

● **BAR IS 1655, 2007: *Proceedings of the XV World Congress UISPP, Vol. 14; On Shelter's Ledge: Histories, Theories and Methods of Rockshelter Research / Prés du bord d'un abri: Les histories, théories et méthodes de recherches sur les abris sous roche.* Proceedings of the XV World Congress (Lisbon, 4-9 September 2006) / Actes du XV Congrès Mondial (Lisbonne, 4-9 Septembre 2006) Vol. 14, Session C54**, edited by Marcel Kornfeld, Sergey Vasilšev, and Laura Miotti. ISBN 9781407300917. £35.00. vi+199 pages; illustrated throughout with figures, maps, drawings and photographs. Papers in English and French.

Session 54 in the proceedings of the XV World Congress of the International Union for Prehistoric and Protohistoric Sciences (UISPP / IUPPS), held in September 2006, in Lisbon. Session 15 is concerned with recent rockshelter research. Contents: 1) Introduction: Variation, Continuity and Change in Rockshelters and Rockshelter Studies: A Global Perspectives (The Coordinators); 2) Rockshelters of the Périgord: 25 Ans Aprčs (Jean-Philippe Rigaud); 3) Approaches to the Middle Paleolithic Rockshelter and Cave Research in Croatia (Ivor Karavanić, Nikola Vukosavljević, Rajna Šošić, and Sanjin Mihelić); 4) Archaeological Research in Rockshelters and Caves in Slovenia (Martina Knavs); 5) 125 Years of the Rockshelter Studies in Russia (Sergey A. Vasilšev); 6) Desert Caves and Rockshelters in the Great Basin of North America (C. Melvin Aikens); 7) Rockshelter Archaeology in the Middle Tennessee Valley of North America (Boyce Driskell); 8) Rockshelter of the Middle Rocky Mountains: 70 years of research (Marcel Kornfeld); 9) A Century of Basketmaker II Rockshelter Research in the American Southwest: the Archaeology of Transition to Farming Across the Colorado Plateau (Francis E. Smiley and Susan Gregg Smiley); 10) Subterranean Caves, Their Morphology and Archaeological Content: The Mortuary Caves in Coahuila, Mexico (Leticia González Arratia); 11) Rockshelter Studies in Southwest Iberia: The Case of Vale Boi (Algarve, Southern Portugal)(Nuno Bicho, Mary C. Stiner, Delminda Moura, and Armando Lucena); 12) Early Tardiglacial Human Uses of el Mirón Cave (Cantabria, Spain)(Lawrence Guy Straus and Manuel González Morales); 13) Answer to the Problem of the Diachronic and Synchronic Relationship of Arqueopaleontological Elements in Sites with Homogeneous Sediments in the Middle-Pleistocene: The Example of Gran Dolina, Sierra de Atapuerca (Rosana Obregón and Antoni Canals); 14) Stratigraphie et Chronologie an Archéologie Préhistorique (Françoise Delpeche) ; 15) Caves and Rockshelters of the Trieste Karst (Northeastern Italy) in Late Prehistory (Manuela Montagnari Kokelj); **16) The Secret Cave City Hidden in the Cliffs (Lovranska Draga Canyon, Istria, Croatia)(Darko Komšo and Martina Blečić)**; 17) Reflections on the Takarkori Rockshelter (Fezzan, Libyan Sahara)(Stefano Biagetti and Savino di Lernia); 18) Collapsed Rockshelters in Patagonia (Louis Alberto Borrero, R. Barbereña, F.M. Martin, and K. Borrazzo); 19) Chorrillo Malo 2 (Upper Santa Cruz Basin, Patagonia, Argentina): New Data on its Stratigraphic Sequence (Nora Franco, Adriana Mehl, and Clara Otaola); 20) The Paleoindian Occupations at Bonneville Estates Rockshelter, Danger Cave, and Smith Creek Cave (Eastern Great Basin, U.S.A.): Interpreting Their Radiocarbon Chronologies (Ted Goebel, Kelly Graf, Bryan Hockett, and David Rhode); 21) A GIS Perspective on Rockshelter Landscapes in Wyoming (Mary Lou Larson); 22) The Geologic and Geomorphic Context of Rockshelters in the Bighorn Mountains, Wyoming (Judson Finley); 23) Closed Site Investigation in the American Northeast: The View from Meadowcroft (James Adovasio); 24) The Madness Behind the Method: Interdisciplinary Rockshelter Research in the Northeastern United States (Jonathan A. Burns, John S. Wah, and Robert E. Kruchoski).

