


# Balanites aegyptiaca

<i>Balanites aegyptiaca</i>	
	
Scientific classification	
Kingdom:	Plantae
(unranked):	Angiosperms
(unranked):	Eudicots
(unranked):	Rosids
Order:	Zygophyllales
Family:	Zygophyllaceae
Genus:	<i>Balanites</i>
Species:	<i><b>B. aegyptiaca</b></i>
Binomial name	
<i><b>Balanites aegyptiaca</b></i> (L.) Delile, 1812	
Synonyms	
<i>Ximenia aegyptiaca</i> L.	

*Balanites aegyptiaca* is a species of tree, classified either as a member of the Zygophyllaceae or the Balanitaceae.<sup>[1]</sup> This tree is native to much of Africa and parts of the Middle East.

There are many common names for this plant. In English the fruit has been called desert date, soap berry tree or bush, Thron tree, Egyptian myrobalan, Egyptian balsam or Zachum oil tree; in Arabic it is known as *lalob*, *hidjihi*, *inteishit*, and *heglig* (*hijlij*). In Hausa it is called *aduwa*, in Swahili *mchunju* and in Amharic *bedena*.<sup>[2]</sup>



## Distribution

*Balanites aegyptiaca* is found in the Sahel-Savannah region across Africa. It is one of the most common trees in Senegal and Mauritania, one of its local names is teishit.<sup>[3]</sup> It can be found in many kinds of habitat, tolerating a wide variety of soil types, from sand to heavy clay, and climatic moisture levels, from arid to subhumid.<sup>[4]</sup> It is relatively tolerant of flooding, livestock activity, and wildfire.

## Description

The *Balanites aegyptiaca* tree reaches 10 m (33 ft) in height with a generally narrow form. The branches have long, straight green spines arranged in spirals. The dark green compound leaves grow out of the base of the spines and are made up of two leaflets which are variable in size and shape.<sup>[5]</sup> The fluted trunk has grayish-brown, ragged bark with yellow-green patches where it is shed.

The tree produces several forms of inflorescence bearing yellow-green bisexual flowers with five long greenish petals. In Senegal, they are pollinated by halictid bees, including *Halictus gibber*, and flies, including *Rhinia apicalis* and *Chrysomia chloropiza*. The carpenter ant *Camponotus sericeus* feeds on the nectar exuded by the flowers. The larva of the cabbage tree emperor moth *Bunaea alcinoe* causes defoliation of the tree.

## Cultivation

### Food

*Balanites aegyptiaca* has been cultivated in Egypt for more than 4000 years, and stones placed in the tombs as votive offerings have been found as far back as the Twelfth Dynasty. The tree was figured and described in 1592 by Prosper Alpinus under the name 'agihalid'. Linnaeus regarded it as a species of *Ximenia*, but Adanson proposed the new genus of *Agialid*. The genus *Balanites* was founded in 1813 by Delile.<sup>[6]</sup>

The yellow, single-seeded fruit is edible, but bitter. Many parts of the plant are used as famine foods in Africa; the leaves are eaten raw or cooked, the oily seed is boiled to make it less bitter and eaten mixed with sorghum, and the flowers can be eaten.<sup>[1]</sup> The tree is considered valuable in arid regions because it produces fruit even in dry times. The fruit can be fermented for alcoholic beverages.

The seed cake remaining after the oil is extracted is commonly used as animal fodder in Africa. The seeds of the *Balanites aegyptiaca* have molluscicide effect on *Biomphalaria pfeifferi*.<sup>[7]</sup>

Where the species coexist, African elephants consume the desert date.

### Medicinal

Desert date fruit is mixed into porridge and eaten by nursing mothers, and the oil is consumed for headache and to improve lactation. Oil from the fruit is used to dress

Bark extracts and the fruit repel or destroy freshwater snails and copepods, organisms that act as intermediary hosts host the parasites *Schistosoma*, including *Bilharzia*, and guinea worm, respectively. Existing worm infections are likewise treated with desert date, as are liver and spleen disorders. A decoction of the bark are also used as an Abortifacient and an antidote for arrow-poison in West African traditional medicine.

The seed contains 30-48% fixed (non-volatile) oil, like the leaves, fruit pulp, bark and roots, and contains the saponin diosgenin and yamogenin.<sup>[1]</sup> Saponins likewise occur in the roots, bark wood and fruit. Diosgenin can be used to produce hormones such as those in combined oral contraceptive pills and corticoids.

## Agroforestry

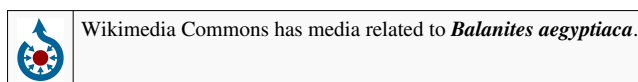
The tree is managed through agroforestry. It is planted along irrigation canals and it is used to attract insects for trapping. The pale to brownish yellow wood is used to make furniture and durable items such as tools, and it is a low-smoke firewood and good charcoal. The smaller trees and branches are used as living or cut fences because they are resilient and thorny. The tree fixes nitrogen. It is grown for its fruit in plantations in several areas. The bark yields fibers, the natural gums from the branches are used as glue, and the seeds have been used to make jewelry and beads.

## References

- [1] Aluka Species Profile (<http://www.aluka.org/action/showCompilationPage?doi=10.5555/AL.AP.COMPILATION.PLANT-NAME-SPECIES.BALANITES.AEGYPTIACA&cookieSet=1>)
- [2] Yves Guinand and Dechassa Lemessa, "Wild-Food Plants in Southern Ethiopia: Reflections on the role of 'famine-foods' at a time of drought" (<http://www.ocha-eth.org/Archive/DownloadableReports/famp0300.pdf>) UN-OCHA Report, March 2000 (accessed 15 January 2009)
- [3] Ndoye, M., et al. (2004). Reproductive biology in *Balanites aegyptiaca* (L.) Del., a semi-arid forest tree ([http://www.academicjournals.org/AJB/PDF/Pdf2004/JanPDFs2004/Ndoye et al.pdf](http://www.academicjournals.org/AJB/PDF/Pdf2004/JanPDFs2004/Ndoye%20et%20al.pdf)). *African Journal of Biotechnology*. 3:1 40-46.
- [4] Indigenous Multipurpose Trees of Tanzania (<http://www.fao.org/docrep/x5327e/x5327e0m.htm>)
- [5] World Agroforestry Centre (<http://www.worldagroforestrycentre.org/sites/TreeDBS/aft/speciesPrinterFriendly.asp?Id=279>)
- [6] <http://www.botanicus.org/page/1167261>
- [7] Hamidou T. H., Kabore H., Ouattara O., Ouédraogo S., Guissou I. P. & Sawadogo L. () "Efficacy of *Balanites aegyptiaca*(L.) DEL Balanitaceae as Anthelmintic and Molluscicid Used by Traditional Healers in Burkina Faso". International Conference on Emerging Infectious Diseases 2002. page 37. PDF ([http://www.cdc.gov/ICEID/asm-iceid\\_program.pdf](http://www.cdc.gov/ICEID/asm-iceid_program.pdf))

## External links

- *Balanites aegyptiaca* ([http://www.westafricanplants.senckenberg.de/root/index.php?page\\_id=13&preview=true&searchTextMenue=Balanites+aegyptiaca&search=Wikitemplate](http://www.westafricanplants.senckenberg.de/root/index.php?page_id=13&preview=true&searchTextMenue=Balanites+aegyptiaca&search=Wikitemplate)) in West African plants – A Photo Guide. (<http://www.westafricanplants.senckenberg.de/>)



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