

The possibilities of development of geotourism in the area of exemplary health resorts in Beskid Niski

SUMMARY

Health tourism is gaining popularity and catches the interest of many people. Therefore, less known touristic attractions, which surround given health resorts should be promoted, as they might become additional asset of the region. The most famous health resorts in Beskid Niski include Iwonicz - Zdrój and Rymanów - Zdrój. Due to the fact that this region characterizes flysch geological topography, a lot of geotouristic objects can be found. Through a proper maintenance, land use as well as promoting geotouristic advantages of Beskid Niski the interest in this region can be increased. Due to the proximity of numerous geological objects, which are gaining popularity among tourists, functioning health resorts - could contribute to their development.

Key words: Beskid Niski, health resorts, geotourism, geological object

INTRODUCTION

Health tourism is becoming more and more meaningful in the contemporary world. Therefore, a bigger emphasis should be put on the development of health resorts and surrounding areas regarding tourism. With the flow of time, not only will it guarantee a bigger number of tourists, but also a faster economic development of the region. Beskid Niski, situated in the south-east of Poland is mainly well-known thanks to such health resorts as Iwonicz-Zdrój and Rymanów-Zdrój (Fig. 1). These health resorts are located in the south-eastern part of Poland on the way in the Bieszczady mountain more popular. In connection with the transport accessibility and Rymanów and Iwonicz it is very good. It should be added that these health resorts are mainly visited by older people who treat respiratory diseases and cardiovascular disease. Therefore, most of the patients can move freely within in the surrounding areas for the purposes of tourism and recreation, which should in addition support the healing process. There is a huge number of patients who staying there, desire to see some other attractions than health resorts can offer. Thus, it seems to be important to connect spa functions with the possibility of doing other forms of tourism. These forms should definitely include geotouristic objects, which are more often the subject of tourists interest. Geotourism is a new trend in tourism, which objective is both getting to know abiotic elements of wildlife, Earth heritage and getting to know human activity connected with the enlistment of natural resources. (Migoń, 2012). It should also distinguish the notion of geological object and the geotouristic object. Geological object called the or disclosing the face of the Earth rocks, minerals and fossils of or

morphological forms eg. the caves, waterfalls, volcanoes, river valleys, etc., and the geotouristic object called the geological objects have been prepared for visitors interested in geology, the preparation of these, the geotouristic blackboard, which provide a simplified information on the geological heritage and the designated trails the objects of geological. In a present study, a field research in given health resorts in Beskid Niski and in attractive geotouristic places were used. Surveys were carried out among the patients staying in the given health resorts. Additionally, the analysis of literature connected with this subject was conducted. Was also used the statistical data which concerned tourists staying in the region.

GEOGRAPHIC FEATURES OF BESKID NISKI

Situated in the southern Polish, around the Province of Małopolska and Podkarpackie. With its range also includes Slovakia. Its western boundary is the contractual pass Tylicka (683 m) where it borders with the Beskid Sadecki, while in the east of the Bieszczady is separated Łupków Pass (640 m). Polish part of the Low Beskid in the southern end along the state border. In the north descends on clearly a threshold for Gorlickiemu Depression, Foothills Jasielskiemu and Bukowski. There is also a chain of watershed between the catchment area of the Baltic Sea and the Black Sea. This is the most extensive and also the lowest among all Polish bands Beskid. Its length is about 100 km, and its width on both sides of the border is approx. 40 km. The highest peak on the Polish side is Lackowa 997 m above sea level while the Slovakian side Busov 1002 m as It is divided into several smaller bands. The hills of the Beskid Niski are broad and domed, usually about the location of the northwest to the southeast. It was puddingstone with sedimentary rocks called flysch. These alternate shoals of sandstone, conglomerate, and shale. In the Beskid Niski, there are three Nappe: Silesia, Magura and Dukła, which when folded movements of taking place in the area have raised at each other. It is characterized by the dense a network of rivers and streams, which are part of the basin White, Wisłoka, Wisłok and Osława. The largest river basin in the area is Wisłoka catchment, which flows from southern slopes of Dębi Peak. Rivers Beskid Niski in the upper parts flow twisting, deep valleys, where sometimes make breakthroughs (b. Jasiolka, b. Wisłok). There are also artificial lakes Klimkówka on Ropa, Krempna on Wisłoka and Sieniawa on Wisłok, which mainly serve as retention. Numerous are also lakes landsliding associated with the mass movements. The best known is the "Sea Eye" in the area of Butterfish Mountains in the vicinity of Szymbark. Climate Beskid Niski is varied depending on the altitude. Can distinguish a moderately warm climate which exists to approx. 500 m above the sea level cool and temperate climate than 500 m above the sea level The lowest temperatures occur with inversion of the of the concave forms the area. The northern part of the mountain range, is warmer than the southern. There are in this area characteristic local fen winds known as dukielskie or rymanowskie.

