



Curral das Freiras, Madeira

Madeira is a classic mid-ocean volcanic island. It is now far-removed from the Mid-Atlantic Ridge, and probably owes its existence to a waning hotspot beneath the African Plate. The island is the top of a massive shield volcano, with its oldest known alkaline basalts dating to around 5 Ma. Its last eruptions were from small cinder cones in the west of the island. With a summit elevation of 1862 metres, Madeira is distinguished by steep overall gradients, which are further enhanced by a perimeter of almost continuous cliffs undercut by wave action. The landscapes of Madeira are dissected, rugged, relentlessly steep, and indeed truly spectacular. For millions of years, the volcanic sequence that is a mix of pyroclastics and pahoehoe lavas, laced with some splendid feeder dykes, has been deeply dissected by rivers and streams fed by highland rainfalls that can reach 3000 mm per year. The island's southern flank is scored by two great bowls that were once thought to be calderas but are now recognised as the results of fluvial erosion. The grander of these is the Curral das Freiras (the Valley of the Nuns), which lies just behind the main town of Funchal. The valley's outlet is so narrow that the early village and convent within the bowl became a sanctuary as one of the few places on Madeira that could not be seen by pirates on their ships. To this day, there is no road down the Curral valley, though there is a levada (irrigation canal) that can be followed by adventurous walkers. The photograph was taken from a viewpoint beside the access road that climbs over the ridge from the adjacent valley and then descends to the Curral villages. The Number 81 bus from Funchal travels this route to offer one of the world's more exciting bus rides amid a landscape of fluvial dissection on a magnificent scale. © *Photographs and text by Tony Waltham Geophotos*