

## ADOLF SCHMIDL AND HUNGARY

Sándor Hadobás

The birth of a given branch of science and its individual development can not be connected with a concrete date of a certain person, however, there are exceptions in this concern, as well. Speleology can be brought up as an example, the foundation of which is to be ascribed to the 1850-es and indisputably must be linked with the name of *Adolf Schmidl*.

This outstanding scholar had the typical fate characteristic of the 19th century Middle-Europe. He was born on the 18th of May 1802 in the Czech Königswart as a son of German-speaking parents; his successful carrier ended on Hungarian land on the 20th of November 1863; and eventhough history of science registers him as an Austrian geographer, though, first, he studied liberal arts. Another special feature of his activity is that he was nearly 50 years old, when his interest definitely turned to caves. People at such an age would dream of calmness and peaceful old-age – instead, Schmidl made up his mind to carry out tiresome underground ways of discovery.

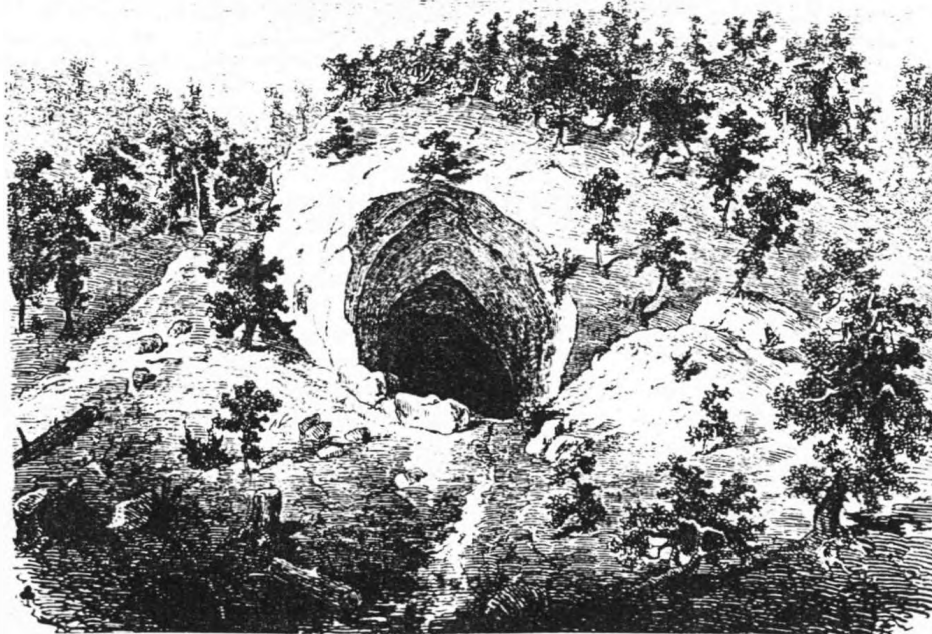
His life, scientific activity, his outstanding role played in the development of speleology was spoken about in other papers (*SHAW 1978, 1979; HADOBÁS 1988*). This time we shall examine the *Hungarian connections* of his activity covering the whole Austro-Hungarian Monarchy.

Hungary, because of its extension, number of population and economic power, played an important part in the Habsburg Empire of many nationalities. Most probably Schmidl had heard of Hungary already at a young age, and perhaps he even visited the country several times. However, Hungary arose his interest, that is proved by the fact that he dealt with Hungary in one of his early topographical works (*SCHMIDL 1835*). His attraction towards caves can be traced already in this book; he devotes a special chapter to the *Baradla* under the title: "Aggtelek". According to his own statement, it was worked out on the basis of a description published in the *Tudományos Gyűjtemény 1820*, 1. issue by an unknown author (today it is known, that the paper was written by *Pál Almási*

*Balogh*). Otherwise, it is most probable, that the greatest part of his book was written on the basis of literary sources, as, by then, he did not make a longer visit to Hungary when he could have collected local data.

Schmidl led his first significant speleological expeditions to the Karst Mountain in Krain (Carniola) between 1850 and 1853. His monograph of fundamental importance was a result of these travels (*SCHMIDL 1854*); according to E. A. Martel this book is the *real starting point* of speleology, and the author of it is the *founder* of this branch of science and of scientific cave research. Later, his interest turned more and more to science the karst regions of Austria and especially of Hungary, where based on his experiences of Krain (Slovenia) he carried out a pioneering work in surveying and researching of caves.

