

## BRIEF ACCOUNT OF THE DEVELOPMENT OF SPELEOLOGY IN SLOVENIA (to 1914)

### KRATEK PREGLED RAZVOJA SPELEOLOGIJE NA SLOVENSKEM (do 1914)

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**Izveček**

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**Andrej Kranjc: Kratek pregled razvoja speleologije na Slovenskem (do 1914)**

Med starejšimi predhodniki speleologov so najpomembnejši Valvasor, Nagel in Hacquet, ter raziskovalci najstarejših turističnih jam (Vilenice, Postojnske in Škocjanskih). V prvi polovici 19. stol. so najpomembnejše speleološke raziskave za iskanje vode za Trst, v drugi polovici pa globokih brezen in velikih vodnih jam na Notranjskem. 1882 ("Slovenski gadje") oziroma 1883 (prve speleološke organizacije v Trstu) pa se prične na Slovenskem čas organiziranega jamarstva.

**Ključne besede:** zgodovina speleologije, Slovenija.

**Abstract**

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**Andrej Kranjc: Brief account of the development of speleology in Slovenia (to 1914)**

The most important predecessors in speleology are Valvasor, Nagel and Hacquet, and the explorers of the first show caves (Vilenica, Postojnska jama, Škocjanske jame). In the first half of the 19th century the most important speleological explorations were those intended to find drinking water sources for Trieste, and in the second half the explorations of deep potholes and big water caves of Notranjsko. In the years 1882 ("Slovenski gadje") and 1883 the period of organised caving activity began.

**Key words:** history of speleology, Slovenia.

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On the territory of present-day Slovenia people have known and used caves since Palaeolithic times. The caves were used as shelters, campsites, stores, for water supply (e.g. Podpeška Jama on Dobrepolje) and as sanctuaries. Among them Sveta Jama (The Holy Cave) is maybe the best example. The martyr Saint Socerb (Servulus) lived in the cave and, soon after he died (24th May 284 AD), the cave was visited as a sacred place and an altar was erected in it (Kranjc 1995).

However we cannot speak about "speleological approach" before the Enlightenment. Our first predecessor of Slovene speleology is J. W. Valvasor (1641-1693) who visited, studied, and published about 70 caverns from Kranjska (Carniola). He published the first cave plan of a Slovene cave - Podpeška Jama in 1687 (Fig. 1) - being, according to our knowledge, the second published cave survey in the Western World. A true "speleological project" were Nagel's investigations in 1748. In his manuscript, the first plans of some of our caves (Postojnska Jama, and Željske Jame near Kočevje) appeared. Although F. A. Steinberg did not take a special interest in caves, his book about Cerknjiško Jezero (1758) is very important for the history of Slovene karst and cave science. In the second part of the 18th century the "scientific discovery" of Proteus by Laurenti (1768) gave new aspect to visiting caves. Hacquet, who lived in Kranjska from 1766 to 1786, was the first man who was scientifically interested in karst and caverns. He was aware that karst features are due to a sort of corrosion and that "karst" (he wrote a native expression "krš" or "karoš") is not limited to the Kras region only. It is a pity that he left Kranjska because of ignorant, hypocritical and religious inhabitants. Gruber was the first who understood (and published in 1781) the hydrology of karst in