GEOLOGICAL ATTRACTIONS/GEOLOGICAL OBJECT IN THE VICINITY OF HEALTH RESORTS IN BESKID NISKI

Health resorts in Beskid Niski have commanded a big interest among patients for many centuries. Every year the number of tourists visiting them is getting higher. This is connected with well-developed spa infrastructure in this region. The most well-known health resorts in this region are Iwonicz-Zdrój and Rymanów-Zdrój. They both possess the title of charter health resorts and belong to the group of piedmont resorts (Jakóbiak 2011).



Fig. 1. Area of research with selected geological objects. (source: own elaboration)

The mentions about the first one dates back to 1578 year (Puncewicz, Isakiewicz 2000). This health resort is situated in the valley of Iwonicz stream on the height of 390 – 430 meters above sea level. Hills which surround this place are covered with beech and fir forests creating the barrier against wind. A big number of sunny days results in the attenuation of the climate which is piedmont in this region. The climate in Iwonicz -Zdrój has got affirmed healing features. There are mineral waters which have got healing features. The most well-known stream, which was as the first one under conservation is „Bełkotka” (Rajchel, Rajchel 1999). These are mainly chloride - hydrogen - carbon - sodium and iodine. In the centre of this health resort there is a historic, wooden building and pump room.

The second well-known health resort in Beskid Niski is Rymanów-Zdrój, located almost 15 kilometers in the south-east of Iwonicz - Zdrój. This health resort was created in 1873 out of the initiative of Potocki family (Puncewicz, Isakiewicz 2000). It is situated in the area of Rymanów Hills on the height of 375 meters above sea level. The river Tabor goes through this health resort. There is a typical of Rymanów – Zdrój piedmont climate, humid with a big amount of essential oils and iodine in the air. In the centre there is impressive resort park with a pump room. There are springs of healing waters such as chloric-hydrocarbon-sodic, acin-carbon, iodine,

hydrocarbon-chloric-sodic and sorrel (Jakóbiak 2011). The most well-known springs are Tytus, Celestyna and Klaudia.

In the connection with plentiful mineral healing springs on the researched area, the resort tourism has developed very well. It must be mentioned that the occurrence of strongly mineralized springs is closely connected with geotourism (Migoń 2012). The geotouristic potential in the area of these health resorts does not limit only to mineral waters. Due to flysch geological topography there are a lot of many objects nearby. These objects may become the subject of interest in the field of geotourism. Through the proper description and leading touristic trails from chosen health resorts, they have got a great opportunity to become a further asset of this region. It is also worth mentioning that geotourism is closely connected with wildlife conservation because very often geotouristic objects are under different forms of protection (Leszka 2013).

