

Water Mills in Madeira

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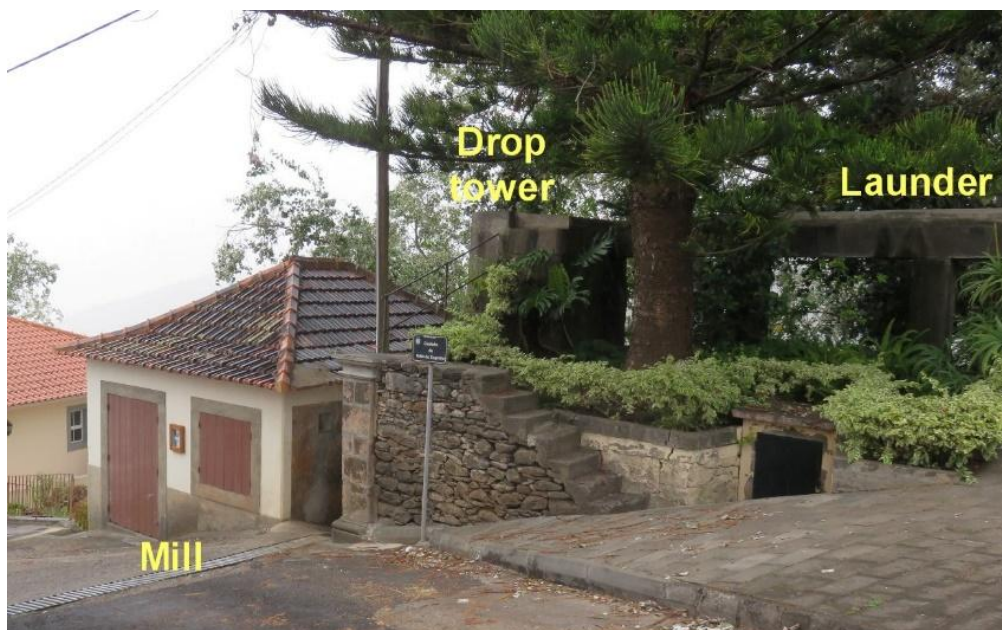
Photos by Keith and Ruth Andrews

Finally, at the third time of trying, we got to Madeira, having been thwarted first by Covid, and then by the wind preventing planes from landing.

Apart from wine, Madeira is famous for its system of *levadas*, gently sloping water channels which cling to the rocky hillsides and bring water for cultivation and as a source of water power. They are a popular way of hiking without climbing steep hills, but you have to have a head for heights as there are often vertiginous drops at the side.



We chose to explore one called **Levada do Moinho** at Lombada near Ponto do Sol in the expectation that there would be a mill involved, which indeed there was. At the lower end of the levada, the water could be diverted to flow along a horizontal launder before dropping down a 5m vertical tower to the mill's horizontal wheel.

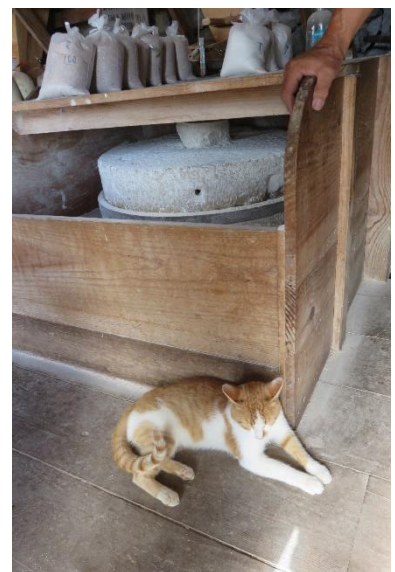


We next visited a working watermill in **São Jorge**. Over 300 years old, it was recently restored, and is said to be the last one operating in Madeira.

The simple building is constructed of rough basalt blocks, with its name spelled out with letters made of dried corn cobs. The mill is very basic with two pairs of stones, driven by a horizontal wheel, fed from a levada far above.



