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Some aspects of the vegetation of Dhofar (Southern Oman)

Abstract

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Some aspects of the vegetation of Dhofar (Southern Oman) are here presented taking into account woods where the genus *Anogeissus* is dominant, plant community of *Adansonia digitata* and scrublands with *Boswellia sacra*.

From June to September, on the southern slopes of the coastal mountain chain of Dhofar (Oman) the SW monsoon brings fogs and rains. It causes the establishment of dense and luxuriant woodlands which represents an extraordinary peculiarity in a generally desert region located at the southern extremity of the Arabian Peninsula.

Some different kinds of woods and scrubs may be observed:

1) *Woods with dominant Anogeissus - Anogeissus dhofarica* A. J. Scott is a common species, first found in Dhofar in 1979, which dominates in the woodlands of the southern slopes of the coastal chain.. In sheltered and shady valleys crossing the mountain range, thick formations of *Anogeissus*, can be found with many trees up to 15 m high, with massive trunks and a large light crown of leaves (Fig. 1a). Some of these woods can be seen in the valleys situated inland of Taqaq, east of Salalah. Although *Anogeissus dhofarica* was believed to be endemic to Dhofar, it was recently found in southern Yemen too (Thulin & al., 2001).

2) *Plant community of Adansonia digitata* L. - The baobab tree, is native to Africa. In the Arabian Peninsula it is known only from three localities, one in Yemen and two in Dhofar: one of these is in Dhalqut, near the Yemen border, the other in Wadi Hinna, not far from Salalah, along the road to Tawi Attayr. In Wadi Hinna the baobabs grow isolated or in small groups, along the wadi bed and concentrate mainly near a spring situated at a higher altitude (about 350 m) in the same area (Fig. 1b). All together there are about fifty-sixty trees, 10 to 20 m high, with massive trunks, 2-3 m in diameter. Different explanations have been proposed to account for the presence of baobabs in Dhofar; one of them suggest that baobabs were introduced during the period when Oman owned Zanzibar (Africa).

3) *Scrublands with Boswellia sacra* - Since the ancient times, Dhofar was known to be one of the countries that exported incense. From the I century b.C. to the III century a.D.,

