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Arabia's Hidden Valley: A Unique Habitat in Dhofar Captures Arabia's Past

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Abstract: A secluded valley on the southern coast of Dhofar in Oman is a unique microcosm of a distant era in Arabia's past. It is the last vestige in Oman of the subtropical deciduous forests that flourished in parts of Arabia anciently. Fed by monsoonal run-off from the Qamar mountains that have isolated it, Khor Kharfot protects an extensive range of fauna and flora. Some extant species, such as the Arabian Leopard (*Panthera pardus nimr*), are critically-endangered. However, other species are known of only anecdotally as no thorough survey in any field has yet been made. The opportunity to do so, and to perhaps implement protective strategies, is fast vanishing as this once pristine site is now under severe environmental stress.

ARABIA'S HIDDEN VALLEY

A unique habitat in Dhofar captures Arabia's past

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INTRODUCTION

A secluded valley on the southern coast of Dhofar in Oman is a unique microcosm of a distant era in Arabia's past. It is the last vestige in Oman of the subtropical deciduous forests that flourished in parts of Arabia anciently. Fed by monsoonal run-off from the Qamar mountains that have isolated it, Khor Kharfot protects an extensive range of fauna and flora. Some extant species, such as the Arabian Leopard (*Panthera pardus nimr*), are critically-endangered. However, other species are known of only anecdotally as no thorough survey in any field has yet been made. The opportunity to do so, and to perhaps implement protective strategies, is fast vanishing as this once pristine site is now under severe environmental stress.

After sailing along the eastern coast of Arabia on the survey ship *Palinurus* in 1824, the British geographer Andrew Crichton was unimpressed, writing that the coast was "a wall of naked rocks as dismal and barren as can well be conceived" (FOSTER 1844). These words were thought accurate enough as a general description of the eastern Arabian coastline to be published quite recently (PHILLIPS 1966). Other travelers, before and long after Crichton, left no mention of exceptions to this uninviting perception. It included the Qamar coast, a twenty mile stretch of abrupt limestone mountains pushed up eons ago when Arabia separated from the African continent. These mountains constitute the westernmost coast of the Sultanate of Oman.

What lay hidden from the view of all those passing ships still surprises the visitor today, for reaching the sea in the midst of those mountains is a valley almost defiantly lush with greenery, Khor Kharfot. Its name encapsulates its two main features: the Arabic Khor refers to a sea inlet; while Kharfot is an expression in the pre-Arabic Mahri tongue, meaning that "abundance" has arrived following the annual monsoon rains.

A UNIQUE ENVIRONMENT

It is small wonder that the outside world was slow to recognize that such an anomaly was preserved on the Arabian coast; after all, even people in the region were scarcely aware of it until recent decades. Without road access and hemmed in by forbidding terrain, Kharfot is unpopulated and has had no inhabitants in living memory. The ocean once extended inland perhaps a kilometer here, creating a sheltered inlet. Now, in common with the other inlets in southern Oman, a sandbar stretches across the mouth of the bay, closing it from the sea. At Kharfot, the inlet has been replaced by an extensive freshwater lagoon.

Kharfot marks the end of a major wadi leading from the interior desert, Wadi Sayq ("River Valley") and the much shorter (12 km) Wadi Kharfot (EL-BAZ 2004), but this fact is hidden by the oblique angle at which the two wadis arrive at the coast. The high beach obscures the lagoon and most of the vegetation and trees from passing ships. In fact, viewed from the sea, Kharfot appears rather unremarkable.

Each May to September the Indian Ocean monsoon rains touch land only in southern Oman, bringing constant rain and mist. Forced higher by the mountains, the clouds release their moisture quickly along a narrow band of coast, leaving the interior deserts dry. Until recent years substantial water arrived at Kharfot through the sinuous Wadi Sayq, the main drainage of the Qamar ranges, as it descends some 38 km from the interior plateau. The water reaching the inlet accumulates in the lagoon, but it also feeds two large permanent springs.



Fig.1. A rare splash of green on the Arabian coast, Khor Kharfot was once an inlet open to the Indian Ocean. In recent centuries a high sand bank has formed across the bay, visible in this view looking west from the nearby mountains.

