



Geotourism Aspects of UNESCO Spa Locality Mariánské Lázně

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Abstract

The West Bohemian spa triangle is an area with a rich occurrence of mineral springs, which are found on a relatively small area. It includes Mariánské Lázně, Karlovy Vary and Františkovy Lázně. These spas are among the most important spa towns of global importance. This fact is also evidenced by the fact that this spa area was registered in 2021 on the UNESCO World Heritage List. The cities of this triangle are unique not only in terms of balneology, but also in terms of architecture. Even though Mariánské Lázně is the youngest of these cities, some important visitors have ranked it among the most beautiful of them. Many healing springs were responsible for the rapid development of this city. This article describes the interconnectedness of both geological and selected architectural attractions that can be the target of tourist activities in this city.

Keywords: geotourism, unesco, spa, Mariánské lázně

Introduction

The spa town of Mariánské Lázně is part of the so-called West Bohemian spa triangle. This city together with Karlovy Vary and Františkovy Lázně represent classic historical centers for spa tourism. In the future, this tourism can be supplemented with new forms of tourism that will supplement the existing offer of forms of tourism in this area of Bohemia. One of the possible forms is the development of geotourism. From this point of view, this area offers many possibilities for various activities not only in the surroundings of the city, but also in the city itself. The work describes some of the localities, which are just a small sample of what this area offers to tourists.

Overview of the Geological Structure Of the Territory

The geological structure of the subsoil of Mariánské Lázně [1-5] is very interesting from the point of view of geotourism. This area of the Bohemian Massif is at the junction of Saxothuringian and Bohemian. The oldest rocks in this area include metamorphism. Amphibolites and other metamorphic volcanics of the Mariánské Lázně basic complex are a typical example. The area is located in a tectonically very affected area. Subsequent tertiary volcanic activity with post-volcanic manifestations is also related to this fact. Of these post-volcanic manifestations, gas eruptions are interesting, but especially the occurrence of thermal waters. The overlying Quaternary deposits are fluvial, deluvial and largely anthropogenic deposits.

Geoscientific Localities

In the center of the city, visitors can familiarize themselves with the geology of the city and its surroundings both in the museum and in the adjacent geological park [6-8]. From the point of view of these similar buildings, in connection with geology, it is also related to the need for special foundations, for example pile structures, especially

in places where the geotechnical conditions are deteriorated [9]. However, the mineral water springs [10-14] are of the greatest importance for the city itself, which are briefly described in subsection 3.3.

Educational Trail Geological Park

This freely accessible educational trail is very conveniently located on the outskirts of Mariánské Lázně. Its 1.5 km long route is led along the SW slope of Žižkov Hill, which is part of the Slavkovský les PLA. The route of the trail is complemented by 24 information boards, which familiarize visitors with the geological structure of the area and the flora of the Slavkovský les, and the history is partly represented here. On an area of 10 ha, there are 316 large-scale rock samples located next to the forest paths. These and several-ton rock blocks (the largest one weighs 16 tons) were suitably adjusted before their placement. Some rock blocks were polished to highlight structural and textural features. In terms of rock samples, there are different types of rocks. Among the exposed rocks, we can mention various types of granites, granite porphyry, basalts, greisens, gneisses, erlans, quartzites, slags, contact cherts, amphibolites, eclogites or serpentinites. The samples are supplemented here with detailed descriptions and indicated places of collection in the field. There are also descriptions in English and German for foreign clients. The preparatory work for the collection of typed rock samples took place in 1986-1987. The actual opening of the trail took place already in 1988. At that time, in terms of content and scope, it was a pioneering work for the subsequent construction of similar nature exhibitions in Central Europe. The trail starts at the city museum building and ends here. The trail is easy for tourists and in some places, there are benches for short sittings.

Geoscience Exhibition in the Municipal Museum of Mariánské Lázně

The construction of the city museum began on the basis of a call that was printed in the local newspaper in 1887. With this call, the then councilor V. Lerchl Sr. appealed to the citizens to provide various objects that will become the basis for building the collections of this museum. At the beginning, the collection fund consisted of 250 objects. The first presentation of the collections was next to the Sanssouci house, later after the Second World War it was in Villa Turba (today's Municipal Library building). From 1953 until today, the museum has been housed in the "Goethe Haus" building, where J.W. Goethe stayed in the summer of 1823. By moving the museum to this building, the museum's collections were enriched with the collections of the owner of the house, Julia Hufnagel-Schildbach, who was devoted to botany and mineralogy. In 1959, during the period of reinstallation of the collections, the collection fund also grew to include objects from the field of spas, taken over from the Czechoslovak State Spa. The building underwent significant reconstruction in the years 1975 – 1979. Further major construction modifications were carried out here from 2004 (barrier-free access, repair of the external facade, etc.). From the point of view of the presentation of geological disciplines, the most favorable period for the museum was from the end of 1991, when geologist Petr Bouše became the director of the museum. From the following year, under his leadership, a new collection of regional geology and mineralogy begins to be built, which replaces part of the canceled exposition of recent history. Later, new expositions were completed here: natural science, balneology and a collection dedicated to J.W. Goethe.

