

The Świętokrzyski region is a real geological trove, or an open book from which we can learn a lot about the history of our planet. The Świętokrzyskie Mountains occupy the central part of the region; although not the highest and not the biggest in Poland, they enchant visitors with the diversity of their geological structure. Additionally, the region is rich in many other geological curiosities such as monuments and reserves of inanimate nature. The Świętokrzyski region with its wealth of geological structures is a real paradise for nature lovers who can admire unusual forms and shapes of rock and land formations and willingly listen to various legends and fantastic stories. Here one can see caves, grottoes, outcrops, rocks and rock agglomerations, erratic boulders, and other geological formations with names referring to their paradise-like of hell-like associations.

Gołoborze, or Boulder fields According to legend witches were flying onto Mt Łysa Góra in order to practice wizardry during their witches' sabbath. Devils were also there to take part in the dances, but they were greatly disturbed by the presence of the nearby monastery buildings. In order to destroy the monastery, they brought lots of stones in a huge canvas to drop them onto the holy place. One of the monks was awoken by the noise and thinking that it was the time for morning prayers, he rang the bells. The sound of the bells deafened the devils; they dropped the canvas with stones on the mountain slope and thus the boulder fields were created.

Gołoborza are known for their boulder fields, otherwise called stone rubble, rock debris or rock waste, which came into being due to weathering of quartzitic sandstone under the influence of climatic conditions. The biggest boulder fields are found in the heart of the Łysogóry range on the slopes of Mt Łysa Góra near the Święty Krzyż monastery. They carry the name of Roman Kobendza, the first botanist to describe the flora of the boulder fields,

and can be admired from a special viewing platform.

A bit smaller boulder fields are found near the top of the region's highest Mt Łysica (612 m) and in the Śczytnik nature reserve. The latter one is a good example of the rock rubble being gradually invaded by plants. Lichens and mosses are followed by rowan and spruce trees and eventually rock debris are overgrown with a real forest. Boulder fields can also be seen in the nature reserves of Góra Jeleniowska and Małe Gołoborze.

Head Office and Educational Center of the Świętokrzyski NP
ul. Suchedniowska 4, 26-010 Bodzentyn
tel./fax 041 311 51 06
www.swietokrzyskipn.org.pl

Museum of Minerals and Fossils

The first and only one in the Świętokrzyskie voivodship, this private museum displays a rich collection of rocks, minerals and fossils not only from the region but also from the whole world. It is located in Święta Katarzyna near Mt Łysica and offers to visitors an excellent opportunity to enrich and supplement their knowledge of geology. The highlight of the collection is the biggest mountain crystal on display in Polish museums. Other exhibits include perfectly developed hexagonal pyrite crystals, striped flint, amber and copal inclusions, and sculptures of decorative stones. The museum staff invites for demonstrations of striped flint grinding as well as for museum classes about geology and origins of the Świętokrzyskie Mountains.

Museum of Minerals and Fossils
ul. Kielecka 20, Św.Katarzyna, 26-010, Bodzentyn
te. 041 311 21 16, 0501 282 697
www.swkatarzyna-muzeum.pl
Open: Mon – Sat 9am-7pm, Sun 10am-7pm

Jaskinia Raj (Paradise Cave) – Nature Reserve

Not far from the capital city of the voivodship, Kielce, Poland's most beautiful cave was discovered in 1963. Due to its rich and diversified underground world, it was given the name of the Paradise Cave. Visitors cover a route of about 180 meters, which leads through many spectacular galleries, chambers and rooms featuring real wonders of inanimate nature such as stalactites, stalagmites, columns, draperies, bowls and rare pisolites. The most picturesque is the Stalactite Room, where one square meter of the ceiling features about 200 stalactites. The temperature is stable and never rises above or drops below 9 degrees Celsius throughout the year, therefore it is advisable to take warmer clothes during the summer stanowisk środkowego paleolitu w Europie.

Interesting archaeological finds were discovered in the Paradise Cave. Animal bone fragments of mammoth, woolly rhinoceros, cave bear as well as flint and stone tools were found in the silt-covered ground of the cave. These finds prove that some 50 – 40 thousand years BC the cave was twice lived by the Neanderthal men. This is one of Europe's mid-Paleolithic northernmost archaeological sites.

