

# *Nannorrhops* in Oman

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1. The road from the coast climbs steeply into the dramatic limestone scenery of Jebel Akhdhar, Oman.



In Oman, *Nannorrhops ritchieana* grows in extraordinarily inhospitable places, representing one of the most extreme habitats of any palm species.

Oman may seem an unusual holiday destination for a tropical-palm botanist and a tropical-bamboo specialist – the choice smacks of perverseness, as if we were going out of our way to find the most arid and desolate destination possible. However, Oman has dramatic and astonishingly beautiful scenery, is a mere seven hours flight from London, and most significantly, my nephew Malcolm works there as a geologist for PDO, Petroleum

Development Oman. When political turmoil in Madagascar caused my wife and me to cancel our plans for fieldwork there, Oman seemed the obvious place to go to escape dreary November 2002 in Britain and to see my nephew and his wife, Marianne. We put in for ten days annual leave and booked our flights. Then colleagues at Kew began the inquisition; where are you going and why on earth Oman? My colleague Shahinah



2 (top). *Nannorrhops ritchieana* growing in the crevices in the limestone bedrock in the bottom of a wadi. 3 (bottom). *Nannorrhops ritchieana*, showing dead inflorescence, with a species of *Aloe* in the foreground.

Ghazanfar learned that we would be in Oman; she immediately told us of two mystery palms. Suddenly I had the perfect explanation for incredulous colleagues – we were off to visit relatives and clear up a palm mystery.

Shahinah has been working for some time on the Flora of Oman and has an excellent knowledge of the native plants and vegetation. On a recent visit she had traveled along a brand new dirt road that winds its way up into Jebel Akhdhar, the range of

mountains that runs parallel to the coast to the west of the capital, Muscat. At high elevation (ca. 2000 m above sea level) she had seen a low fan palm growing in a dried-up wadi and nearby a date palm that she was convinced was not *Phoenix dactylifera*. The obvious solution to the first mystery was that the palm must be *Nannorrhops*, long known to occur in Oman (*Nannorrhops arabica* now included as a synonym of *N. ritchieana* was first described from the Hadramaut, just over the border in Yemen). Shahinah was convinced, however, that this was not *Nannorrhops*. By now I was in a state of high excitement about our forthcoming holiday. Emails were exchanged with Malcolm and Marianne in Muscat, who, amazingly, said that they had already planned to take us camping in the mountains along the very road mentioned by Shahinah. It looked as if all was set for a thrilling trip. What could a mystery fan palm in Arabia be? Surely not *Livistona carinensis* that occurs over the border in Yemen, as the habitat of the Oman fan palm (high elevation on limestone rocks) seemed completely wrong. Could it be an enormous range extension for *Chamaerops*? We just had to wait and see.

We left cold, wet and windy London in a morning in mid November and by late evening were basking in the warmth of Muscat. Early next morning we left Muscat with Malcolm and Marianne in their 4WD together with their neighbors in a second vehicle, driving along the main coastal highway to the west. To our left, spectacular mountains rose above the coastal plain, the bare eroded rocks astonishingly varied in color, from chocolate colored ultramafics to gray and brilliant white limestones. Near Barka, we turned south towards the mountains, passing the imposing fortress at Nakhl and on to just beyond Al Awabi where we turned off the tarmac onto a dirt road up into dramatic scenery. The road wound along the wadi bottom with scattered *Zizyphus* trees and the odd grove of dates, the mountains rising to over 2000 m on either side. Ahead we could see the black-topped mountains of Jebel Akhdhar. Our road followed the wadi bottom for the first part but then climbed dramatically to escape narrow gorges (Fig. 1). Periodically we passed small picturesque villages with date groves and small fields of vegetables, but away from the villages and valley bottoms, the vegetation seemed extremely sparse, more particularly because this was, after all, the end of the dry period of the year.

Near Hat we joined the new section of road that climbs to the summit of Jebel Akhdhar and links up with the valleys around Nizwa on the other side. If anything the scenery was even more

dramatic. As we drove along the final ascent across a cliff face, we began to see open woodland of *Juniperus* and *Olea* (wild olive) with a scattered undergrowth of *Euryops pinifolius* and *Teucrium muscatensis*. As we turned the corner onto the summit plateau with spectacular views, there was an ominous clunk, and the clutch cable on Malcolm's 4WD broke. By now it was 4 pm and we were left debating what we should do. There was talk of splitting up, camping on the summit and other alternatives, but eventually common sense prevailed and we decided that we should drive down in convoy to Nizwa in search of a garage. Malcolm managed to get the clutchless vehicle moving in third gear and we began our descent. At dusk we passed a small dry wadi with a fan palm in the bottom but did not dare stop for fear of not being able to get up the hill on the other side. However, at least the palm existed!

The following day, we were back again in the morning, clutch mended and although the clutch cable snapped yet again, we used one of the two vehicles to get back up onto Jebel Akhdhar. Very soon we were back at the dry wadi in sight of the palm (Fig. 2). Perhaps not surprisingly, it was *Nannorrhops ritchieana* after all and I believe that the mystery *Phoenix* was nothing more than stunted feral date palm, *Phoenix dactylifera*.

On Jebel Akhdhar *Nannorrhops* seems to be confined to a band between 1600 and 2100 m above sea level. The underlying rock is limestone. It is scarcely abundant and seemed always to be growing in the bottoms of shallow wadis that, presumably, during rains briefly carry run off. Debris caught among the fronds suggested that during flash floods *Nannorrhops* may be partially submerged. The palm is extremely stunted compared with the individuals one often sees in cultivation. Yet clumps with leaves no longer than 35 cm and with scarcely evident trunks had already produced inflorescences. Signs of flowering were common, but all inflorescences were dead (Fig. 3). Illustrations of the palm growing elsewhere in Oman suggest that it can reach 2 m in height under apparently more favorable conditions. Grazing by goats is intense on Jebel Akhdhar and leaves in many clumps of *Nannorrhops* had been chewed and partially mutilated. We saw no sign of young seedlings.

Suffering drought for much of the year, subjected to intense insolation and high temperatures during the day and frosted at night during the winter months, the habitat of *Nannorrhops* on Jebel Akhdhar must be one of the least hospitable occupied by palms.