
Preface

Thanks to the successful cooperation with companies and institutes in charge of planning and building motorways, i.e. the Motorway Company of the Republic of Slovenia (DARS), the Engineering Company for Public Roads that was renamed DRI Investment Management and colleagues from the former Institute for the Protection of Natural and Cultural Heritage of Slovenia—the Nova Gorica Regional Office and the Institute of the Republic of Slovenia for Nature Conservation—the Nova Gorica Regional Unit, karstologists are able to study and record fascinating karst phenomena discovered in the course of motorway construction, which represent an important part of the Slovenian natural and cultural heritage. Furthermore, such collaboration enables up-to-date application of the fundamental knowledge of karstology to the planning of life in this sensitive region.

During construction, the earthmoving works have revealed a cross-section of the original karst surface, of the low and mostly covered karst of the Dolenjska region featuring subsoil stone forests and of the unique karst that can be observed in the breccia of Vipavska dolina (Vipava Valley). Over 350 new caves were opened in the karst region, including unroofed caves.

Research results have led to a number of new findings on the manner of the karst surface and underground formation, on the flow of water through the karst aquifers and on the evolution of our karst on various types of rocks and in various conditions.

The first part sums up the research results obtained during construction on the Classical Karst, newly discovered karst phenomena, research of sediments and flowstone, and dating thereof. It continues with presentation of construction on low and covered karst of the Dolenjska region and on the breccia of the Vipava Valley. The next section is dedicated to the planning of traffic roads. The book concludes with studies on karst waters, their protection and biological characteristics.

It is our aim to preserve as many karst phenomena as possible, which is quite a challenge given that many caves are hidden beneath roadways and behind the rims of tunnels.

The collaboration described above can serve as an example for planning and implementing various activities in the karst landscape, for familiarization with and for protection of the Slovenian natural and cultural heritage.

The book was written by researchers of the ZRC SAZU Karst Research Institute. Most of the authors also teach the Karstology doctoral study programme at the University of Gorica Graduate School and are members of the Unesco Chair on Karst Education. The study findings are effectively used in planning and implementing the programme in terms of the course content covering the development of caves and karst aquifers as well as development challenges on the karst.

Leon Drame, Franjo Drole and Jure Hajna took part in the field research and the compilation of documentation, and Mateja Zadel helped with laboratory work. Matters of administration were handled by Sonja Stamenković.

The palaeomagnetic research concerning the age of the cave sediments was conducted in collaboration with colleagues from the Institute of Geology, Academy of Sciences of the Czech Republic. The subsoil shaping of the karst surface was developed also within the Yunnan University International Joint Research Centre for Karstology and the Yunnan International Karst Environmental Laboratory.

Technical and text editing was provided by Alenka Možina, and translations by Milena Djokić, Andreja Golob, Darja Mevlja and David Bošković. Pictures were made by Iztok Sajko and Tamara Korošec.

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