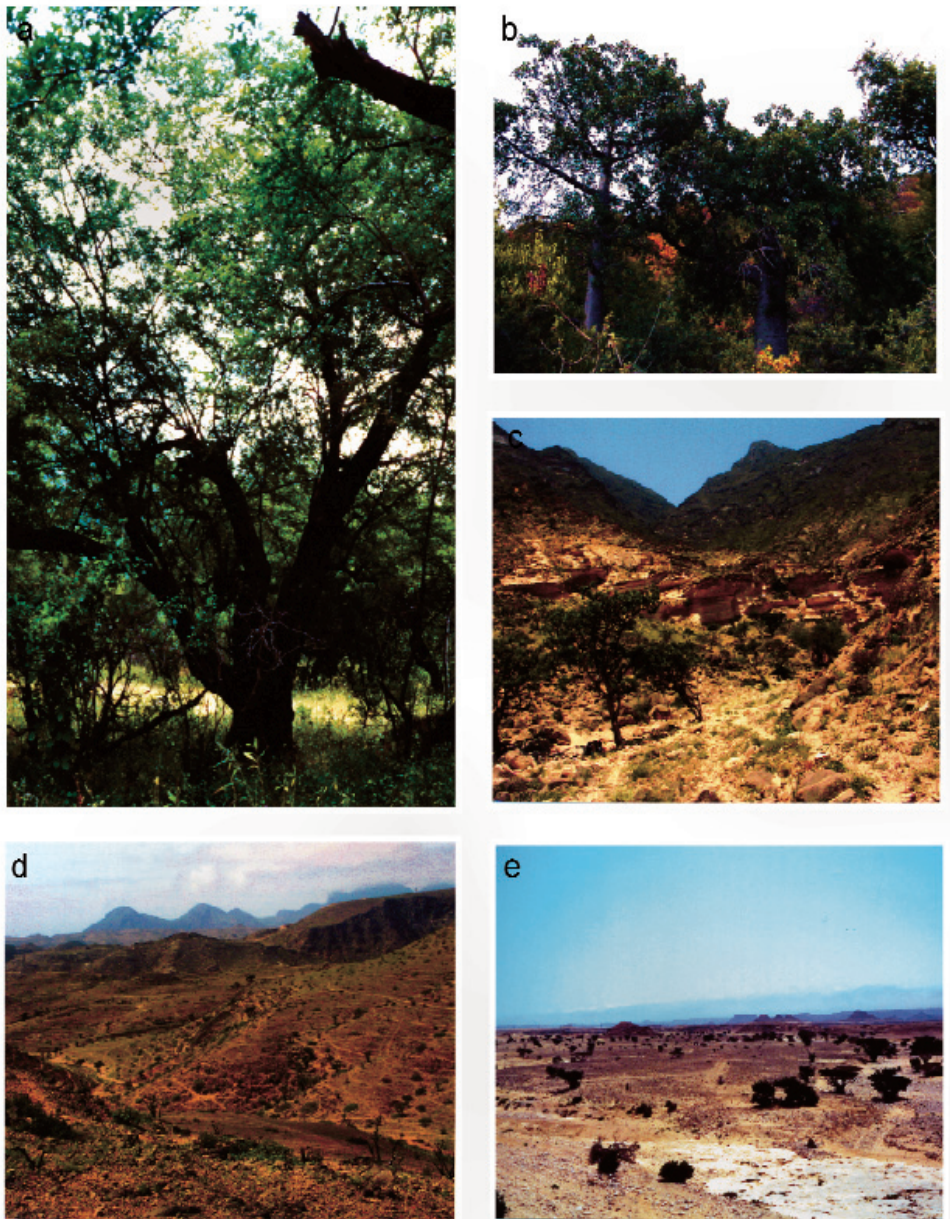


Fig. 1. **a)** *Anogeissus dhofarica* woods in the southern slopes of the hills near As Shawar in the inland between Salalah and Taqaq; **b)** Baobabs (*Adansonia digitata*) near Wadi Hinna, west of Mirbat, along the road to Tawi Attayr; **c)** Plants of *Boswellia sacra* (the frankincense tree) in the stony bed of Wadi Afal in the inland of Al Mughsayl; **d)** Shrubby plants of *Boswellia sacra* on the hills and in the bottom of the wadis in the area of Wadi Adawnib; **e)** *Boswellia sacra* scrubland near Wadi Dowkah, 42 km north of Salalah, along the Salalah-Thumrayt road.

the ancient harbour of Sumhuram (today called Khor Rori), situated 30 Km east of Salalah, was an important commercial center for the incense trade. The incense was exported, via land or sea, to the Mediterranean countries (as far as Rome), the Middle East and India.

In Dhofar, but also in Yemen and northern Somalia, the species that produces frankincense is *Boswellia sacra* Flueck. In recent years some scientific missions to Dhofar, were organized by the Tropical Herbarium of Florence, with the purpose of studying number, distribution, and state of health of the frankincense populations (Raffaelli & al. 2003a, 2003b). At present the frankincense populations of Dhofar are unfortunately shrinking as a consequence of some decisive factors, i.e. overgrazing by dromedaries and goats and the careless felling for domestic use by nomads and rural people.

Some of the frankincense populations of Dhofar are described here:

The Boswellia populations in the wadis and in the southern slopes of the coastal mountains.

a) *The Al-Mughsayl (Wadi Afil, Wadi Ashawq) area* - This area, situated about 50 km west of Salalah, is mainly mountainous and is furrowed by many wadis that have dug deep valleys with steep rocky slopes. Although only 20-30 km away from the Arabian Sea, these valleys are fairly sheltered from the monsoon because they are oriented parallel to the coast. Therefore the environment there is suitable to the growth of *Boswellia sacra*. In the whole area of Al-Mughsayl the frankincense trees are abundant; the plants grow on the bottom and on the lateral slopes of the wadis (Fig 1c). Locally, especially on the bottom of the wadis, 10 m high individuals may be found.

b) *The Wadi Adawnib area* - This area is situated 30 km west of Salalah, 7-10 Km inland from the Arabian Sea and, for this reason, is still under the influence of the monsoon fogs. This area is prevalently hilly and rocky, excavated by many wadis, tributaries of the great Wadi Adawnib, that, in time, have dug steep depressions. The slopes of the hills and the bottom of the wadis host numerous plants of *Boswellia sacra* (Fig. 1d).

The Boswellia populations in the pre-desert area behind the coastal mountains.

c) *The Wadi Dowkah area* - Wadi Dowkah is a pre-desert area situated 42 km north of Salalah, along the road to Thumrayth. The area is characterised by low, round-shaped rocky hills and by depressions dug out by occasional wadi flows. Due to its location (beyond the coastal chain) the area is scarcely or not at all affected by the monsoon. The vegetation consists of an open scrubland dominated by *Boswellia sacra* (Fig. 1e) with rare individuals of *Acacia pachyceras* O. Schwartz, low shrubs of *Euphorbia larica* Boiss., a few xerophilous herbs and some grasses. Many of the frankincense trees of Wadi Dowkah exhibit an impressive branching architecture with large bottom branches and expanded, truncated, cone-shaped or umbrella-like crown foliage. On the whole, in this area grow about 1200 plants of frankincense, spreading over a surface of 6-7 km²; some of them (about 200 plants) are certainly centenarian. Wadi Dowkah, now a natural Park, was included by UNESCO (2000) among the Oman's World Heritage Sites.

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