In Hungary, first he visited the Gömör-Torna Karst; between 12th and 18th of August 1856 he examined thoroughly the two famous caves of the territory: the *Baradla* of Aggtelek and *Lednice* of Szilice (Silická ľadová jaskyňa, Slovakia). He presented the results of his research at the Academy of Sciences of Vienna on the 16th of October, and in November the published version of his lecture was already accessible to those interested (*SCHMIDL 1856*). It is *one of the best descriptions* of the *Baradla* unto this day, and in several respects it suits the specifications of up-to-date scientific demands. It summarizes the knowledge up till that time concerning the cave adding the personal observations of Schmidl. In the general survey he presents the environment of the *Baradla*, the karst phenomena of the territory and makes a comparison with foreign caves. He states that as for length it is preceded only by the American Mammoth Cave. He speaks about the *fauna* in more detail and sketches out the history of the discovery of the cave. A special chapter is devoted to the *meteorological conditions* comparing his own data with earlier ones. Further the detailed *topographical description* of the cave is given, where he takes Imre Vass's work for



*Spectacular entrance of Meziad Cave ("Vasárnapi Újság" 1859. 14.)*

basis (*I. VASS 1831*). Names are given both in German and in Hungarian. He presents the lateral galleries, too, altogether eight ones. However, he discussed the Ice Cave of Szilice only on two pages. At the end of the book he gave the literature on the Baradla, not only enlisting the titles, but with a critical comment on the data. It shows, that the author knew the written sources concerning the cave. The value of the work is proved by the fact that a book in Hungarian of similar level was published only after seven decades (*E. DUDICH 1932*).

The life of Adolf Schmidl was bound finally to Hungary since 1857. This time he was appointed professor of commercial geography and statistics at the József Polytechnic at Buda (foregoer of the present-day University of Technical Sciences of Budapest). Some say that he was relocated here from Vienna – where he was an associate professor – at his own request, as during his researches he has become fond of the Hungarian land and people. At an old age he began to learn Hungarian and he was so successful, that soon he was able to read and write (teaching was in German at that time). He had reputation and sympathy among his colleagues. It is remarkable, as soon after the suppression of the Hungarian revolution and war of independence of 1848–49 and the revenge following it resulted in a living anger in the Hungarian people against Austrians.

Resettling in Buda, besides the work at the University Schmidl has become an active participant of the cultural life of the town (and of the other one on the opposite side of the river Danube, Pest). He read

popular scientific *lectures* about the caves of the Monarchy; a collection of the texts of these lectures was published (*SCHMIDL 1858*).

The most important result of Schmidl's years spent in Hungary is his researches in the Bihar Mountains. Between 1858 and 1862 he led several expeditions to the nearly undiscovered territory full of caves and karst phenomena that was interesting from several other points of view, too. Some scientists helped him in his work, A. Kerner (Innsbruck), a botanic, K. Peters, a geologist (Vienna), and J. Wastler, a geomechanician (Graz) are worth mentioning from among them.

The Bihar Mountains (Munții Bihorului, Rumania) is the central heart of the Transylvanian Middle Mountains (Erdélyi-középhegység or -szigethegység, Munții Apuseni). It is 74 km long in North–South direction and it is 34–36 km in width. Its territory is about 2,500 km<sup>2</sup>. The highest peak of it is the *Nagy-Bihar* (Great Bihar, Cucurbata Mare, 1,849 m). Three masses of it composed of limestone covers 346 km<sup>2</sup> in a height of 1,200–1,450 m.

Schmidl together with his colleagues carried out a complex research of the Bihar Mountains from several points of view: that of geology, ethnography, etc. (It was Schmidl, who for the first time named the several smaller-bigger mountain groups collectively as Bihar Mountains). The results of their efforts were published in an excellent book in German. Unfortunately, it was not translated into Hungarian, yet, so it could not become well known among the public. Characteristically enough, the monograph of Bihar County published on turn of the century does not mention at all

the work or its author (the Bihar Mountains mostly belonged to this county that time).

Caves and karst phenomena are presented on about 65 printed pages in the book. Bihar was not completely unknown earlier from this point of view, either, however, after insignificant and occasional researches (e.g. J. Petényi Salamon and J. Kovács, 1854) it was Schmidl, who for the first time carried out regular exploring work covering the whole area of the mountains. The first description of most of the caves and the discovery of some of them are linked with his name.

Passages of the book "Das Bihar-Gebirge..." that are interesting from speleological point of view are the following:

1. Among the general chapters he gives a short summary of the caves of Bihar Mountains (Höhlenbildungen p. 29–33). He distinguishes two groups of them: the "broken in" or "fallen in" caves (Einbruchshöhlen) and the "broken out" or "fallen out" caves (Ausbruchshöhlen). Ten of the previous ones and nineteen of the latter ones are enlisted and tables are given of them.

