity. The juice of ripe fruit pulp is considered as a good liver tonic as well as an antidote of strong distaste, loss of appetite, flatulence and inadequacy of sperm formation. In the Unani system of medicine (Bhattacharya, *Chiranjeev Vanaushadhi*, 1980 & Hossain *et al.*, *International Research Journal of Biological Sciences*, 2016), dust of dried seeds and milky latex are used in bowel evacuation or purgation in children.

Lakoochins, an alkaloid extracted from the root, exhibit antibacterial activity and their curative role in breast cancer and nasopharyngeal carcinoma has also been reported.

According to some researchers of Thailand, Phytooxyresveratrol (an inhibitor of tyrosinase enzyme) extracted from Lakoocha has effective anti-ageing property (Suwannalert, *Tropical Journal of Pharmaceutical Research*, 2012) and due to its antioxidant and anti-glycation

activities, cellular ageing is also being prevented (Rabe *et al.*, *J. Am. Acad. Dermatol.*, 2006).

The fruit contains  $\beta$ -amyryn acetate and lupeol acetate that can be effective against diabetes and atherosclerosis, respectively (Hossain *et al.*, *International Research Journal of Biological Sciences*, 2016).

Lakoocha is a valuable fodder tree in the lower foothills of the Himalayas, mostly in Nepal. One mature tree produces 60-200 kg fresh feedstuff in a year. The yellow wood is durable, hard, termite resistant and suitable for polishing. It is used for timber, heavy construction, poles, furniture, boat building and plywood making while the dried wood, twigs and fallen leaves are a very useful source of fuel in rural households. Fibres obtained from its inner bark are used to make ropes. A yellow colouring matter obtained from its wood and roots is used for dyeing textiles (Hossain *et al.*, *International Research Journal of Biological Sciences*, 2016).

---

Mr Dipanjan Ghosh is one of the Editors of the journal '*Indian Science Cruiser*' published from Kolkata. Address: Chotonilpur Pirtala, PO Sripally Dist. Purba Bardhaman-713103, West Bengal. Email: dpanjanghosh@gmail.com Website: www.dipanjanghosh.in

Mr Sayantan Jash is a popular science writer pursuing MSc in Botany from the University of Burdwan, Purba Bardhaman, West Bengal. Email: sayantan.jash98@gmail.com