Paradise Cave
26-060 Chęciny
Booking Office: tel./fax 041 346 55 18
www.jaskiniaraj.pl
Open: 15 Jan – 15 Nov, Tue-Sun 10am-5pm

Mt Miedzianka – Nature Reserve

The elongated massif of Mt Miedzianka has been placed under protection. It constitutes the north-westernmost located elevation of the Chęciny range of the Świętokrzyskie Mountains. The plateau has three summits that are connected by a picturesque rocky ridge. The reserve encompasses two closed down quarries and the area of a former copper mine in operation from the 14th century. What remains

of the mine is the main adit Sophia that runs through the whole massif of hills and the Antoni extraction shaft as well as many small shafts, fissures, bell pits, and mine dumps. The reserve features karst phenomena that are responsible for the creation of numerous caves. The rocky and sunlit slopes of Mt Miedzianka are overgrown by such thermophytes as common cotoneaster, juniper and roses. Xerothermic grasses grow in many places. Bat species such as serotine bat, whiskered bat, Natterer's bat, Daubenton's bat and large mouse-eared find shelter in numerous caves, old adits and exploitation hollows. The reserve can be reached through the yellow hiking trail.

Muzeum Górnictwa Kruszcowego
Miedzianka 1
26-060 Chęciny

Chelosiowa Jama - Nature Reserve

Together with the Jaworznicza Cave in Jaworznia near Kielce it forms a geological complex that creates Poland's tenth longest cave (3670 m) with height difference of 61 meters. It is the longest cave in the Świętokrzyskie Mountains. The cave galleries feature oval hollows filled with calcite, huge caverns, karst fissures, and chimneys. Very characteristic for the Chelosiowa Jama are abrupt changes of its structure as for example sudden differences in the size of its hollows and transformation of depression hollows into typical karst corridors. The reserve contains two inoperative quarries and the top of Mt Kopaczowa that is built of Devonian limestone. It occupies a part of the Chęciny and Kielce Landscape Park and functions as a stop on the geological educational trail.

Head Office of the Świętokrzyski and Nadnidziański Landscape Parks
ul. Łódzka 244, 25-655 Kielce
tel./fax 041 345 58 80
www.pk.kielce.pl

Gmina Sitkówka-Nowiny uznawana jest za raj dla geologów, turystów i miłośników przyrody nieożywionej oraz kolekcjonerów minerałów i skamieniałości. Napotkać tu można zarówno liczne odsłonięcia geologiczne, stare wyrobiska jak i czynne zakłady górnicze wędrując m.in. specjalnie wyznaczoną ścieżką przyrodniczą.

„The Sitkówka-Nowiny Commune is recognized as a paradise for geologists, tourists and inanimate nature lovers as well as for collectors of minerals and fossils. Here, moving along the special nature trail, we can encounter numerous outcrops, old workings as well as mines in operation.

The Mt Żakowa geological reserve encompasses the central part of the forested Pasma Zelejowskie range. In many places along the range and on the slopes are visible lime rocks with calcite veins dating back to the Devonian, Permian and Carboniferous periods. They are often in form of rock-falls, rock steps and 3-meter-high rock blocks. There are also many depressions and adits left by those who extracted so-called marbles and metal ores. A fragment of the Chęciny-Jaskinia Piekło-Szewce educational trail runs through the territory of the reserve.

Tourist Information Center in Sitkówka –Nowiny
Kryta Pływalnia „Perła”
Gminny Ośrodek Kultury, Sportu i Rekreacji
26-052 Sitkówka Nowiny, tel. 41 346 52 60/ 41 345 96 50 wew. 35
www.perla.maximum.pl

Gagaty Sołykowskie - Nature Reserve

The reserve is located on the territory of the Stępków commune. Established in 1997, its main purpose was to protect the outcrops of lower Jurassic rocks containing important minerals, fossils and various forms of ironstone. The reserve contains a former open



Gołoborze on Mt Śczytnik



Chelosiowa Jama nature reserve



Mt Miedzianka near Chęciny



Paradise Cave



Bolechowice quarry

pit mine of ceramic clay once used in the production of bricks. The name of the reserve is derived from the rare bituminous variety of lignite known as gagat. Due to its shining luster, gagat is used in the jewelry trade.

W Gagatach Sołykowskich odkryto słynne tropy dinozaurów m.in. dilofozaura czy zauropoda, utrwalone na powierzchni piaskowca. Zostały one zabezpieczone ksylanowym impregnatem do skał i można je zobaczyć pod specjalnie zbudowaną drewnianą wiatą. In the Gagaty Sołykowskie Nature Reserve were found the famous trails of dinosaurs, most probably those of dilophosaurs or sauropoda, on the sandstone surface. They were impregnated with xylene treatment and can be seen under a special wooden umbrella roofing.