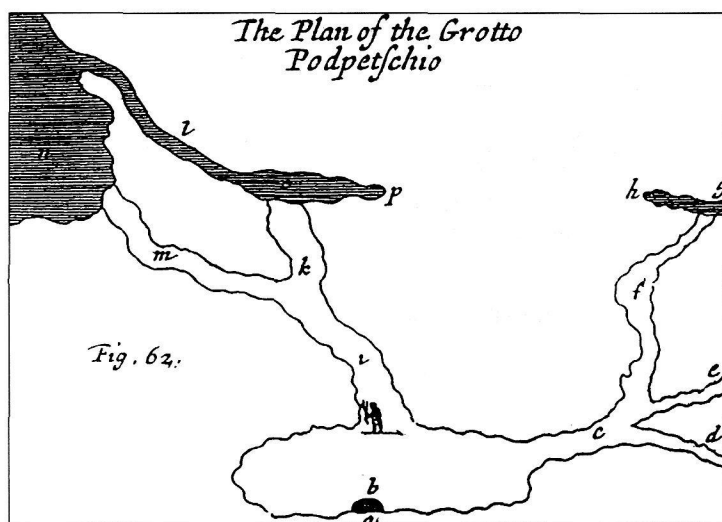


Fig. 1: Valvasor's "Plan of the Grotto Podpetschio" (Podpeška jama), published in *Philosophical Transactions* in 1687.

Kranjska. He was not specially interested in caves, but he visited quite a lot of them and made possible a much better knowledge about our water caves.

Cave tourism was very important too. It had been practised already in different forms (for example a religious one) for centuries. According to documents Vilenica was a “real” show cave already in 1633. At the end of the 18th century the discovery of *Proteus* in Črna Jama (at that time called Magdalena Grotte) aroused new interest in visiting caverns. Postojnska and Škocjanske Jame caves were officially opened as show caves in 1819. The names such as Luka Čeč and Josip Jeršinovič, Tominc and Mahorčič are closely connected with discoveries and display of these caves.

The first half of the 19th century is marked by investigations for the water supply of Trieste; great explorations were carried out in Škocjanske Jame (by J. Svetina in 1839) as well as in deep shafts on Kras by F. Lindner with considerable help of native workers, such as L. Kralj (Jama na Hudem Letu -226 m, Labodnica -329 m). A group of Idrija miners, headed by Arh, formed the “Exploration Commission for Water and Shafts above Trieste” (Savnik 1961). Although the exploring technique was such as in mines, we can speak about the great speleological achievements of the period. When they reached the bottom of Labodnica (1841), this pothole kept the world’s depth record for nearly 70 years (Shaw 1961).

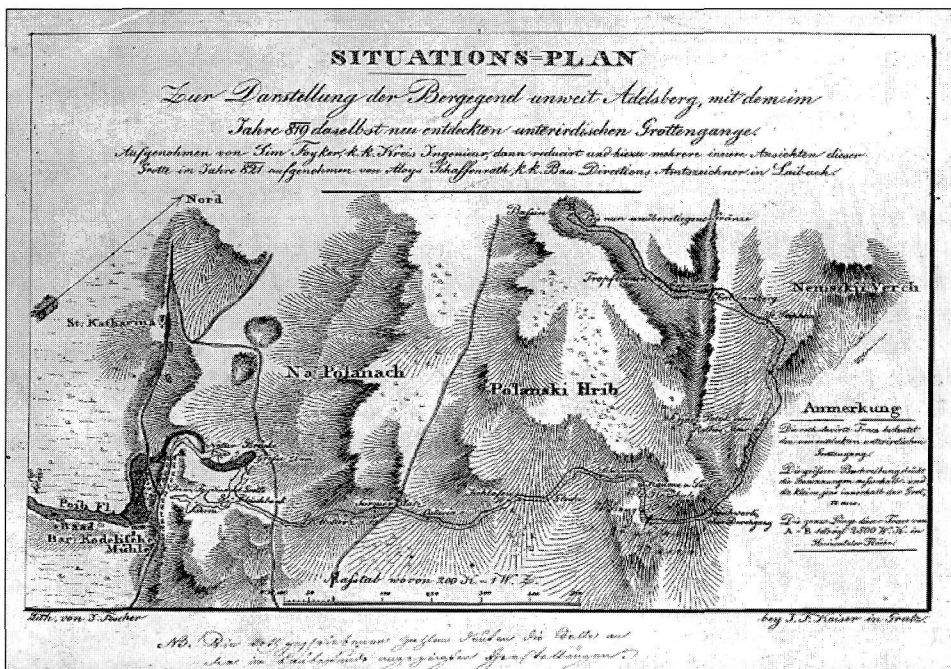


Fig. 2: Schaffenrath's 1821 plan of Postojnska jama from the year 1821.

