

THE THERMAL WATERS OF BORMIO

Bormio is known not only for the beauty of the mountains that surround it and its historic center but also for the thermal waters that have been flowing here for a long time and are used for healing purposes!

The thermal waters of Bormio for their curative properties have attracted a large number of visitors since ancient times. The most illustrious is Leonardo da Vinci, who stayed in Bormio in 1493, mentioning him in the Codex Atlanticus: "At the top of the Valtellina there is Burmi. In Burmi are the Baths". He was followed three years later by the Duke of Milan Ludovico il Moro.

But the story is even older!

According to some historians, Pliny the Elder would have already mentioned the waters of Bormio in his "Naturalis historia" and Cassiodorus would have exalted the therapeutic properties of the "aquae Burmiae" in one of his letters of 535-6 A.D. to the Emperor Theodato. Based on this information and the particular topographical conformation of the place, it is believed that a temple to the god of water Apollo or Bormo stood at the Roman Baths, where now there is the church of San Martino.

The 'Plinian' spring together with the Roman baths and the church of San Martino, therefore testify to the ancient historical layout of the Bormio thermal baths dating back to the early Middle Ages. As further evidence of this ancient use, two of the nine springs that flow at the foot of Mount Reit owe their names to Pliny the Elder and Cassiodorus!

As anticipated, there are nine thermal springs and their waters have a temperature between 38 and 41 Celsius degrees, with maximum values in winter-spring and minimum values during summer.

All the springs are located in the vicinity of a tectonic area of regional importance, the Zebrù fracture, which marks the contact between the crystalline substrate and sedimentary rocks.

Four springs, Cinglaccia, Nibelunghi, Ostrogoti and Pliniana are located between 1280 and 1340 meters above sea level. The upper springs called San Martino, Arciduchessa, Zampillo dei Bambini, Cassiodora and San Carlo are located between 1370 and 1421 meters above sea level. The highest is S. Martino, at 1421 meters; the lowest is the Cinglaccia, at 1280 meters.

Around the springs there are concretionary deposits of considerable thickness and size: these concretions are characterized by remarkable radioactivity, which gives the waters the peculiar characteristics that make them to be used for curative purposes.

But how is a thermal spring generated? And how long can it persist over time? Could it possibly run out? These are questions that we have certainly asked ourselves in front of a thermal establishment trying to understand why the water gushes out hot there and how long this phenomenon can continue!

A thermal spring is formed where very hot rock materials are close to the earth's surface, they can heat the adjacent groundwater to high temperatures. When these waters reach the surface, they give rise to thermal springs with high salt content and temperatures sometimes even close to the boiling point! Therefore, heated groundwater flows out of the thermal springs and therefore recycled surface water: in fact the water originally contained in the magma bodies is little or totally absent. This means that a thermal spring will never run out of water, this is simple groundwater that heats up when passing near or in contact with hot rocks. In addition to increasing the temperature of the water, the rocks give it salts and therefore make it curative!