Caves are very interesting from geotouristic's point of view. The biggest aggregation of caves is located on the south slope of Cergowa Mountain (716 m) and Kalinowska Mountain (558 m) which lie in Beskid Dukielski (Fig. 1). They rose within nappe Dukieliska in Cergovian sands. Within Cergowa there are 10 fricative caves, which create very narrow passages and chambers of the length coming to 75 meters. On the other hand, in the deepest area they amount to about 15 meters (Kłos 2002). The landslide processes ascribe the biggest contribution to their creation and transformation. They have got rather sophisticated names such as „Gdzie spadł samolot”(Where the plane fell), „Pod Bukiem koło Szkółki” (Under the beech near school), „Na Wierzchowinie” (On the top), „Gdzie wpadł Grotołaz” (Where the potholer fell). The rocks which form the caves and rifts in Cergowa massif are constantly changing their position. This information arises from the dwellers of this region who claim that in the past the entrances to these caves used to be significantly wider. Additionally, in recent years more new entrances have appeared. The local name for the group of these caves is „Borsucze Dziury” (Badgers' Holes) (Krukar 1999).

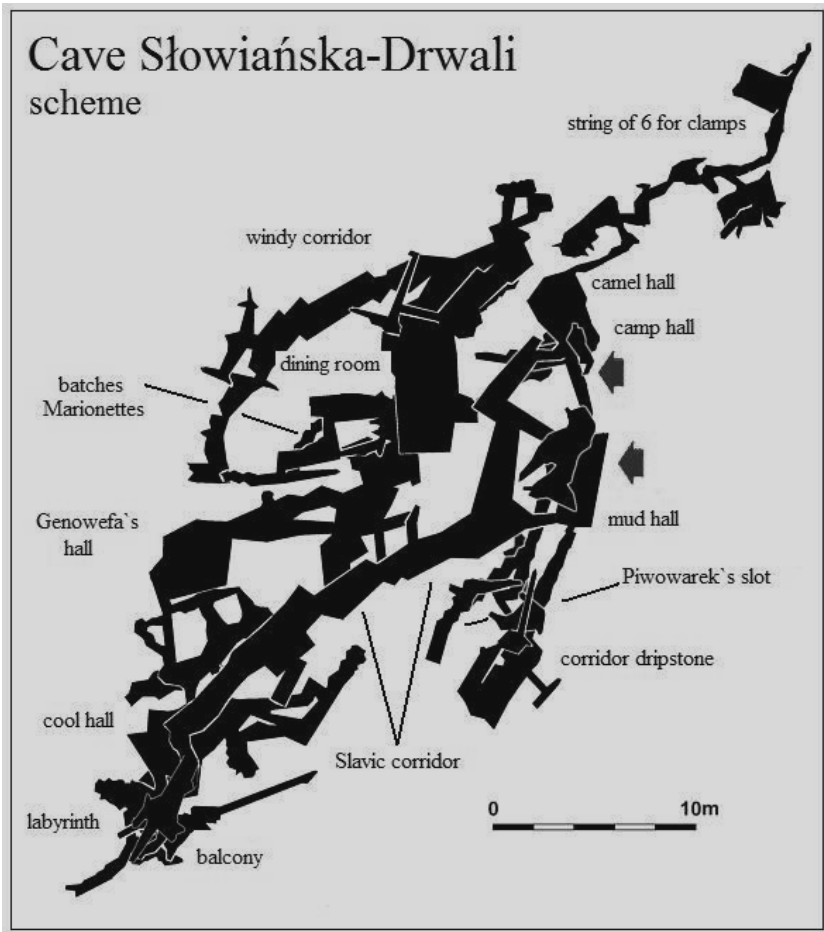


Fig.2. Scheme cave "Jaskini Słowiańska - Drwali". (source: own study on the basis of: <http://www.sktj.pl/>)

On the other hand, on the slopes of Kilanowska Mountain 54 caves and some under rock shelters were taken stock. The biggest cave in the massif of this mountain is, discovered in 2003, Slavic Loggers' Cave (Fig. 2).