The first half of 19th century can be considered as the time when real speleology developed in Slovenia, from the technical as well as of the scientific point of view, with important contributions by Slovene speleologists. Besides the above achievements in Labodnica, discoveries in water caves were also very important: J. Cerer's at Križna Jama (1825) (Zörrer 1838), G. Kebe at Velika Karlovica and Zelške Jame (1844) (Kebe 1860) and A. Urbas at Planinska Jama (1847-48) (Urbas 1849). Luka Čeč discovered the inner parts of Postojnska Jama in 1818 and the first plan was made by A. Schaffenrath in 1821 (and the next one by A. Fercher in 1834) (Fig. 2). Among scientific achievements, Hohenwart's paleontological excavations in Postojnska Jama (1830 - 1836) must be mentioned. They were continued by H. Freyer of Ljubljana museum, who explored caves in different parts of present-day Slovenia, including ice-caves on Trnovski gozd and caves in the Alps. Also Hohenwart's guide-book to Postojnska Jama (1830) can be regarded as a speleological monograph. With the discovery of the first cave beetle in Postojnska Jama by L. Čeč, the new study, speleobiology, started.

The second half of the 19th century may be regarded as the classical period of speleology in Kranjska. It began with Schmidl's explorations in the fifties, helped by the cave-surveyor I. Rudolf and Idrija miners. Due to his achievements underground Schmidl is often called "the father of modern speleology" (Shaw 1978), but for Kranjska karst his book "Die Grotten und Höhlen von Adelsberg, Planina und Laas..." (1854) is the most important. Schmidl's description together with additional chapters by other specialists on mineralogy and spelobiology, places the book among the true speleological monographs.

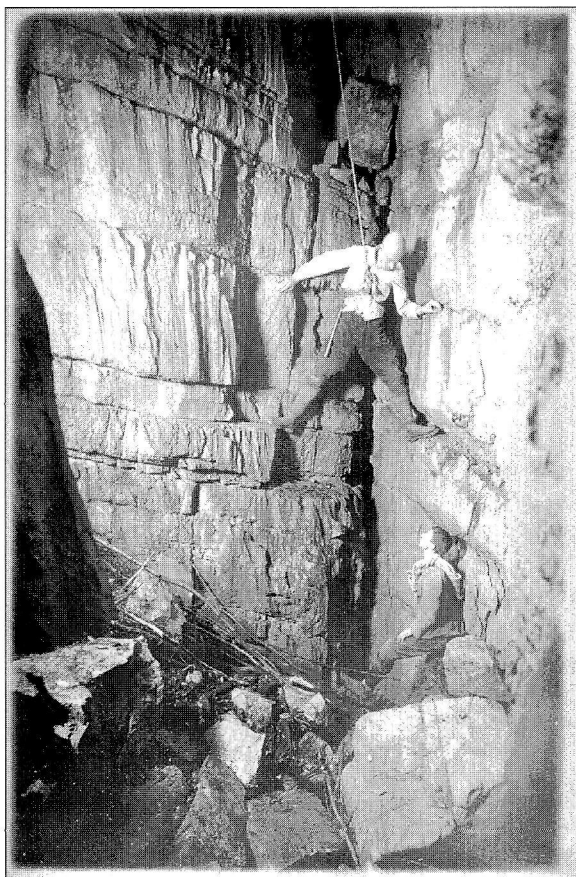
The speleological investigations were carried out mostly in two regions: on the Primorski Kras (Littoral Karst) and in Notranjsko (Inner Carniola). In Notranjska, besides Schmidl's explorations, the explorations of W. Putick must be mentioned. His first big achievement was the descent to the Gradišnica pothole near Logatec in 1886 (Schmidl did not succeed in this) (Putick 1887), later his explorations and flood control works in water caves between the karst poljes of Lož, Cerknica and Planina were a great success (Kranjc 1995a).