Mineral springs in Mariánské Lázně

There are around 40 springs in the city and another 60 springs in its surroundings. The mineral springs found here are used to treat many diseases. The offer serves both children and adolescents, as well as adults. Diseases of the locomotor system, urological diseases, gynecological, oncological or respiratory diseases are mainly treated here. The treatment is carried out in the form of drinking cures, exhalation, inhalation, carbonic and mineral baths and other forms. The most important here are the 12 main springs: Rudolf's spring, Karolina's spring, Cross's spring, Ferdinand's spring, Forest's spring, Ambrose's spring, Maria's spring, Hamelika's spring, Nová Marie's spring, Antonín's spring, Medvědí's spring and Balbín's spring. Some springs have more springs. An example is the Ferdinand spring, which has seven of them. The waters from some springs are bottled and exported under names such as Rudolfka, Excelsior or Aqua Maria Original. The mineral waters of these springs are cold, their temperature ranges from 7 to 10 °C. From the point of view of chemistry, these are hypotonic acids, containing hydrocarbonates of Na, Mg, and Fe salts. The hydrogeological and balneological interest is the great diversity of the individual springs, the springs of which occur at small distances from each other. These springs played an important role in the very creation of the city, as detailed in chapter 4.1.

Selected Geological Sites Around Mariánské Lázně

There are many interesting locations in the vicinity [4], [14-17], which can be included in the itinerary of various geoscience trips. Only three type localities characteristic of this area are presented in this work. Among other localities that are not mentioned here, there are for example the nature reserve Údolí Teplá or the national nature reserve (declared protected as early as 1933) Kladské raseliny. From the past, we can also include the writer J. W. Goethe, who visited not only the city, but also its surroundings repeatedly in the years 1820-1823, among the significant people interested in geosciences.

Smrad'och

It is a bog, extending over an area of 11.14 ha. This nature reserve is located approximately 4 km north of the city. The peatland is unique in that it is situated above a tectonic fault that disturbs the rock massif (mainly built of amphibolites, less chloritic slates). The reverberations of Tertiary to Quaternary volcanic activity are manifested here by the fact that the division of the fracture reaches the surface of gaseous exhalation mainly of carbon dioxide, with a smaller amount of sulfane and mineral water. The surface manifestations of these eruptions are gas-enriched lakes and small mofets ("mud volcanoes"), rarely found in Central Europe. Even though the sulfane content in the spews is in very low concentrations, it gives the air over the peatland and the surrounding area a characteristic odor (hence the name of the site). Another interesting feature of the locality is the occurrence of rare species of lower and higher plants. Since 1976, a short educational trail has passed through part of the reserve, which is barrier-free.

Alpine hill (Podhorní vch)

Relics of Tertiary post-volcanic activity, as well as rock and forest plant biotopes, are protected here on an area of 31.94 ha. The site is located at a distance of about 4 km NE from the city. Podhorní hill has a regular conical shape with two peaks (Velká Podhora and Malá Podhora). Amphibolites of the Mariánské Lázně metabasite complex are found in the subsoil. The mountain was formed by volcanic activity in the Tertiary period. Of the three subsequent explosions, the second was the most pronounced, explosive (formation of tuffs). Due to its age, which is between 12 and 15 million years old, it ranks among the youngest volcanic relics in the Oher rift area. On the NW slope, in the now-abandoned quarry, there were interesting samples of olivine and large

nepheline crystals. In the NE direction, near the Podhorní hajovna, there is the natural monument Sírňák. The reason for protection here is the mud craters - mofets, which occur in a smaller meadow, wet depression. Gaseous exhalations can also be observed in the peripheral part, in the flowing river Teplá. Emissions of carbon dioxide with a lower content of sulfane in this location also prove the volcanic activity that took place here in the past.

Barren hill (Planý vrch)

The Plavý hill nature reserve offers a connection between inanimate nature, represented by serpentinite bedrock, and living nature, the flora that grows here in the snake pine. The site is located 10 km SSE of Mariánské Lázně near the village of Mnichov. The surface area of the reserve, which is located on the southeastern slope of Wolf's Ridge, is 14.89 ha. Serpentinite, which belongs to the Mariánské Lázně metabasite complex, was mined here in the past in several quarries as a decorative stone. The raw material was subsequently processed in a grinding plant in the village of Munich from the 1930s to the first quarter of the 20th century. The products of this plant were small utilitarian and decorative objects as well as tombstones. Serpentinite contains veins of chrysotile asbestos and bronzite. From a geoscientific point of view, the site provides examples of the remains of past stone quarrying.