It is 564 meters long (Suski, Tęczar 2004). The entrance to this cave is merely 40 centimeters aperture, which afterwards is getting much wider. It consists of numerous passages and wells. Besides, in the colder periods there is an icy dripstone, which significantly hinders moving around. Another well-known cave within Kilanowska Mountain is „Gangusiowa Jama” (Gangus Hollow), which is 190 meters long and 11 meters deep.

„Water cave” is also worth mentioning. It is located on the south of Cergowa Mountain in Peter's Massif (728 m). It has got abundant and well-rounded calcite substratum. Inside there are stalactites measuring 40 meters, stalagmites and columns. This is the only cave with landslide character, through which water is flowing

constantly (Mydel 2003). Another geotouristic attraction in this region is Wisłok ravine near Besko. In this place Wisłok flows in a very narrow river bed creating cliffs which are 60 meters high (Krukar 1999). This ravine was created due to the declining of Besko Hollow. This process occurred in a late glacial period and the Holocene (Zuchiewicz 2010). In the Wisłok valley there is the biggest outcrop of menillite slates situated in the Carpathian Mountains. Besides, this area is full of sandstones nearby Krosno, hornstones, limestones and marls. The water tank was created on Wisłok with a dam in Besko. Both, over and under this dam there are many drifts and small waterfalls.

The „Przędki” reserve is situated off the north-west of Iwonicz – Zdrój and Rymanow - Zdrój. The distance between the preserve and health resorts is about 25 kilometers. The preserve is situated in Dynów Foothills on the area of 13 hectares. It was created in 1957 and it features a protected group of rocks reaching up to 20 meters (Fig. 3). The rocks are built from coarse-grained sandstone which created various shapes due to eolic erosion (Wnuk, Ziąja 2011). Most rocks have got their own individual names such as, for example „Herszt” (Ringleader), „Przędka - Baba” (Spinner Woman), „Zbój Madej” (Resort Madej). The biggest and the most distinctive farm is called „Przędka - Matka” (Mother-spinner) which is built from rocks containing quartz (Fig. 7B). It is 30 meters wide and 18 meters high (Wnuk, Ziąja 2011). The best created forms lie in the group of rocks called „ Przędka - Baba” (Spinner Yenta). There are cauldrons of weathering, burrows and alveolus structures. We can also notice rock roost which spreads on the length of 150 meters and is approximately 2 – 5 meters long. The geological preserve „Przędki” is surrounded by huge forest which in some places enters into the area preserve. The roots of the trees change the look of the whole preserve and the structure of given rocks.

Nearby „Przędki there is a “Kamieniec” castle in Odrzykoń which has been constructed on the rock which is 452 meters above sea level. It was built from local sandstones in XIV. In the period of interwar it was treated as a quarry by the local inhabitants of nearby villages.

While visiting one of the talked-about health resorts one should also visit the museum of oil-burning and gaseous industry in Bóbrka, named after Ignacy Łukasiewicz . In this place visitors can see the oldest and still functioning crude oil mine (Lipińska, 2010). It was in this place, where the first crude oil mine was created and it gave the beginning of the whole oil industry. The founder to this industry was in 1854 Ignacy Łukasiewicz. In the area of Bóbrka in XIX century the inhabitants of this region started to ponder about features of crude oil which in that time was called rock oil. The most interesting museum exhibit consist of oil pumps, a monument founded by the founders of the mine as well as the place where crucial oil was exploited by hand. This place is called „Franek”. There are even more interesting objects worth seeing in this area.



Fig. 3. Geological reserve "Prządki". (photo: K. Płazińska, 2016)

Magura National Park is situated about 30 kilometers east off these two health resorts. In this park there are a lot of geotouristic objects which deserve visitors' attention. These include Magura Waterfall which ledge is 7 meters. It arose on the north slopes of Kosińska Mountain on one of the feeders of Wisłoka. It was created in a place where the groups of magura sandstone are visible (Welc 2005). It is the most splendid during spring, when in the period of thaws it brings a lot of water. Beneath the ledge this stream creates watersheds going through flysch substratum creating a very visible V – shaped valley.