Tourist Information Center In Końskie
Biblioteka Publiczna Miasta i Gminy Końskie
ul. Partyzantów 1, 26-200 Końskie
tel. 41 372 90 88 - www.konskie.travel
informacja@konskie.travel

Skałki Piekło pod Niekłaniem - Nature Reserve
The Skałki Piekło (Hell Rocks) pod Niekłaniem inanimate nature reserve is another example proving that the region abounds in names containing such word as hell or devil. Located in the Stęporków commune, the reserve was established in 1959 to protect curious sandstone

A long time ago the devils of the Świętokrzyski Region were punished by the Lucifer himself: they were ordered to stay for some time in the grim rocky environment. As the penalty was not really very severe, the devils started their devilish games climbing rocks and toppling them down. Eventually the rocks started to emit hellish light and hence their present name...



formations caused by wind erosion. Scattered over a line one-kilometer-long, they resemble mushrooms, ledges, chimneys, pulpits, and the like. Their height reaches 8 meter sin places. The rock formations are found close to the blue hiking tourist trail (Kuźniaki – Sielpia – Końskie – Pogorzałe) or to the black one leading from Wólka Plebańska (7 km).

Robber's Cave
One of the Świętokrzyski Region caves known as the The Robber's Cave is situated near Łągów. It can be entered from the eastern slope of the Dule gorge, some 20 meters from its bottom level. Only 25 meters of the karstic limestone cave (total length 170 m) is available for visitors. Its interiors are not so rich in dripstone formations as those of the Paradise Cave, but its main chamber features many interesting stalagmites, stalactites and columns. The cave's wildlife includes spiders, little wingless insects and two bat species: brown bat and Daubenton's bat.

The Robber's Cave derives its name from Madej the Robber who used it for rest and to store his booty. Those hikers who are more interested in his life-story are invited to choose an educational trail (Following the Footsteps of Madej the Robber) leading from Łągów to the Robber's Cave via Dolina Łagowicy and Dule Gorge (5.5 km).

Tourist Information Center in Łągów
Gminne Centrum Informacji
ul. Rynek 62, 26-025 Łągów
tel. 41 307 40 70, www.lagow-gmina.pl

Nadnidziański Landscape Park and its Nature Reserves
The park occupies the central and lower part of the Nida River Valley, Solecka Basin and the north-western part of the Pińczów Hummock. It was created for protection of the gypsum series crops representing unique phenomena and forms of gypsum karst. There are very diversified habitats on the park's territory, from extremely dry to marshy and aquatic. Most characteristic are gypsum rocks built of vertically positioned gypsum crystals commonly known as the swallowtail twin crystals. These largest crystals in the world sometimes measuring 3.5 meters are encountered in the Przęślin and Chotel Czerwony nature reserves. Another characteristic element of the park is the Nida River Valley. With its numerous meanders and old riverbeds, the valley constitutes an important ecological corridor and is home to many species of aquatic avifauna.

The most beautiful and numerous karstic formations in the Ponidzie region are protected in the Skorocice nature reserve which encompasses a unique karstic valley (850 m long, 80 m wide) cutting into the depth of several meters into gypsum rocks. The valley is filled with many forms of gypsum karst such as caves, rock bridges, rising springs, inselbergs, rock-shelters, and sinks. A rock bar known as the Wysoka Droga (Highway) divides the valley into two parts. Some 352 meters in length, 5 meters in height difference, and spreading over 200 meters, the Skorocicka Cave is Poland's largest cave situated in a gypsum karstic reserve. Easy to find is the Bell Cave with its cupola-shaped vaults. The steep slopes of the valley are overgrown with xerothermic vegetation including feather grass and meadow steppe communities as well as xerothermic swards. The Skorocice nature reserve is situated close to the blue hiking tourist trail Pińczów – Wiślica.

The Krzyżanowice inanimate nature reserve encloses the western part of an elevation (30-40 m) built of gypsum rock and chalky clay. The hilltop has many shallow sinks and hollows typical for gypsum bedrock. The reserve was created to protect xerothermic swards. Its flora includes two varieties of alfa-grass, spring adonis, crazy weed, Aster linosyris, smooth carline, Linum hirsutum (flax variety), and snowdrop windflower to name only some of them. Swards are home to snails as well as to many rare insects such as cicadas and arachnids. The Krzyżanowice inanimate nature reserve is situated near a village of the same name.