Brief History of the Town and Spa Architecture

The origins of this town were based on the presence of healing springs, which can be found here. The springs were located on the land of the Premonstratensian monastery Teplá. As early as 1528, the then Emperor Ferdinand I became interested in these springs and wanted to extract salt from the water. The first experiments showed that it was Glauber's salt and not halite. At the turn of the 16th and 17th centuries, the water was mainly used by people in the surrounding area and less so for drinking cures on the advice of doctors. From the beginning of the 18th century, evaporated salt was also used. This commodity, the so-called Tepel salt (Sal Teplensis), was produced and distributed by the local Premonstratensians to pharmacies as a laxative. After 1710, the first spa guests began to arrive here. The Hamrníky Chateau, which had been completed not long before, was used for their accommodation. Accommodation was also provided by the village of Úšovice, which later became part of today's Mariánské Lázně and is the oldest part of the

town. After 1786, the settlement of the area around the Cross Spring began and two years later the first mention of Marienbad is recorded. Dr. Johann Josef Nehr, a monastery doctor from Teplá, was responsible for the significant development of the town in its early days. It was he who was responsible for the capture of the springs and the construction of the first spa buildings. It was thanks to him that the first spa house, U zlaté koule, was built next to the Cross Spring at the beginning of the 19th century.

The next development was continued by the abbot of Teplá, Karl Kaspar Reitenberger. In 1808, the newly established spa colony was named Marienbad (Marianske Lazne). This colony belonged together with the Šenov quarter to the Úšovice municipality. This year is also the year of the first spa season with 80 guests. In 1812, Marienbad was separated from the municipality of Úšovice and became a municipality. On 6 November 1818, Marienbad becomes a spa town. Already in 1817, the park landscaping, which was designed by the artistic gardener Václav Skalník (court gardener to Prince Lobkowitz), was started here, following the example of English castle gardens. Already in 1847, 7 main springs served the spa clientele. In 1866 Marianske Lazne became a town. Although in 1865 more than 4,000 guests visited the spa, a significant increase in clientele began with the construction of the railway connection with the outside world. In 1902, the town becomes a county seat. The town was spared major damage during World War II. The Jewish synagogue was destroyed. At the end of the Second World War, the town became an infirmary town and later a place where refugees from the East were concentrated. The post-war removal of the German population led to the dilapidation of some buildings. During the socialist period, the spa belonged to the State Baths and was mainly used to provide domestic trade union recreation. After the regime change in 1989, on the one hand, some buildings were revitalised, on the other hand, protected buildings were also completely or partially destroyed (e.g. the destruction by burning and subsequent demolition of the Rozkvět Hotel) [18-23]. Some of the landmarks of the city are listed in subsection 4. 2.

Selected Architecture of Mariánské Lázně

The town has managed to retain its original historical character as an important spa centre. Of the many surviving buildings, only two dominant examples of spa architecture are listed here to give an idea of the style of the town [21], [24-27].

Main Spa Colonnade (Maxim Gorky Colonnade)

This is the dominant, central object of Mariánské Lázně by Hans Miksch and Julian Niedzielský. This building, together with the Křížový spring, Rudolph's and Karolina spring's pavilions and the Singing fountain, form the main spa promenade. The construction of the neo-baroque building took place in 1888-1889 on the site of the older colonnade. The length of the colonnade is 180 m and is the longest spa colonnade in the Czech Republic. In 1951, the city commemorated M. Gorky's visit with city celebrations that took place in the 1920s and named the colonnade after him. This name was borne by the colonnade until 1991. Over the years, the colonnade also survived the fury of the Second World War, when it was considered to dismantle it and use the metal for armaments production. A more fundamental reconstruction of the colonnade began in 1976, due to corrosion of some cast iron parts. The colonnade was supplemented with new elements, frescoes by the academic painter Josef Vyleťal and bronze reliefs by Antonín Kuchař. The reconstruction was completed in 1986 and the colonnade was inaugurated in 1986. In 2010 the colonnade became a national cultural monument of the Czech Republic.