THE SECRET CAVE CITY HIDDEN IN THE CLIFFS (LOVRANSKA DRAGA CANYON, ISTRIA, CROATIA)

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Abstract. Lovranska Canyon is very important archaeological area, with more than 30 caves. Project Oraj with the main goal of understanding the use of caves in the microregion started in 2006. Fourteen caves were recorded and mapped, and one cave was excavated. The most important record is the understanding of complex structural organization of the whole network of caves during the Late Roman period. The preliminary results are excellent, and confirm that projects whose main goal is to study entire network of sites in the region can obtain more structured and sophisticated results than the ones that focus on the single sites.

Keywords: Croatia, cave, burial, site structure, site network

Résumé. Le canyon de Lovranska est une zone archéologique très importante, qui compte plus de 30 grottes. Le projet « Oraj » a débuté en 2006 avec pour objectif de connaître l'utilisation des grottes dans cette microrégion. Quatorze grottes ont été répertoriées et cartographiées; une a été fouillée. Le résultat le plus important a été la compréhension de l'organisation structurale complexe de tout un réseau des grottes pendant l'Antiquité tardive. Les résultats préliminaires sont excellents et confirment qu'un projet ayant pour but la connaissance d'un important réseau de sites dans ladite région peut obtenir des résultats encore plus concrets et affinés que les projets qui se focalisent sur un seul site.

Mots-clés: Croatie, grotte, sépulture, site structuré, réseau de site.

Caves represent an important source of archeological information worldwide. Their importance lies in the fact that they are spatially defined entities, natural shelters, places that attract both people and animals with their favorable conditions, and also provide excellent storehouses of human artifacts and activities. Human communities rarely inhabited only one cave for a long period of time. They rather used a network of caves in a region, moving between them depending on the season of the year, the different resources to be exploited and activities. Caves were used in numerous ways: as living space, livestock sheds, refugee camps, cult places, burial grounds, and so on. Caves are more important for prehistoric sequences although interesting results are achieved also for the Roman and the medieval periods.

The Istria peninsula has 227 recorded caves, 75 of which contained archeological finds. Most of the caves are located in the eastern and northern Istria, on the slopes of the Čićarija and Učka Mountains (Komšo 2003). In this region, in the Lovranska Draga Canyon, during spring 2006, a multidisciplinary project Oraj was initiated. The main goal of this project was to understand the changes in patterns of cave use in the micro region from prehistory until today.

LOCATION AND HISTORY OF EXCAVATION

Lovranska Draga is situated in the eastern part of Istria coast, on the slopes of the Učka Mountain. It is about 4 km long, 1 km wide, starts at the sea and ends at about 800 m above the sea level. The canyon is closed and compact in its microclimatic conditions, with one side open towards the sea at the Medveja cove. In geological sense, the bedrock formations are dolomites and

