

## AN ACCOUNT ON STUDY EXCHANGE WITH FRANCE 1993

Due to the tradition since 1979 this year too the researchers of the Karst Research Institute ZRC SAZU have taken part at the scientific technical cooperation with France, more precisely URA 903 CNRS (Aix-en-Provence), Laboratoire souterrain du CNRS (Moulis).

The visit lasted from October 11 to 19, 1993 and was realized by two geologists mag. Martin Knez and mag. Stanka Šebela. In the first part we visited, guided by prof. J. Nicod and under the authority of prof. J.J.Blanc the caves Grottes de Baudinard in the Verdon canyon. In the Baudinard canyon's profile four levels of the cave systems may be observed. In these caves J.J.Blanc (1992) studied the speleogenesis in respect to tectonic laws.

In one of these caves, in the Grotte de l'Eglise namely, the prehistoric symbols in the roof solution cups were discovered presenting the sun, stars respectively. The age of these signs is postglacial.

Our voyage continued to Montpellier where we were hosted by the Ambert family. We discussed the possibilities for common french-slovene cooperation in future.

Near Montpellier and at St. Guilhem le Désert dr. P. Ambert presented us his studies on travertines which is the study topic of several researchers in France.

The second part of study voyage was spent in Pyrénées. In small village named Moulis lies world famous Laboratoire souterrain du CNRS where they breed the famous slovene proteus. Within the area of karst hydrogeology and chemistry we got a lot of new knowledge from dr. A. Mangin and dr. M. Bakalowicz who accepted us kindly and presented us their work. D. d'Hulst presented the computer aided program for big data bases (t, CO<sub>2</sub>, humidity, pressure) from the Grotte de Gargas where they monitor the impact of tourist visits on the prehistoric paintings.

The biologist R. Rouch presented us interesting assessment of hydrogeology and biology in the karst aquifers confirming the same bases of the karst system.

In Moulis the director M. dr. C. Juberthie presented the cave-laboratory where they daily observe the cave animals from all over the world. A special attention is paid to proteus. We visited the cave Mas d'Azil through which the road goes. We also visited the entrance to the cave Niaux where are the most famous prehistoric paintings.

Our kind hosts enabled our visit to a part of the Système de la Cuomo d'Hyournedo which is the longest french cave, 130 km and among the deepest (- 1004 m). The labyrinth of the passages and potholes remains one of the speleologically the most promising systems. The caver and the guide, P. Durand who is in charge of the caving hut Maison du Gouffre dans le Labaderque village, a little northwards from Arbas, guided us for one hour by foot to one of the 40 entrances, called Grotte de pène Blanche (930 m a.s.l.). This cave is a system of horizontal passages and potholes. In three hours we only got a general impression about the cave labyrinth where is quite easy to be lost. The horizontal passages are former phreatic channels actually filled up by the old cave sediments but also the areas with the moon-milk.

The Arbas-Paloumère massif, where the cave developed, was uplifted and it still does today (6-8 mm/10 years). It is built by the limestones and dolomites from Liassic to Jurassic

and by the limestones of the Urganian age (K). An important fault is “north-Pyrenean” having the direction E-W. Along the parallel satellite fault, probably in Triassic, the characteristic pyrenean rocks outcropped from the earth crust - called “Iersolite”.

In future scientific-technical cooperation with France we expect more common work within the problematics of the travertines namely the comparison and complement of the Slovene cases with these from France.

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