New Spa

The abbey of the Tepla monastery was responsible for the construction of the Main Spa Colonnade as well as the construction of the New Spa. A new building was built in 1893-1896 on the site of the original building of the New Spa, which was built in 1827-1828 according to the plans of Josef Esch. This building was designed by the architect Josef Schaffer, who was a native of the area. It is an architecturally magnificent Neo-Renaissance building, which is perhaps the most beautiful building in Mariánské Lázně. The impetus for the construction of this building was the fact that in the second half of the 19th century the city was experiencing a great boom and the spa was visited by rich and important clientele. This now five-star spa hotel offers treatment procedures that use natural healing resources. Hydrotherapy takes place in the complex of the Roman Baths, built in 1893, still preserved and fully functional. The clientele included, for example, the Austro-Hungarian emperor Francis Joseph I or the English king Edward VII. Currently, the spa belongs to the hotel complex Ensana Health Spa Hotels. Other important buildings are also included in this complex: Hvězda, Central Spa, Pacifik, Svoboda, Vltava and Butterfly.

Selected Historical Buildings near Mariánské Lázně

The beginnings of spas in the city are closely related to the order of Premonstratensian religious canons residing near the settlement of Teplá. As already mentioned, the establishment of Mariánské Lázně was mainly due to the monastic physician Dr. Johann Josef Nehr and Tepel Abbot Karl Kaspar Reitenberger. Therefore, as examples of historical objects from the surroundings, buildings that were important objects in the beginnings of the founding of this city are presented here [19], [27-30].

Tepla Monastery and Abbey

Blahoslavený Hroznata from Ovence, who was a Czech nobleman and courtier at the royal court, decided to dedicate his life to God after the death of his wife and only son. By promising Pope Celestyn III that he would found a monastery on his land, he was exempted from participating in the Third Crusade to the Holy Land. For the construction of the monastery, due to Premonstratensian regulations for a contemplative way of life, a remote place was chosen next to the settlement of Teplá. The year 1193 is given as the year the monastery was founded, but it is not reliably verified (according to Hroznat's will from 1197, which is considered to be the founding document of the monastery, it could not have been after this year). Over the centuries, the area of the Teplá monastery and abbey underwent significant changes. The history of events itself is very rich. Unfavorably, these buildings were destroyed and looted during turbulent times in history. At present, this area consists of many buildings, economic objects and elements (church, convent, prelatore, library, forest office buildings, museum, spa, administrative buildings, pharmacy, pub, etc.). Among the oldest buildings here is the Romanesque building, the Basilica of the Annunciation of the Virgin Mary, which was consecrated in 1232, in the presence of King Wenceslas I. It is a three-nave basilica with two towers on the west facade. The current appearance of the monastery is the result of a sensitive Baroque reconstruction by the architect Kryštof Dientzenhofer, which took place at the turn of the 17th and 18th centuries. During the 19th century, farm buildings were built. At the beginning of the 20th century, according to the architect Josef Schaffer, a new neo-baroque library building was built by the north wall of the monastery church. The museum building was also completed, and the park was expanded and modified. In 2008, the monastery became a national cultural monument.

Hammerhof Castle

This is one of the oldest buildings in the vicinity of Mariánské Lázně. The building is situated between the railway station in Mariánské Lázně and the Hamrníky headquarters. The castle was built on the site where, according to information, the free court of Froschhammer already existed in 1657. Later, the yard was bought by the Tepel Premonstratensians, and after it burned down, the Hammerhof was built here. After another fire in 1706, builder Kryštof Dientzenhofer built this castle in 1708 in the SE part of the yard. The building was used for the recreation of Tepel Premonstratensians. The building was used for medical treatments, where the waters from Františkové Lázně were used. With the development of the spa industry in Marienbad, the building also became a place of visits for spa guests, for whom the inn and cafes also served. In 1832, a park was created around the castle. From the second half of the 19th century, the building was used as an outbuilding of the monastery. The building was not used after 1989. It became a private object, and its gradual devastation began. It burned down in 2007 and its ceiling paintings were also destroyed in this fire. Even though the building is listed as a monument, it is in need of fundamental restoration.

Conclusion

Mariánské Lázně is one of the most important spa centers in the world. This city has preserved its original character and was not fundamentally affected by the world wars even during the 20th century. The spa architecture of this city is a perfect example of architecture that also used classicist and historicist architecture in the world. The primary form of tourism in this city is spa tourism. New trends in tourism force the study of potential possibilities for other forms of development of tourist activities. One of the suitable options is the development of geotourism, which has great potential for development in this area. Already in the past there were prepared and selected localities where this form of tourism can be operated on a larger scale in the future. Some of these options are also described in selected examples from the overall offer in this article. This form of tourism can also be supplemented by the study of spa facilities.

These objects were primarily built here due to the use of mineral waters by man. With this connection, geotourism in this area is appropriately supplemented with cultural-historical content.

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