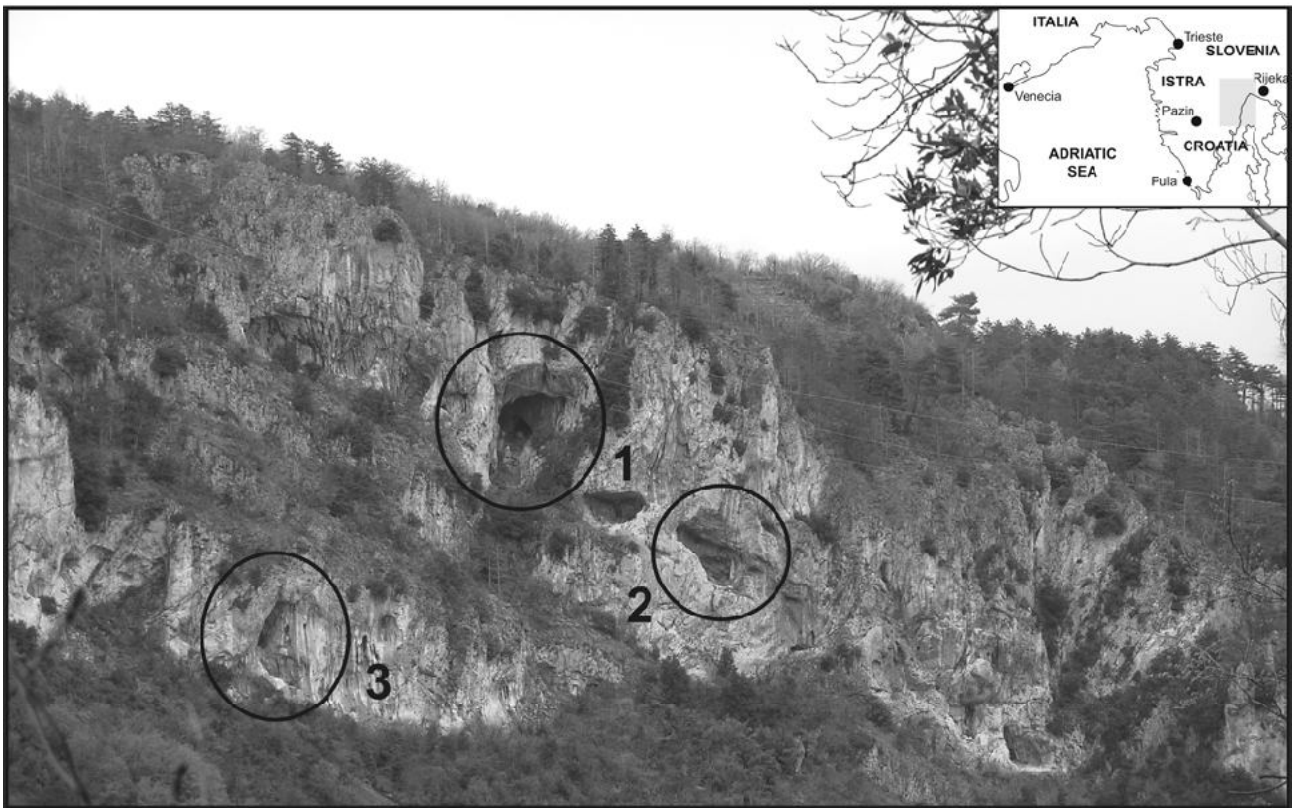
homogenous gray dolomites that turn into limestone of Cretaceous and Paleogene origin. The cliffs are carbonate in composition and in some areas there are compound overlaps of carbonate and flisch complex (Klepač 1987).

The numerous caves and rock shelters in the area have attracted the attention of many researchers ever since the beginning of the 20th century (Komšo 2003). The first recorded excavation in the Oporovina cave was carried out by Belario de Lengyel in 1929 when he registered the first prehistoric sequence in a cave site on the coast of the Kvarner Bay (Lengyel 1933; Malez 1986). Further research was conducted by Mirko Malez during 1953 (Malez 1960, 1974, 1986), with the discovery of a human burial that he dated to the Mesolithic period. At the end of the 1980's and the beginning of the 1990's, Ranko Starac conducted small-scale test excavations in the caves of Lovranska Draga, Oporovina and Vrtaška Cave. In Oporovina cave he recorded finds from Copper, Bronze and Iron Ages, as well as burials and numerous finds from the Late Roman period. In Vrtaška Cave, finds from the Bronze Age and Late Roman period were recorded (Starac 1987, 1994, 2000).

RESEARCH 2006

This paper presents the preliminary results from this year's initial season of research, lasting from 8th till 15th of April 2006. Previous investigations were concentrated on particular caves of the Lovranska Draga, while the Oraj project focused its attention on the Canyon as a whole.

Parts of northern and southern side of the Canyon have been surveyed. During this stage 14 caves were recorded

