

Scent of a nation

For millennia, frankincense was one of the world's most valuable trade goods, and Oman's Dhofar region was renowned as the source of some of the finest frankincense around. Even today, this aromatic resin plays a central role in Omani culture, and it's now proving to be a valuable asset for its tourism industry. **Olivia Edward** reports

My guide takes his knife and draws it sharply across the bark of a frankincense tree. Within seconds, a rather toxic-looking white substance has bubbled to the surface, like beads of blood surging up along a paper cut.

'Taste it, taste it,' says guide Abdullah Subah. I'm not sure that I want to. It looks pretty noxious, but Subah insists it's perfectly harmless, so I scoop up a little with my finger. It feels a bit like the white glue children use at playgroups.

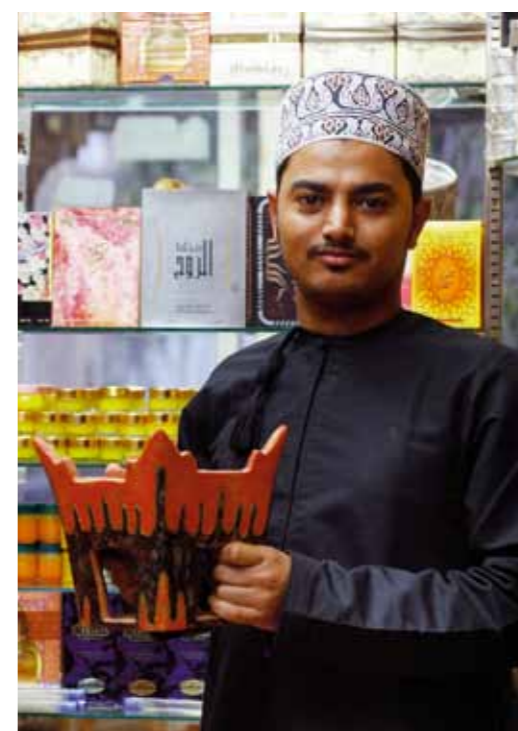
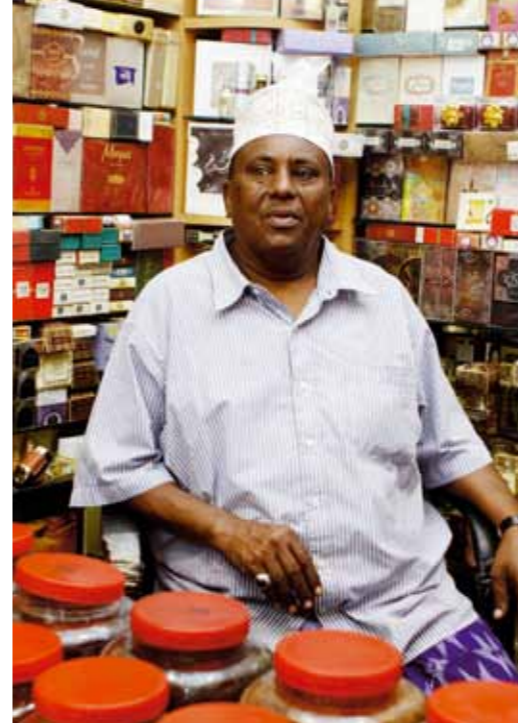
And tastes a bit like it, too, but with an added tinge of tongue-numbing antiseptic and a smell like concentrated pine oil.

We're standing in a wadi (valley) in the Dhofar region in Oman's south-western corner. Whereas most of Oman is subject to the sand-baking heat of the rest of the Arabian Peninsula, a small part of Dhofar is lush and green, moistened annually by the monsoon rains that rise up of out the Arabian Sea. Some frankincense grows down there by the sea, but the best grows

just over the hills where the rains don't quite make it.

Here, where we are, the jade vegetation and duvet of grey mist are replaced by fierce winds, persistent camels and groves of thick-skinned frankincense trees, spritzed by the early-morning mists that spill over the dusty hilltops. The locals have been harvesting the wild *Boswellia sacra's* precious resin here for centuries, these days mostly for its incense-like odour, but also to make the most of its various health

OPPOSITE, CLOCKWISE FROM TOP LEFT: a frankincense seller at one of the most popular stalls in Salalah's old souk; 'tears' of frankincense resin — formed after a tree has been cut with a knife; frankincense burners for sale in Salalah's old souk; dried lumps of frankincense resin; South Arabian inscriptions found carved onto the walls of Sumhuram, a fortified town that traded frankincense around the beginning of the first millennium; a shopkeeper in Salalah's old souk holds a type of burner used at weddings; an Omani woman sorts frankincense in Salalah's old souk; Dhofar is green during the *khareef* or monsoon season; **CENTRE:** burning lumps of frankincense