Another curio within Magura National Park is situated in the massif of Magura Wątkowska . It is called „Kornuty” reservation and lies within two villages Bodaki and Bartne. These rocks are built from coarse-grained Magura sandstone. It is a rock maze which was created as a result of the biggest landslide in The Carpathian Mountains (Ropa 2004). They were created in Eocene and Oligocene. They are formations of rocks which seem to be thrown at random. They are up to 20 meters high and 800

meters long (Łoboz 2013). They spread on the south-east of the hill which has got the same name – Kornuty (830 m). They are often of the shapes of a mace, different blocks, ambos, bastilles or rubbles with numerous cracks. They were declared under the protection in 1935 as a nature conservancy, in those times on the area of 3,3 hectares (Welc 2005). Nowadays the area of a reservation measures about 12 hectares. Additionally, in the area of „Kornuty” there is „Mroczna Cave” which is 175 meters long and 17 meters deep (Pulina 1998).

GEOTURISTIC POTENTIAL OF THE BESKID NISKI

The number of geological objects on this area is very large, due to the geological structure represented by the Carpathian flysch. However, not all of these objects have a well-developed tourist infrastructure, so that they are easily accessible to people with special requirements, eg. There is no wheelchair ramps, which to some extent at this stage reduces the availability of their sites. Certainly offer geotouristic the selected area is directed for people who do not have problems with self-moving in the area, for physically fit patients with relatively good physical condition.

The best-developed infrastructure is in the Magura National Park, where the designated trails and placed special information boards for the described the objects, making them geotouristic objects not just geological.

Easily accessible it is also a ravine Wisłok in Besko, because is located in a right at the dam on the river Wisłok, beside the main road. But it can not be classified strictly objects geotouristic, because it does not set its area routes, and over it is not in area information on its geological structure. Granting the status of an geotouristic object for the ravine, it seems to be important, because it is easily accessible and also very stately.

Easily accessible is also a reserve Prządki, where it originated next to the reserve a large parking lot, where there are information boards about rock formations and there are hiking trail in the reserve, are placed plaques describing selected rocks. This reserve, despite the positions described geotouristic, is only available to people who do not have problems with mobility due to the terrain with numerous rocky outcrops. This is one of the most famous geotouristic in the south - eastern part of the Polish.

The situation is similar with availability looks in these caves in the area, because they are adapted for people who do not have problems with mobility due to the shape of the surface and a very the narrow corridors.

The most accessible facility for people with mobility problems is certainly Skansen in Bóbrka where are marked out alleys along which there are many information boards relating to the history of oil production in this area. A place accessible to everyone, meaning you can create in these health resorts offer package tours for clients, for whom it will be an interesting addition to the offer health resort.

CONCLUSIONS

The analysis of geotouristic objects shows how big the potential of this region is. Through a proper maintenance chosen forms of terrain we can significantly contribute to the development of this region, thanks to connecting health resorts tourism to geotouristic which is getting more and more popular these days. In this research there have been described in short only a few the most splendid objects due to the very wide spectrum of this subject. Other geotouristic objects include numerous rocks, the sources of springs, small waterfalls fluvial as well as rocky monuments of a natural architecture made of sandstones and much more. The combination of geotourism and health tourism is possible in this area, due to the very small distances between objects. Important seems also to the fact that in areas where there are geological objects is clean air and immaculate nature, which has a positive impact on the health of patients, who can thus enrich your stay in these health resorts. In addition, active recreation may be for patients, additional form of rehabilitation and, consequently, may help to improve physical fitness in the elderly.

It is hoped that this project will contribute to the wider research and popularization of geotouristic objects which are situated nearby these two amazingly picturesque health resorts which are Iwonicz - Zdrój and Rymanów - Zdrój. What is more, it will encourage the patients to combine spa relaxation with geotourism.

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