2. When speaking about the hydrography of the mountain he enumerates the karst springs, too. A special chapter with colour pictures is devoted to the spring Dagadó-forrás of Kalugyer (Izbucul de la Calugari); the best description of it is given herein. In 1860 Schmidl visited this temporary karst spring and thought it to be the most scenic spot of the Bihar Mountains. It got its name from a phenomenon, namely that from time to time water in its shaft "swells" i.e. rises and suddenly flows out. The phenomenon is based on the activity of an inner siphon. In spring, or on rainy days the outbreak is more frequent, however in dry periods it may completely fail to happen.

3. Presenting the fauna he makes special mention of the cave fauna (p. 113–114). On the basis of J. Frivaldszky he publishes lists of fauna from three caves (Fonáca, Fericse, Oncsásza). He mentions the caves containing prehistoric animal bones stating that the Fonáca Cave and the Oncsásza Cave are the most interesting from this point of view.

4. In the topographical description of the mountain he presents the most important known caves and writes about the karst phenomena in great detail.

a) *Meziad Cave* (Höhle von Mezged, Peștera Meziadului, p. 195–205.) – It is famous for its remarkably huge entrance – 16 m high, 10 m wide regular vault, that according to Schmidl is the most beautiful, most impressive of all the caves of the Monarchy. That time nice dripstone formations were to be found at several places in its double levelled galleries that sometimes coming together meet through holes. It had several lateral galleries. Today its known length is 4,750 m.

b) *Oncsásza Cave* (Peștera Onceasa, p. 227–229.) – As for the lack of dripstones it seems dreary to the

visitor. It is famous for the great number of animal bones thought to be the remains of dragons by the Rumanian inhabitants of the neighbourhood.

c) *Fericse Cave* (Peștera Fericse) and *Kiskoh Cave* (p. 230–232). – The previous one is a 260 m long cave with a brook decorated with dripstones here and there; it is also a classical palaeontological place of discovery. The Kiskoh Cave – impossible to identify today – has three entrances, however it is also short and there is nothing to see in it except for some nice dripstones.

d) *Valley, cave and waterfall of the Pulsa (Bulz) brook*, with a colour picture of the waterfall (p. 232–235). The cave, perhaps, can be identified with the today's Peștera Dracului (Sárkány-barlang?)

e) *Zapogye Ice Cave* (Ghețarul de la Zăpodie) (p. 242–243) – discovery of Schmidl. During one of his expeditions in Belényes (Beius) Schmidl got to know that a local confectioner makes ice-cream for the holiday of St. Stephan (20th of August) and he needs ice for it. He asked where they got the ice from? It was related that Rumanians brought it from somewhere the mountains. They found the ice transporter, who led Schmidl through a thick native forest to an ice cave. The entrance of it opened at the bottom of a 20 m high rock. Today it is known as long as 10 km. It is difficult to walk in it.

f) *Cave of Archduke Albrecht* (Erzherzog Albrechts-Höhle, Peștera Corbasca) (p. 257–260) – Its impressive entrance is 13 m wide and 12 m high, however, the cave itself is insignificant, altogether 80 m long. Schmidl named it after archduke Albrecht.

g) *Fonáca dripstone cave* (Peștera de la Fináte) (p. 260–266) – It is known for long. E. Nedeczky published a book of it in Latin in 1774. It is only 270 m long, one levelled; it is easy to walk in it. Its beautiful dripstones of former times were destroyed.



The famous Kalugyer karst spring, Izbucul de la Calugari ("Vasárnap Újság" 1861. 15.)



h) *Bihar Gate* (Porțile Bihorului) (p. 266–268) – Actually, it is a fallen out cave, with a regular, 10 m wide and 9 m high entrance, a colour picture of it is also published by Schmidl.

i) *Szkerisóra (Aranyosfő) Ice Cave* (Ghețarul de la Scărișoara) (p. 289–294). – Schmidl and Peters visited the place on the 25th of September 1858. The cave is situated at 1,150 m height. Its entrance opens at the bottom of a 48 m deep shaft that is 20 m wide at an average. The cave is 700 m long, the quantity of ice in it is estimated to be 73 thousand m<sup>3</sup>. There are dripstones at certain places. In Schmidl's opinion there is no ice cave that could be compared to the one at Szkerisóra; especially the ice formations in the last hall are incomparably beautiful.

j) *Kimpanyászka Cave* (Peștera Cimpeneasca) (p. 296–300) with a colour picture. – It is a sinkhole cave near the village Vaskoh (Vașcău). A small brook flows in its huge rock gate that in spring, at the time of melting of the snow rises and grows nearly a river. The water falls down to a 35 m deep shaft, the explored part of the entrance is 40 m high in the beginning, then it is gradually is growing narrow. According to Schmidl it is the most special sump of the whole Monarchy.

k) *Source of the Körös* (Höhle bei der Körös-Quelle, Fekete-Körös eredete, Izvorul Crișului Negru) (p. 268–269). – Schmidl visited it in 1858, it was the most beautiful example of spring caves. Unfortunately, it has become the victim of modern times, as it was closed in order to save water supply for the neighbourhood.

