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A levada hugs the hillside and disappears into the wild blue yonder. Photos © Meg Pier

Madeira, Portugal

Madeira's Waterworld: Walking Along A Mountain Paradise Pathway

After hugging cliffs, walking through waterfalls, and admiring an outcropping of wild orchids, we emerged from the ravine, ravenous and ready for lunch. You would be too, after a morning trek through cumulus clouds, five ecosystems, and a Tertiary Period forest. All just another walk in the park in Madeira, where two-thirds of its land has been set aside as just that.

Madeira is a subtropical volcanic island that is closer to Morocco than its motherland of Portugal. Pico Ruivo at its center is more than a mile high, with radial ridges reaching down to the island's 90 miles of Atlantic coastline, off northwestern Africa. This dramatic difference in altitude means a lot of biodiversity on a little island just 14 miles long and 34 miles wide. The isle's north gets about five feet of rain annually; the south, two feet.

This disparity presented Madeira's settlers with a dilemma when they first arrived on its shores in the 15th century. Their solution, begun as a practical pathway of fresh water for a small colony, now fuels hydro-electric plants and attracts hikers the world over who come to partake of the poetry in motion known as "levadas".

"Levada" is of Portuguese origin, derived from the word "carry" and on Madeira today it means a network of narrow canals that transport rainwater and runoff from the springs of its misty 6,015-foot peaks down to its sunnier, more arid--and populated--shores. For half a millennium, the island's agricultural industries have been nourished by the lifeblood



A feeder tributary shoots of from a levada into a farmer's plot of planted land.



coursing through these waterways.

Prince Henry the Navigator is credited with the introduction of the first of these cash crops - sugarcane. As its production boomed over the next two centuries, slaves from colonies in Africa and convicts were brought in to expand the aqueducts essential to nourishing its continued growth. Often, these early irrigation channels were feats of fearless engineering, forged by levandeiros who dangled along the mountainside in wicker baskets, carving the canals out of the sheer cliff face with pickaxes.

Now, nearly six centuries later, the levadas thread together banana groves, orchards, and vineyards, tunnel through solid basalt, spiral between a series of springs and waterfalls, and criss-cross a patchwork quilt of "quintas," as the small terraced farms clinging to the steep slopes are called here. "In Madeira, the story of the levadas is inseparable from that of man," observed Raimundo Quintal, a Madeira-born botanist. "The first of these channels were built at the dawn of settlement, and since then more and more have been added in an endless process. On an island just 737 square kilometers we have 1400 kilometers of aqueduct!"

He explained that a government-organized schedule for water distribution is determined each year. At the beginning of the summer, the locals receive a paper with the time and day that the water will reach each property.

"Families buy water from the levada in spans of time versus quantity. You know the amount of water you need to irrigate your plot of land", explained Isabel de Portugal. "The turnover for processing the water may be every ten-and-a-half days--this is called the 'giro'. At exactly that time, whenever it would be, you have to actually release the water - before stones were used, now you lift iron boards, or, more and more, people have cisterns. I remember as a girl getting out of bed in the middle of the night with torches to irrigate the land."

For many, the levadas now mean leisure, not labor. Once exclusively an essential channel of both communication and water between villages, Madeira's extensive levadas now also provide a popular pastime. Locals and tourists hike along it, communing with nature and enjoying the breathtaking vistas afforded from the canals' footpaths.

"As teenagers, it was the best thing in the world! A big group of friends, we'd have a picnic, a bit of fun," exclaimed Alfonso Chavez, who with his father runs the family's restaurant "A Chave" in Faial. "We might go for a whole day, or camp for two or three days." He reels off his favorite hikes: Caldeirai Vende and Ribeiro Frio, both four miles; Pico do Arieiro, five miles; and Queimadas, three miles.

Terry Marsh is founder and director of Madeira Walking Festival, held in January. The Festival offers almost twenty distinct, guided walks over the course of five days. Ranging from two - 14 kilometers, the hikes include the nine-kilometer Levada das 25 Fontes, a highlight of which is the Risco waterfall; the short two-kilometer Caminho Real do Paul do Mar, almost entirely downhill through terraced farm plots from the village of Prazeres to the sea at Paul do Mar; and the 14-kilometer Caminho do Pinaculo e Folhadal, following the levadas of Serra and Norte at elevations of more than 1,000 meters, with lovely views of the Sao Vicente valley.



A mythical-looking goat's solitary grazing is disturbed.



Water in the levadas often can appear to be flowing uphill!



We emerged from the wilds to one of Madeira's frequent village festivals.