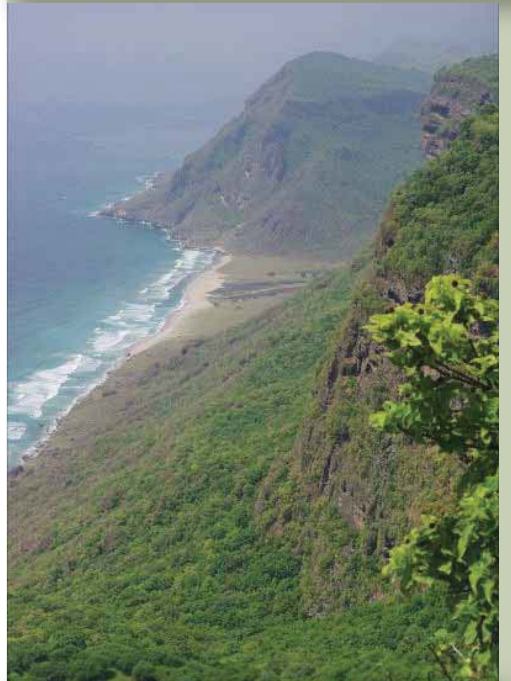


Fig.2. The dark green base of Kharfot today lies below sea-level. This view looking north-east from the surrounding hills shows the approximate contours of the original sea inlet. Today it is a year-round freshwater lagoon, a unique eco-system that has remained pristine until now.



Fig.3. Wadi Sayq ("River Valley") winds its way through more than twenty miles of the Qamar Mountains before arriving at the coast at Khor Kharfot. The deeply scoured base of the wadi is testament to the annual floodwater that runs through to Kharfot, just out of sight in the distance to the right.

Fig.4. Kharfot is one of only two wadis in Oman that receive three months of steady rain every year from the Indian Ocean monsoon. In this view mists and clouds arrive at Kharfot where they are immediately forced higher by the terrain and release their water.

ARABIA'S HIDDEN VALLEY Continued

Biodiversity at Kharfot

The abundant water results in an unusual micro-environment (JOURNAL OF OMAN STUDIES 1977, 1980). A spectrum of luxuriant vegetation lining the sides of the bay includes large trees, notably Tamarind (*Tamarindus indica*), Sycamore Fig (*Ficus sycamorus*) and various Acacia species. On the higher terrain inland, Frankincense and Myrrh trees are a living reminder that Arabia's greatest commercial activity before the discovery of oil, incense production, began in this area. Both gums are still harvested by local families and sold locally. In addition to figs, wild passion-fruit and other edible species on offer, clusters of date palms stand close to the beach. Some 800 other plant species are believed to grow in the region, pollinated by wild honey-bees, providing an impressive range of possible resources.

Wildlife here, as any visitor can attest, is prolific. Whale, dolphin and whale-shark species thrive in the almost-untapped waters and the area's beaches have recently been declared a protected area for two turtle species known to nest there. Ashore, indications of other rare animals such as the hyena and wolf have often been noted by local villagers. The Rock Hyrax and a variety of porcupine, fox, snakes and lizards are readily seen. Most significantly, the numerous caves and gullies are home to a handful of the Arabian Leopard (*Panthera pardus nimr*), a sub-species now listed as Critically Endangered (SPALTON et al. 2006). It is estimated that about 50 leopards are left in all of Dhofar.



Fig.8. The warm Indian Ocean attracts a huge variety of fish.

Abundant bird-life, both resident and migrating species, has attracted a trickle of ornithologists; at least one species never seen before in Arabia, the brilliantly coloured Malachite Kingfisher (*Alcedo cristata*), was first recorded at Kharfot in September 2000 (BIRDS OMAN 2000).

Occasional human presence

Visitors today also see the more familiar shapes of cattle and camels, brought down from the mountain villages above to graze. Herders and local fishermen, who occasionally visit for easy catches of fish, lobster and sardine in the untapped waters of the bay, are normally the only human presence in this pristine ecosystem.

There are abundant signs, however, that people have lived here intermittently. Among the numerous ruins overlooking the bay, Paolo Costa of the University of Bologna, one of the few archaeologists to have visited the site, has traced at least four periods of settlement. They show waves of human activity dating from the distant Neolithic, thousands of years ago, to after the arrival of Islam in the seventh century. The outline of a tiny mosque sits, oriented toward Mecca, not far from older, more enigmatic structures (COSTA 1994). To better understand these other ruins more research will be necessary, but their presence assures us that Kharfot's marine and land-based resources can support a human population.

Fig.5. Illustrative of the ancient forest remnant surviving at Kharfot is this mature Tamarind tree *Tamarindus indica* growing near the beach.



Fig.6. Long a culturally-significant staple in the region, figs grow wild at Kharfot.



Fig.7. The large freshwater lagoon is fed by two year-round springs and is the basis for the remarkable range of fauna and flora at Khor Kharfot.