Schmidl explored caves in the Primorski Kras too. In a later period the discovery of Divaška Jama (1867) must be mentioned, the explorations of Škocjanske Jame after 1884 (by members of the "Abteilung für Grottenforschung" of the "Section Küstenland d. DÖAV" at Trieste) and the descent into the 200 m deep entrance of Kačna Jama shaft in 1889 (Pazze 1893). F. Kraus was maybe not so important a the field researcher but he was the initiator of the first Austro-Hungarian speleological society, and important for E. A. Martel's visit and explorations of the karst of Primorska in 1893.

Martel's 1893 exploration of Postojnska Jama (the boat descent downstream on underground Pivka river) is a good example how important the caves of Carniola were for the history of speleology (Martel 1894). Court Counsellor von Hauer came from Vienna to Postojna to introduce Putick to Martel and

Kraus. While Martel was exploring down the Pivka river, helped by the Postojna cavers from the speleological club "Anthon" and by the cave guides of Postojnska Jama. Kraus with his team was at the entrance to Postojnska Jama and Putick were awaiting them at the entrance to Magdalena Jama.

The end of the last century is the time when organised speleology was born and karst of Kranjska was soon included: the Verein für Höhlenkunde was founded in 1879 at Vienna, largely due to Kraus' efforts. The Society's sections at Postojna and Planina were foreseen too by Kraus from the beginning. Kraus friends reported about 50 members. But instead, the Anthon society at Postojna was founded in 1889, thus being the first speleological organisation in the territory of today's Slovenia (Kranjc 1988). In the Jama cave near Predjama, is an inscription on the cave wall far away from the entrance: "Slovenski Gadje 21/V 82" (Slovene Vipers) - maybe the predecessor of Anthon. Kraus was also in some way the founder of the Slovene cave register. Before he died he permitted O. Gratzy to publish a part of his cave data, the



data of the caves from Carniola (1897). The whole collection he willed to Martel (for the Société de Spéléologie) and after Martel's death, I am sorry to say, all the material was dispersed to collectors in France and elsewhere.

But already in 1883 at Triest two speleological organisations had been formed: "Abtheilung für Grottenforschung des Section Küstenland des Deutschen und österreichischen Alpenvereins" and "Commissione Grotte della Società Alpina delle Giulie", both having the karst of Kranjska as a field of their explorations. In 1893 the

*Fig. 3: Caving technique from the beginning of the 20th century (Mačkova jama above Dobropolje) (Photo B. Brinšek).*

“Slovensko planinsko društvo” (Mountaineering Society of Slovenia) was founded and some of its sections (Ajdovščina, Luče, Radovljica, and Trst) immediately started to explore caves too. Before 1900 a caving club existed at Kočevje, probably directly linked with the Vienna’s “Verein” but details about it and its work have still to be searched. In 1909 I.A. Perko came to Postojna as the secretary of the Postojnska Jama administration. He tried to make Postojna “the world’s speleological centre” by combining tourism (Postojnska Jama), culture (speleological museum) and science (speleological institute). Postojnska Jama became world famous in this period, the speleological institute was founded at Postojna in 1929, and we are still hoping to get the speleological museum.

Perko and Putick are among the founders of the “Društvo za raziskovanje podzemeljskih jam na Kranjskem” (Society for investigation of underground caverns in Carniola) at Ljubljana in 1910, which marked the beginning of the present-day Speleological Association of Slovenia and thus “the modern times” of speleology in Slovenia. The nucleus of the society was “speleological section” consisting of the members of the mountaineering group “Dren”, where specially Brinšek, Cerk, Kunaver and Michler became well-known Slovene caving pioneers (Fig. 3) (Habe & Kranjc 1981).