At last, on the Tables of drawings – supplements of the book – the plans and sections of several caves (Szkerisóra, Meziád, Oncsásza and Fonáca) are given on the basis of J. Wastler's surveys.

Unfortunately, the author did not live to see the unanimous professional appreciation that his book met with, as a month after the publication of "Das Bihar-Gebirge..." he suddenly died.

The Mecsek Mountains' karst near the town Pécs – that is less significant compared to the previously surveyed areas – did not escape the attention of Schmidl, either. In 1862 he visited the *Abaliget Cave* here. It has arisen the interest at home and abroad alike following the publication of V. Kölesy (Tudományos Gyűjtemény 1820). Schmidl in his lecture read at the Academy of Sciences of Vienna (on the professional session of 23th of July 1863) dealt with the plan of the cave, with its fauna and spoke about the results of his excavations (SCHMIDL 1863b).

Probably, his last work was the unfinished study written on the thermal springs of Buda (SCHMIDL 1863c).

His death deeply affected all those who knew him. Obituaries published in contemporary papers emphasized that "until his last moment he remained faithful and true son of the country that he regarded as his

second motherland" (G. SCHMIDL 1863). He was buried in Buda; however, the cemetery, where his mortal remains rested was closed down and his grave was destroyed before it could have become protected. So, the late awoken succeeding generations can show honor only to the memory of "the father of speleology".

In spite of his many-sided activity Schmidl was counted to be a *speleologist* already in his age. In professional circles he was called "Höhlen-Schmidl". His obituaries also emphasized his speleological activity. However, later he seemed to be forgotten. His name does not occur in the new Hungarian encyclopedias. The universal significance of his activity was not mentioned in Hungary till recent times (though, as a result of his activity, Hungary – besides Austria and Slovenia – can be regarded as the "cradle of speleology"). Especially, his study on the Baradla preserved his name till our days. It is worth mentioning, that E. DUDICH in his book published in 1932 devoted a page for his personality. Later authors mostly quoted him.

A delicate sympathetic man looks at us from the appended drawing. His happy face suggests force, calmness and self-confidence. These characteristics helped him to become an enthusiastic speleologist after the meridian of his life, and to lay the foundation of a new branch of science with a 13 years' long devotional work not devoid of danger and physical trials. Let us remember him with honors due to the great forefathers.

Sándor Hadobás  
Rudabánya  
Postafiók 20  
H-3733  
HUNGARY

## REFERENCES

- DUDICHE. (1932): Az Aggteleki cseppkőbarlang és környéke – Budapest, 186 p.
- HADOBÁS S. (1988): Schmidl Adolf (1802–1863) – *Karszt és Barlang*, 1. 37–42. p.
- SHAW, T. R. (1978): Adolf Schmidl (1802–1863) the father of modern speleology? – *International Journal of Speleology* 10. 253–267. p. (With complete bibliography of Schmidl's works.)
- SHAW, T. R. (1979): History of cave science – 48–51. p., *Crymch.*
- SCHMIDL, A. (1835): Reisehandbuch durch das Königreich Ungarn... – Wien, XII. 600. (1) P.
- SCHMIDL, A. (1854): Die Grotten und Höhlen von Adelsberg, Lueg, Planina und Laas. Band I.: Text; Band II.: Atlas – Wien
- SCHMIDL, A. (1856): Die Baradla-Höhle bei Aggtelek und die Lednica-Eishöhle bei Szilítze im Gömörer Comitate Ungarns – *Sitzungsberichte der mathem.-naturw. Classe der kais. Akademie der Wissenschaften* – 22 (2), 579–621. p., 1857: 45 p. Wien.
- SCHMIDL, A. (1858): Die österreichischen Höhlen. Eine geographische Skizze – Pesth, 27 p. (The Author's name on the title-page is wrong: "Schmiel").
- SCHMIDL, A. (1863a): Das Bihar-Gebirge an der Grenze von Ungarn und Siebenbürgen – Wien, XVI. 442 p.
- SCHMIDL, A. (1863b): Die Abaliget-Höhle. – *Sitzungsberichte...*, 48 (4), 346–360. p., 1863: 15 p., Wien.
- SCHMIDL, A. (1863c): Die Ofner Thermen – *Oesterr. Revue, Wien*, [1] (6), [283]–287. p.
- SCHMIDL G. (1863): Schmidl Adolf – *Vasárnapi Újság, Pest*, 10 (51). 462. p.