OLIVIA EDWARD (5); SHUTTERSTOCK (2); NILS/GETTY IMAGES



OPPOSITE: a frankincense tree growing in the Dhofar region; **ABOVE:** a frankincense harvester slices a lump of bark off a frankincense tree. In about two weeks' time, he will return to collect the hardened lumps of resin that will have formed above the wound. During the harvest season, each tree will yield up to ten kilograms of frankincense. Harvesting doesn't affect the health of the trees, unless they are scored more than three times, in which case the germination rates of their seeds may begin to decrease

benefits. Talk to nearly any Omani and they'll reel off a long list of them: fly repeller, stomach soother, cough remover, blood thinner, cold drier, wound cleaner, joint oiler.

Further up the empty valley, we meet a small group of Bedouin who've brought their camels down from the mountains to protect them from the monsoon. The contemplative beasts are corralled in rusty-iron-fenced enclosures, shaded from the sun by garish Arabian carpets. Inside a nearby tent, an uncle, his nephew and their Pakistani helper wait out the noonday heat with lounging mats and large bottles of mineral water.

'We used to use frankincense as an antiseptic when the camels cut themselves,' says the uncle, a handsome

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septuagenarian with pure-white hair, creamy walnut-coloured skin, sea-blue eyes and teeth that would be the envy of a Hollywood A-lister. 'We would dissolve the frankincense in hot water and smooth it over the animal's skin. We don't now of course – we have medicine. But we used it up until the 1980s.' I ask if he misses those times, and riding his camels across the desert. 'No,' he says with a smile as he points at the 4x4 parked outside the tent.

NATIONAL SMELL

The traditional aroma of frankincense pervades almost every part of Omani life; if the country had a national smell, this would surely be it. Since ousting his father in a coup in 1970, Sultan Qaboos, the ruler of Oman, has endeavoured to tie the country's national identity with frankincense, and Oman's tourism industry has also been working to exploit this ancient association.

We visit Salalah's old souk in the evening and find that they're doing a brisk trade. Amid stalls selling kufiya – the head scarves favoured by the late Palestinian leader Yasser Arafat – reams of bold floral-print material and stuffed birds of prey stuck in awkward, embarrassed poses are apothecary-like shops

SHUTTERSTOCK

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ABOVE: an archaeological dig at Sumhuram run by the University of Pisa. This fortified frankincense-trading town is thought to have been deserted in about 4 AD. Its ruins were discovered by the Yorkshire archaeologist James Theodore Bent during the last decade of the 19th century. Recent finds at the site have included limestone incense burners, brass jugs, stone anchors, graffiti depicting two-masted ships, and numerous coins, including some blanks – suggesting the town may have had its own mint

filled with jars and jars of different types of frankincense.

A group of young men rushes into one of the most popular shops, where they order different types of frankincense mixed with other aromatic ingredients, such as rosewater, sandalwood or cardamom. ‘They’re from the capital, Muscat,’ explains the shopkeeper as he seals each medley in a small metal tin. ‘Fulfilling perfume requests for friends and wives and sisters and mothers.’

Away from the fluorescent lights, in the souk’s quieter areas, older women with traditional gold rings in their noses sort lumps of recently harvested frankincense into different baskets depending on their quality. The best is greenish-white, its resin globules looking like hardened lumps of ectoplasm that might glow if the lights were switched off. Nearby, other trays contain inferior

yellowish nuggets and ‘contaminated’ lumps that contain pieces of tree bark. ‘For burning,’ explain the women.

The quality of the frankincense is dependent on where and when it’s harvested, and where on the tree the cuts were made. Harvesting takes place from April to September, during which time villagers looking to supplement their incomes head out to the wadis to score the trees, rights to which are owned by different tribes or families.

Leaving the white gummy resin to bubble up and dry, they return a couple of weeks later, by which time hardened lumps of resin known as ‘tears’ have formed above the cuts. After collection, these are given another fortnight of drying time before being sent off for sale.

The frankincense

obtained from the first tapping is considered to be of lower quality, as is resin gathered from cuts made low down on the tree. The highest-grade frankincense, known as *hojari*, is valued for its clear, lemony aroma. It’s harvested from trees located just outside the monsoon regions, scored at the hottest time of the year.

ANCIENT TRADE

Much of the resin purchased at the market will be burned in ceramic burners, very similar in design to those



found at Omani archaeological sites that date back to before Islam arrived during the seventh century. Back then, Oman was a wealthy trading nation, ideally located between India and Greece. The Greeks referred to the coast as Omana, but the central importance of one commodity to trade in the area led to it being widely known as the 'frankincense coast'.