The First World War did not only bring fundamental changes regarding the territory and national life of Slovenes, but it also marked an important change and a hiatus in speleological activity.

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## **KRATEK PREGLED RAZVOJA SPELEOLOGIJE NA SLOVENSKEM (DO 1914)**

### **Povzetek**

Čprav so bile jame na današnjem Slovenskem ozemlju znane in obiskovane že od starejše kamene dobe, o speleoloških raziskavah ne moremo govoriti pred Razsvetljenstvom. Med starejšimi predhodniki speleologov je najpomembnejši Valvasor, ki v svojem delu "Slava vojvodine Kranjske..." (1689) omenja okoli 70 jam in je nekatere tudi v resnici raziskoval. Pravi "speleološki projekt" je Naglovo (po cesarskem naročilu) raziskovanje naših jam 1748. Poleg Hacqueta (na Kranjskem je živel 1766-1786), ki je že spoznal, da "kras" ni samo na "Krasu" in da je kras rezultat raztapljanja apnenca (korozijske), je treba omeniti še Steinbergovo delo o Cerkniškem jezeru (1758), Laurentijev opis Proteusa (1768) in Gruberjeva (1781) "pisma" o kraški hidrologiji.

Za zgodovino speleologije je tudi zelo pomemben jamski turizem. Tako je bila Vilenica turistična jama že vsaj 1633, Postojnska in Škocjanske jame pa so bile uradno odprte 1819. V zvezi z njihovimi raziskavami omenjam Luko Čeča, Jeršinoviča, Tominca in Mahorčiča.

V prvi polovici 19. stol. so bile najpomembnejše speleološke raziskave namenjene iskanju vode za Trst. Do podzemeljske Reke so skušali prodreti skozi Škocjanske jame (Svetina 1839) in skozi globoka brezna. Pri tem so prodrli 1841 (Lindner) do dna 329 m globoke Labodnice, ki je ostala najgloblje znano brezno na svetu še okoli 70 let. V tem času se je v Sloveniji razvila speleologija tako s tehničnega kot z znanstvenega vidika. Takrat so raziskovali velike jame, kot je Križna (Cerer 1825), Velika Karlovica in Zelške jame (Kebe 1848) ter Planinska jama (Urbas 1847-48). Čeč je odkril notranje dele Postojnske jame (1818) in v njej našel tudi prvi primerek jamske kopne favne (1831); Schaffenrath, Fercher in Hochenwart so merili in izkopavali v Postojnski jami, Freyer pa je raziskoval tudi ledenice in alpske jame. Druga polovica 19. stol. je "klasična doba" speleologije na Slovenskem. Začela se je s Schmidlovimi raziskavami (1850-1854), vrh pa dosegla s Putickovimi odkritji in Martelovim podvigom v Postojnski jami (1893). Izredno zahtevne so bile raziskave Škocjanskih jam (od 1884 dalje) in Kačne jame (od 1889).

Morda bi lahko za začetek organiziranega jamarstva v Sloveniji šteli obisk (1882) "slovenskih gadov" Jame pri Predjami, o čemer sicer ni dosti znanega.



Na vsak način je pa to leto 1883, ko sta bili v Trstu ustanovljeni skupini "Abtheilung für Grottenforschung des Section Küstenland des Deutschen und Österreichischen Alpenvereins" in "Commissione Grotte della Società Alpina delle Giulie". 1889 je bilo v Postojni ustanovljeno prvo pravo slovensko jamarsko društvo "Anthon". 1893 je nastalo Slovensko planinsko društvo, katerega sekcije so se takoj lotile tudi raziskovanja jam. Društvo za raziskovanje podzemeljskih jam na Kranjskem (jedro raziskovalcev so sestavljali Drenovci), ustanovljeno 1910 v Ljubljani, pa je že neposredni predhodnik današnje Jamarske zveze Slovenije.