Head Office of the Świętokrzyski and Nadnidziański Landscape Parks
ul. Łódzka 244, 25-655 Kielce,
tel./fax. 41 345 58 80
www.pk.kielce.pl

Ponidzia Tourist Information Center
ul. Piłsudskiego 2, 28-400 Pińczów
tel./fax. 41 357 24 72 tel. 41 357 54 04
www.muzeumitpinczow.eu



Striped Flint

Museum & Archaeological and Nature Reserve in Krzemionki
The Krzemionki, often called Krzemionki Opatowskie, is the name of a complex of old flint mines near Ostrowiec Świętokrzyski. The flint was a basic material for the production of tools. The mines were in operation from approximately 3,900 till 1,600 BC. By different peoples. They left to us a multitude of material evidence classified by archaeologists as cultures. Thus, there is a



Krzemień pasiasty

Funnelbeaker culture, Globular Amphora culture and the Mierzanowicka culture from the early-Bronze period. There are two underground tourist routes in the park, as well as a reconstructed Neolithic village from 5,000 BC often hosting archaeological workshops. As of mid-October 2008, on the area of the Krzemionki Opatowskie reserve, visitors can tour a newly opened niche mine and cross an observation bridge joining pavilions covering extraction shafts. >From the bridge visitors have a good view over the flint mine landscape with post-shaft hollows and warp-land overgrown with rare plant species.

Striped flint, sometimes called the stone of optimism, is a very rare variety of flint found only in the north-eastern part of the Świętokrzyskie voivodeship, mainly in the Krzemionki Opatowskie nature reserve. Built of opal and chalcedony, it's the only stone with graining that looks like sea-waves. With the use of striped flint stone, a skilled jeweler Cezary Łutowicz is able to manufacture unique items of jewelry.

Cezary Łutowicz Art Gallery
Pl. Poniatowskiego 4, 27-600 Sandomierz
tel. 15 832 32 97
www.krzemień-sandomierz.pl

Museum & Archaeological and Nature Reserve
Krzemionki k. Ostrowca Św., 27-400 Ostrowiec Świętokrzyski
tel./fax. 41 262 09 78

Open: 1 May - 30 Sept, Mon - Fri 9am-6pm, Sat 9am-5pm, Sundays and holidays 11am - 5pm; July - Aug, Sat - Sun 11am - 7pm;
April and Oct, Mon - Sat 9am - 4pm, Sundays and holidays 11am - 4pm;
1 Nov - 31 March, Mon - Sat 9am - 3pm, Sundays and holidays 11am - 3pm.
www.krzemieńki.pl

Text Sylwia Skuta

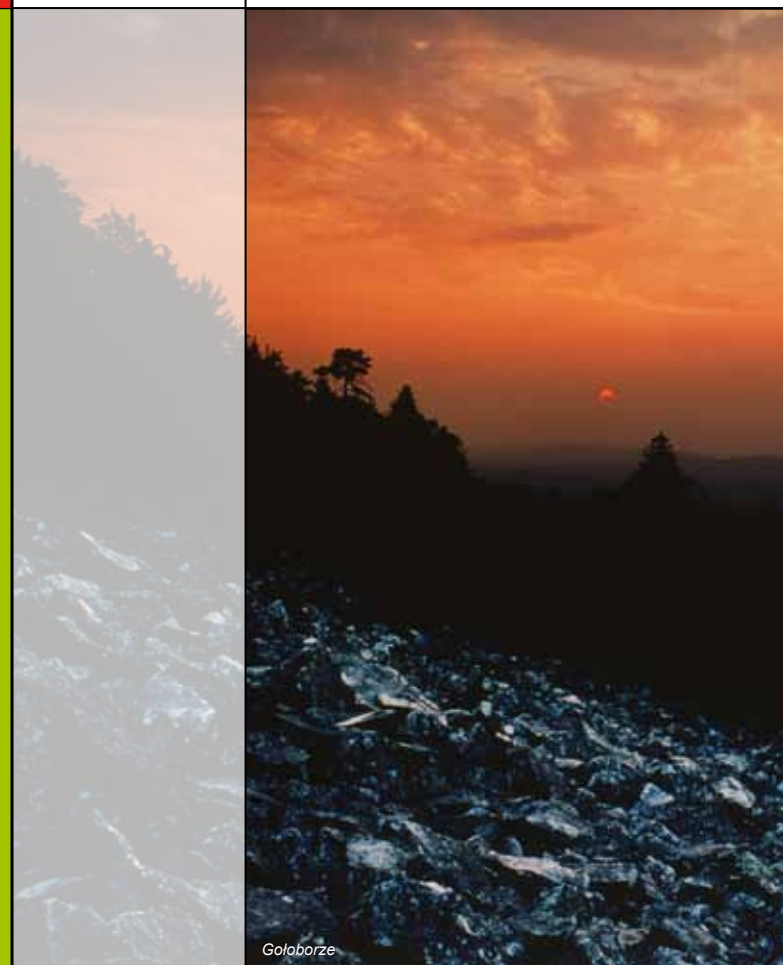
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www.rot.swietokrzyskie.travel



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HIGHLIGHTS OF
THE ŚWIĘTOKRZYSKI
REGION



Goloborze

GEOLOGICAL TREASURES