The next day, we travel along this frankincense coast to the recently excavated ancient city of Sumhuram. About two millennia ago, Sumhuram was a thriving port built on the back of the frankincense trade, with two-storey houses, rich traders, skilled artisans and the sea splashing up against its thick sandstone sea walls.

The sea retreated a long time ago, and today its remains sit atop a crumbling cliff looking out over a lagoon. Below us, flamingoes mooch about in the water and, as if arranged especially for our visit, a string of camels ambles across the distant lagoon entrance, silhouetted against the cool sea mist.

Sumhuram is one of a cluster of archaeological sites in Dhofar that were inscribed onto the World Heritage list in 2000, due to their links with the ancient frankincense trade. The large number of bronze and iron objects discovered during excavations of the site give some indication of the places in northern Oman and south Arabia with which its inhabitants would have traded, while huge storerooms demonstrate the scale of the trade in frankincense resin at the time. The resin would have been brought down from the hills on the back of camels, before being shipped off around the region in wooden dhows.

CANCER CURE

Today, although about 7,000 tonnes of frankincense is produced annually, selling for around US\$78million, only about 10–12 tonnes is exported. But that may be about to change. A local doctor, in collaboration with an international team, has discovered that frankincense seems to have an extraordinary effect on cancer cells.

Sitting beside me in a hotel lobby, Dr Mahmoud Suhail, an Iraqi paediatrician currently living and working in Salalah, explains how it all works by gliding through diagrams on his iPad. 'Essentially, it reprogrammes the



When to go

The *khareef* or monsoon season typically lasts from June until early September. During this time, the mountainous regions of Dhofar are green and lush, and the air is filled with a fine mist. Frankincense harvesting can be witnessed between April and September, but doesn't take place during Ramadan.

Getting there

Oman Air (www.omanair.com) flies daily from London Heathrow to Muscat in about eight hours, and offers connecting flights to Salalah, which take just over one and a half hours.

Further information

To learn more about visiting Oman, check out www.omantourism.gov.om. Further information about research into the medical uses of frankincense can be found at www.sacredfrankincense.com.

nucleus so that it no longer believes it's a cancer cell, and the surrounding cell is then destroyed,' he says. 'It's like reformatting a computer.'

In his spare time, Suhail travels around the Dhofar region, collecting frankincense samples using a variety of different extraction methods, before sending them to Dr HK Lin, an associate professor of urology at the University of Oklahoma. Lin has already tested the substance on pancreatic, bladder and breast cancer cells, and the results have been very positive.

'We're pretty sure that it will be more helpful to cancer patients than most

drugs currently available. And personally, I think that it will be more helpful to cancer patients than all current anti-cancer drugs,' says Suhail. 'It's a huge discovery. Nobody has done this before – changed the DNA of cancer cells. It could be as revolutionary as the discovery of penicillin.'

Lin is rather more circumspect but still clearly very optimistic. 'Based on our exploratory experiments, frankincense might be a useful therapeutic agent against multiple types of cancer,' he says. So far, all of the testing has been done on cell cultures. 'We need to repeat our results in pre-clinical (animal) studies. [This will] give us information about the safety and toxicity of frankincense,' says Lin.

The low levels of cancer among the Omani population suggest that the researchers may well be on to something. 'We examined around 40 patients a day, six days a week, 12 months of the year, and we only saw one cancer case in 2010 and three the year before,' says Suhail.

National government figures seem to back up this trend. In the USA, about 48.5 people per 10,000 develop cancer annually; in Oman, the rate is seven people per 10,000. The disparity is difficult to explain. '[People in Oman] don't exercise much, they smoke, they have bad eating habits. It's difficult to know exactly what causes the low incidence of cancer, but it could be because of their use of frankincense. It's still very prevalent here,' says Suhail.

The use of frankincense to treat cancer also has historical precedent. 'This is ancient knowledge,' says Suhail. 'Thousands of years ago, they were doing this. An 11th-century Arab doctor called Avicenna was the first. He treated melanoma [a form of skin cancer] with frankincense.'

As ancient people discovered more and more about frankincense's health-giving properties, and demand for the resin increased, many tried to take trees and grow them elsewhere. 'But it doesn't work,' says Suhail. 'There are trees from Oman now growing in Somalia and India, but their chemical properties have changed. Here they grow just right. The limestone soil and the early-morning mist combine to create the perfect conditions. It means Oman really does produce the best frankincense in the world.'