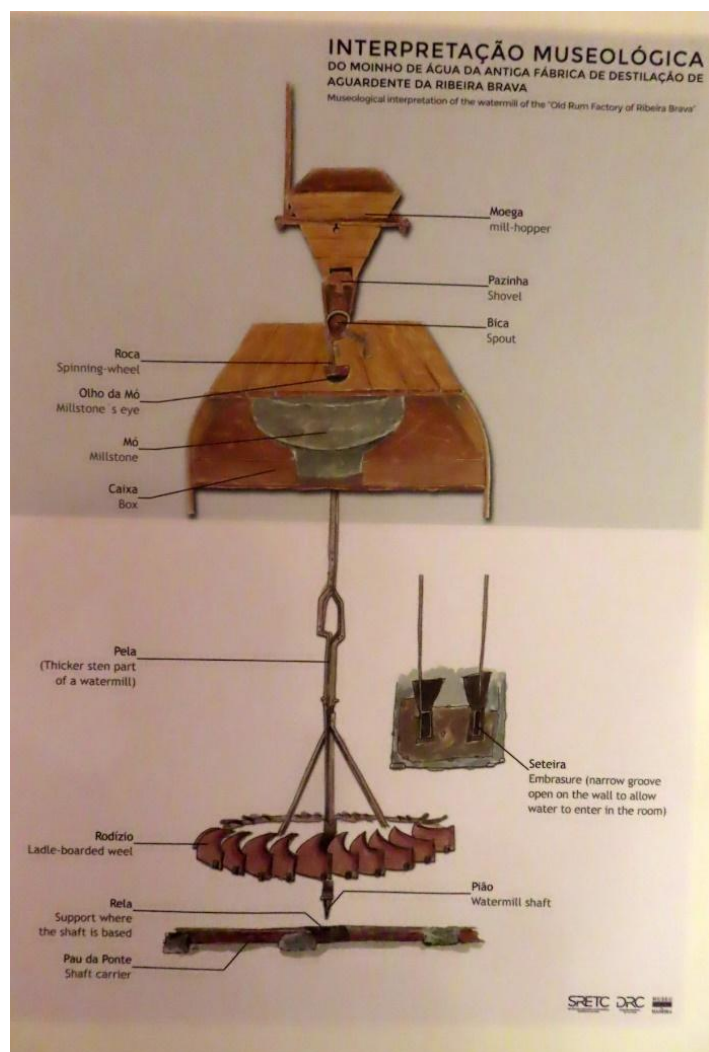
The miller had a very friendly ginger cat as you can see from the pictures. He said he was milling barley, and could produce 6 tonnes a month. The mill also formed a museum, with various objects such as a quern, a grinding pot, and a hand-driven rotary corn cob separator.



We were not able to see the horizontal water wheel, but several days later in the **Ethnographic Museum in Ribeira Brava** we saw a display with two horizontal metal wheels with ladle-shaped cups, which may have been similar to those at São Jorge.



The museum makes almost no reference to the source of water power, other than a diagram that we couldn't photograph. We worked out that water travelled downhill and along an overhead launder to the top of the massive enclosed waterwheel seen below. It was impossible to see the wheel itself, and the overhead launder had been removed although a supporting column remained.



The waterwheel drove sugar cane crushing rollers inside the museum (*right*).

The water would also have dropped into the nozzles feeding the two horizontal wheels with ladle-shaped cups, seen in the diagram above. I am fairly sure they are not in their original position because they would have flooded the museum; perhaps part of the wall has been removed to make a viewing window.



The museum building started life as a convent, but was bought by the then tenant Captain Gonçalves when religious orders were banned in Portugal in 1760. Eventually in 1853 a local entrepreneur turned it into a sugar cane mill and rum distillery, from 1862 using water power, with two cereal mills being added in 1868. Ultimately the Madeira Regional Government turned it into a museum in 1996.



The convent building.