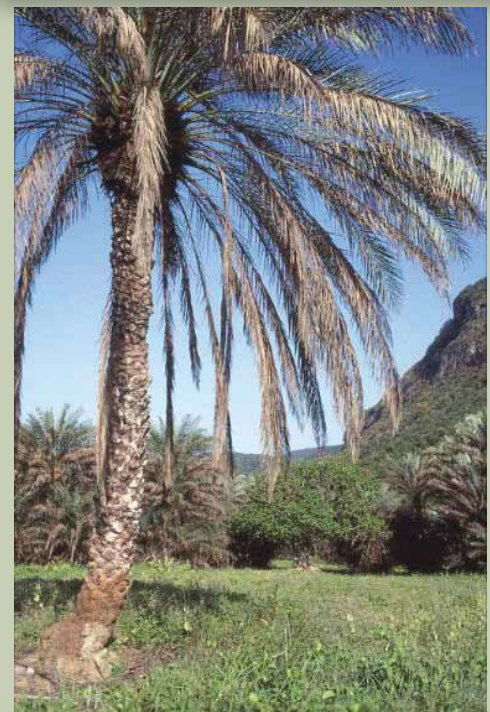


Fig.9. A cluster of date palms growing near the beach.

ARABIA'S HIDDEN VALLEY Continued

Dr Costa points out that despite its many attractive features, people seem to have not remained long at Kharfot because of the difficulty in accessing it, other than entering via the long Wadi Sayq from the desert, or perhaps by sea. Then too, the four months of rain and high winds each year would discourage long-term settlement. A leading authority on the ancient incense trade, Nigel Groom of London, has suggested that the bay should be considered a possibility for the site of "Moscha," an important trading port spoken of in early classical writings (GROOM 1995). For the time being Groom's idea remains speculative, but certainly all the features needed for a small port exist here, perhaps one where ships collected incense and re-supplied with fresh water, fruit, honey and meat.

21st century challenges

Kharfot's unique concentration of fauna and flora led to it being designated in 1987 as a "Site of Special Value" by the government of Oman's Planning Committee for Development and Environment in the Southern Region, in 1990 becoming a "Nature Reserve" within the larger Jabal al-Qamar Scenic Reserve. This action gave it formal protected status. On November 4th, 1991 Kharfot was chosen for inspection by HRH The Duke of Edinburgh, Prince Philip, along with Omani officials, in his role of International President of the Worldwide Fund for Nature. Such steps and local recognition of the turtle nesting on its beaches have been important in protecting the bay.



Fig.12. An ancient circle of stones on the very edge of an eroding cliff becomes a potent reminder of the urgent need for research and conservation in this unique valley.

But this most fertile of Arabian environments remains poorly documented. Truly comprehensive biological surveys of many parts of Oman, indeed much of the Arabian Peninsula, are still in the early stages. One assessment in 2000 still largely reflects the situation in 2012 (VICTOR 2000); another recent study noted that most valley forest sites in southwest Arabia had not been surveyed for over 15 years (HALL et al. 2009). However, efforts are currently underway across a variety of disciplines to more completely survey Arabia's biodiversity (see, for example, HALL & MILLER 2011). Their geographical isolation has ensured that the Qamar ranges and the adjoining Mahra province in Yemen, still remain possibly the least understood parts of Arabia.

Over just the past decade, however, the growing awareness of southern Dhofar's attractions has seen a spurt of development. Local people have begun seeing concrete benefits from the increased attention. A magnificent new road along the coast now links the area with Yemen. Visiting geologists have found indications of iron deposits that may offer commercial possibilities. There is also growing interest from domestic, regional and specialized international tourist operators. Like other countries in the region, Oman is keen to develop responsible cultural and adventure-based tourism against the day when oil reserves dwindle. Places that preserve the past naturally, as Kharfot does, will be of particular interest to conservation-minded visitors wanting to see a unique place, one at odds with the popular stereotypes of Arabia.

As so often happens, however, the impact of development upon a fragile environment is already evident. Most damaging to Kharfot's environs is a water-pumping station in Wadi Sayq that supplies the villages in the surrounding mountain. The diversion of thousands of litres of water every hour, around the clock, from reaching Kharfot is having a serious impact, one most evident in the steady contraction of the freshwater lagoon in the centre of the inlet. In just a short time we can expect to see the impact on the flora, especially the larger trees species, and then, inevitably, upon the fauna of an ecosystem that is still poorly understood.

Fig.10. The first report in the Arabian Peninsula of the Malachite Kingfisher *Alcedo cristata* came from Kharfot in September 2000.



Fig.11. Late afternoon sunshine highlights a complex of large ruins on the east side of the bay.

With increased safeguards in place we can hope that Kharfot's relic fauna and flora populations may still be able to reverse their decline. For a little longer this impressively fertile valley is a reminder that there are still hidden corners of this world that capture the distant past.

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