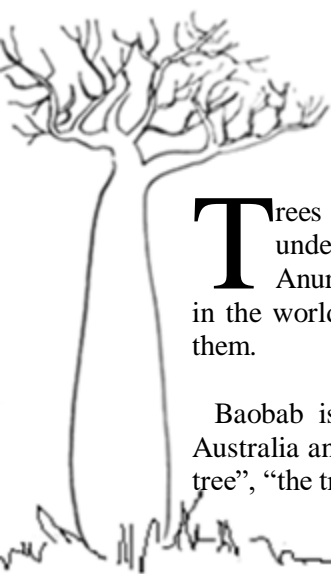




# THE BAOBAB TREE

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**T**rees are known to live for many years. Gautama Buddha attained enlightenment while meditating underneath a peepal tree (*Ficus religiosa*). A branch of the original tree was rooted in Anuradhapura, Sri Lanka in 288 B.C. and is known as Jaya Sri Maha Bodhi. It is the oldest plant in the world. Long-living plants are found in many parts of the world. The Baobab tree is one among them.

Baobab is the common name of a genus of trees (*Adansonia*) distributed in Madagascar, Africa, Australia and India. The Baobab is the national tree of Madagascar. The Baobab is also known as “bottle tree”, “the tree of life”, “upside-down tree”, and “monkey bread tree”.



The trees reach heights of 16 to 98 feet and trunk diameters of 23 to 36 feet. Its trunk can hold up to 120,000 litres of water! The baobab tree is supposed to live many hundred years; the trunk of the full grown tree is hollow and usually provides shelter to birds, animals and even human beings of savannah regions of Africa. Sometimes the tree trunk is housed as wine and beer parlors!

A specimen of *Adansonia digitata* in South Africa, known as Grootboom was carbon dated and found to be at least 1275 years old, making it one of the oldest known angiosperm trees. The tree trunk is very rich in fibers and used for making cloths, carpets, ropes and other knit wares. The leaves are used as condiments and medicines. The fruit, called "monkey bread", is edible, and full of vitamin C. Thus the baobab tree bearing the synonym as ‘the tree of life’. The fruit has a velvety shell and is about the size of a coconut, weighing about 1.5 kg. It has a somewhat acidic flavor, mildly reminiscent of grapefruit, pear, and vanilla.



Figure.1. Baobab trees



Figure: 2. a big-baobab-tree-at Gregory National-park

*A. digitata* L has great potential to be exploited by food and beverages, nutraceutical and cosmetic industries. Leaves, stem, bark, fruit pulp and seeds of this tree are employed as food stuff as well as medicine. Extracts of leaf, stem, fruit pulp and seed are known to have strong antioxidant and antibacterial activities. Baobab Foods, one of the many U.S. companies importing the African ingredient is pushing into the nutraceutical space with a depectinized extract.

Extracts of stem bark of *A. digitata* are reported to possess antibacterial activity against *Escherichia coli*, *Klebsiella pneumoniae*, *Proteus mirabilis* and *Staphylococcus aureus*. Mucilage of *A. digitata* was used in the formulation of matrix tablets. The mechanism through which the mucilage exerts its drug release-retarding effect was investigated in vitro using aminophylline as positive control. The studies proved the sustained release efficacy of the mucilage of *A. digitata*, which is found to be higher than HPMC (Hydroxyl n-Propyl Methyl Cellulose) in simulated intestinal fluid and simulated gastro intestinal fluid. It was also found that the mechanism of release of aminophylline from the mucilage in hydroxyl n-propyl methyl cellulose was by diffusion.

Baobab seed oil is used in the cosmetics industry and sold internationally. The seeds contain about 33% of oil with oleic and linoleic acids as the major fatty acids followed by palmitic and  $\alpha$ - linoleic acids. The high content of linoleic and oleic acids is known to soften the skin and to moisturize the epidermis. Additionally, the fatty acids regenerate epithelial tissues. This makes the seed oil a very good carrier oil of value to the cosmetic industry.

Recently a pilot study on the safety and efficacy of the seed oil was performed in 20 Caucasian subjects. Baobab oil was found to have no skin irritation property. The moisture efficacy test indicated a reduced trans-epidermal water loss (TEWL) and improved moisture retention with Baobab oil. The occlusivity wipe-off test indicated an increased moisture hydration and decreased TEWL. These results indicate that Baobab seed oil could be a valuable functional ingredient for cosmeceutical applications (*Revista Brasileira de Farmacognosia* 2017, 27: 1–8).



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