"The levadas represent a huge amount of human endeavor, and life, over many years. They are immensely ingenious in their construction, especially so at some of the junctions, or where levadas run at different levels, or water has to be channeled in other directions," said Marsh. "I find them fascinating because I am convinced they are an optical illusion, and I have a number of instances where the water really does appear to be running uphill."

Madeira Explorers is one of several local tour operators that offer a variety of guided levada walks for all fitness levels. The degree of difficulty and danger varies from easy, with no steep slopes or abysses, to difficult, with vertigo-inducing inclines, very slippery paths and unprotected drops.

For those who would rather smell the flowers along the way than worry about pushing up the daisies, Madeira Explorers offers a four-hour, 11-kilometer trek through the rain forests and valleys of Sao Jorge, where guides share their knowledge of the healing properties of the herbs and medicinal plants that abound here.

On the other end of the spectrum are the hikes considered "difficult". One of these follows the levadas through Madeira's Laurissilva, or laurel, forest. Covering about 16% of the island, this ancient rainforest is found on the northern slopes, forming a thick spine across the island's center. This special ecosystem has been a UNESCO World Heritage Site since 1999. Once prevalent across most of Europe 65 million years ago, Madeira is now one of the only places on earth where this type of lush vegetation wasn't wiped out by the Ice Age.

Another, more challenging jaunt is that from Boca da Corrida to Encumeada. This five-and-a-half hour route covers 14 kilometers, at the top of which hikers are rewarded with views through the clouds below of an extinct volcanic crater, referred to by locals as the "belly button" of Madeira. The area is also known as Curral das Freiras, or "Valley of the Nuns," so-called because its secluded Convento de Santa Clara served a place of refuge for the island's nuns when marauding pirates blew in from their plundering.

Trevor Franks and his wife June immigrated to Madeira twenty years ago from the U.K. after falling in love with the island on a holiday. He became fascinated with the levadas and went on to become a guide.

"I have taken thousands of people walking and one story sticks out as proof that beauty is in the eye of the beholder," he recalled. "On a 10-day hiking holiday, one lady in the group never seemed to be pleased about any walk that we did. I always asked everybody in the group at the end of the hike 'Did you like that hike?' This lady always replied 'No'."

"We did tunnels on hikes, we did levadas that had lovely flora, we did mountains that had terrific views, and we did cliff top coastal hikes," he continued. "On the last day, I knew I had no chance of pleasing her. The walk was barren, a moonscape, with very little flora, windy, a peninsula finger nearly at sea level, so no views as such. At the end of the hike I asked her anyway, 'Did you like that hike?' She ran over and kissed me on both cheeks and said 'It's the best walk we have done!'"

Much easier to please, my husband and I decided to begin exploring the levadas and Madeiran countryside with baby

steps, hiking a short four-kilometer route from Quinta Grande to Campanari.

We quickly found ourselves in deep, primeval forest, navigating a narrow and muddy footpath, mounds of man-size ferns hanging from the hillside and brushing our faces. I experienced a Hansel and Gretel moment of feeling lost in the Forbidden Forest, when my husband elbowed me, pointing into a sea of sprawling green growth at a mythical-looking white goat gazing back at us solemnly. We laughed, he snorted and I relaxed. We continued on, marveling at the breadth of botany surrounding us, enveloped in the scents of eucalyptus and pine, soothed by the lyrical score of the gurgling water running through the levada.

We emerged from the densely-wooded area, shielding our eyes at first at the sudden bright sunshine, then opening them wide at the spectacular expanse. The gradient of the canal had been so subtle, we had no idea how high into the mountains we had come and I felt a momentary sense of vertigo at the altitude. Looking ahead, the levada hugged the hill and stretched out into the wild blue yonder and the clouds. From where the canal curled around the edge of the earth, rows upon rows of planted terraces cascaded like velvety green stairs into a deep valley below, down to a sparkling teal sea.

Despite the warmth of the day, smoke rose from the chimneys of red-roofed farmhouses dotting the landscape. Like a slow-motion pinball, we meandered downward from one to the next, past small, cultivated plots of land, abundant with cabbage, beans, and corn. Apple and banana trees, bushes of raspberries and blueberries grew wild alongside modest vineyards. Like sprouts shooting from a stem, mini canals branched off the levada into each patch of property, from which the giro would be released.

Later, emerging to the main road and civilization, we found ourselves in the midst of a Catholic feast celebration, the street strung with multi-colored lights and bobbing balloons, and lined with smoking grills, lively folk music filling the air, smiling faces. Amen!

Meg Pier

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