

# Boswellia sacra

*Boswellia sacra* (commonly known as frankincense or **olibanum-tree**)<sup>[5]</sup> is a tree in the **Burseraceae** family. It is the primary tree in the genus *Boswellia* from which frankincense, a resinous dried sap, is harvested. It is native to the Arabian Peninsula (Oman, Yemen), and north-eastern Africa (Somalia).<sup>[5]</sup>

## 1 Description

This species of *Boswellia* is a small **deciduous** tree, which reaches a height of 2 to 8 m (6 ft 7 in to 26 ft 3 in), with one or more trunks. Its bark has the texture of paper and can be removed easily. It has **compound leaves** and an odd number of **leaflets**, which grow opposite to one another along its branches. Its tiny flowers, a yellowish white, are gathered in axillary clusters composed of five petals, ten stamens and a cup with five teeth. The fruit is a **capsule** about 1 cm (0.39 in) long. The new leaves are covered with a fine down.

Individual trees growing on steep slopes tend to develop some **buttressing** that extends from the roots up into the base of the stem. This forms a sort of cushion that adheres to the rock and ensures a certain stability.

## 2 Occurrence and habitat

*Boswellia sacra* is abundant in Oman and southern Yemen in arid woodland, on the steep, **precariously eroding slopes** in the mountains of Dhofar, but it is most prevalent in northern Somalia.<sup>[1]</sup>

*B. sacra* tolerates the most critical situations and often grows on rocky slopes and ravines, up to an altitude of 1,200 m (3,900 ft), mostly in calcareous soil.

## 3 Resin

The trees start producing resin when they are about 8 to 10 years old.<sup>[6]</sup>

The resin is extracted by making a small, shallow incision on the trunk or branches of the tree or by removing a portion of the crust of it. The resin is drained as a milky substance that coagulates in contact with air and is collected by hand.

Growing conditions vary significantly, affecting both tree

development and resin produced. Trees in the narrow fog-laden zone where the desert meets Dhofar mountain range, a region known as the *Nejd*, grow extremely slowly and produce very high quality resin in large, white clumps. Not surprisingly, Omanis and other Gulf State Arabs consider this to be superior to all other resins produced in North and Northeast Africa, India, and Asia, and it is priced accordingly.

## 4 Threats

Recent studies have indicated that frankincense tree populations are declining due to **overexploitation**. Heavily tapped trees have been found to produce seeds that germinate at only 16% while seeds of trees that had not been tapped germinate at more than 80%.

Animals in Oman often **browse** on the tree's foliage, flowers, and **seedlings**, resulting in scant **regeneration**; the mature trees that remain are apparently dying.<sup>[1]</sup>

## 5 Gallery

- *Boswellia sacra* illustration
- *Boswellia sacra* inside Biosphere 2
- Frankincense from Yemen

## 6 References

- [1] Assessor: Thulin, M. (1998). "*Boswellia sacra* in IUCN 2012". *IUCN Red List of Threatened Species. Version 2012.2*. International Union for Conservation of Nature and Natural Resources. Retrieved November 24, 2012.
- [2] "Name - *Boswellia sacra* Flueck.". *Tropicos*. Saint Louis, Missouri: Missouri Botanical Garden. Retrieved November 25, 2012.
- [3] *Boswellia sacra* was originally described and published in *Lehrbuch der Pharmakognosie des Pflanzenreiches*. 31. 1867. (as cited in Flückiger & Hanbury's *Pharmacographia*). Freidrich A. Flückiger, Daniel Hanbury, F.R.S. (1874). *Pharmacographia, a history of the principal drugs of vegetable origin, met with in Great Britain and British India*. London: Macmilan and Co. p. 120. Retrieved November 24, 2012.

- [4] "TPL, treatment of *Boswellia sacra* Flueck.". *The Plant List; Version 1. (published on the internet)*. Royal Botanic Gardens, Kew and Missouri Botanical Garden. 2010. Retrieved November 24, 2012.
- [5] GRIN (Month date, year). "*Boswellia sacra* information from NPGS/GRIN". *Taxonomy for Plants*. National Germplasm Resources Laboratory, Beltsville, Maryland: USDA, ARS, National Genetic Resources Program. Retrieved November 24, 2012. Check date values in: `|date=` (help)
- [6] "Omani World Heritage Sites". [www.omanwhs.gov.om](http://www.omanwhs.gov.om). Retrieved 2009-01-14.

## 7 External links

- Chemical compounds found in *Boswellia sacra* (Dr. Duke's Databases)

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