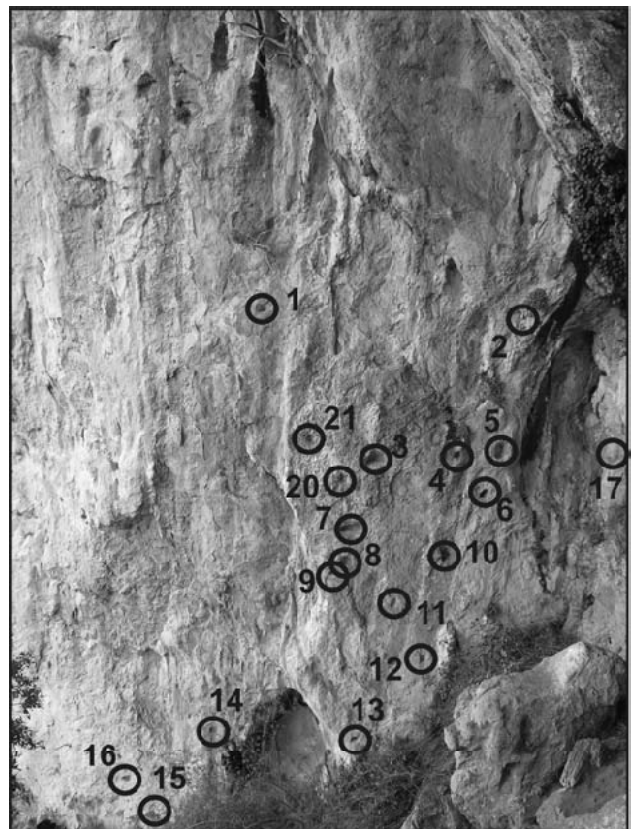


16.1 The eastern cliffs of the Lovranska Draga Canyon. 1. Oporovina Cave; 2. Abri Cisterna; 3. Abri Uho

and mapped: Oporovina, Zemunica, Abri Kosača 1 - 6, Abri Uho, Abri Cisterna on the east side (**Figure 16.1**) and Vrtaška caves 1 - 4 on the west side of the Canyon. In most of the caves numerous traces of human activities have been recorded (Oporovina, Abri Kosača 1, 3 - 6, Abri Cisterna, Abri Uho, Zemunica, Vrtaška cave 1). Two small test trenches were opened in the largest cave of the canyon, Oporovina.

OPOROVINA

Oporovina cave is located on the northern cliffs of the Lovranska Draga, at about 270 m above the sea level. The entrance has a triangular shape, and is 15 m wide and 14 m high. The main chamber is composed of two chambers: the main one is 63 m long and the smaller one is 20 m long. In front of the entrance there is a small terrace. The terrace and the entrance-space are especially interesting because of a great number of stairs, and semicircular and circular grooves and recesses, hewn into the bedrock during the 5th and 6th century AD. These grooves used to support a multi-storied wooden construction (6 levels of grooves were recorded), which was placed in the terrace and the entrance part of the cave (**Figure 16.2**). Well protected and illuminated by the sun all day, it was convenient for longer stays of large number of people.



16.2 Oporovina, remains of the grooves in the cave wall



16.3 Oporovina, human burials in the second trench

The excavation was carried out in the main chamber, where two trenches were opened. The first trench was placed in the front part of the chamber close to the cave wall. The second one was placed in the back of the cave underneath the cascade-shaped layers of dripstones, where Malez recorded the human burial. The first trench, with a 4 m² surface area, was excavated to a depth of 65 cm, during which excavation various cultural layers with human occupation and artificial pits used for waste disposal were recorded. Pottery, objects made of bone and antler, flint artifacts, as well as metal fragments of attire and jewelry, were found. Together with these objects there were numerous animal bones and an extraordinary abundance of sea shells testifying of diverse nutritional choice and habits of the communities that occupied the cave. After preliminary analysis of the finds, we can confirm that the chamber space has been used during the Late Neolithic and Copper age, as well as Late Roman period. The most interesting finds came from the second trench, where five human burials were

uncovered (Figure 16.3). Differently from other contemporaneous burials in the Istria peninsula, the bodies were laid down in contorted position and according to the types of costume of the deceased, they can be dated to the 5th and 6th century AD. Malez's mesolithic date for the burial he excavated could therefore be rejected. These burials are probably contemporaneous with the above mentioned modification of the terrace in front of the cave. This is the time of the first penetrations of invading enemies into Istria and Italic peninsula. It is possible that this cave was initially used by the local population to avoid contact with the intruders. Further modification to the cave environment, the building of complex structures, and the presence of burials testify to the long duration of what was perhaps supposed to be just a temporary shelter.

ABRI CISTERNA

Abri Cisterna is located high on a vertical cliff, several dozens meters to the south, at the same altitude as Oporovina cave. A path hewn into the cliff itself leads from Oporovina cave to Abri Cisterna. This rockshelter contains visible remains of a Late Roman water reservoir, grooves and carved stairs on the bedrock. It is evident that this cave was used as a water reservoir for inhabitants of Oporovina.

ABRI UHO

Abri Uho is situated at about 50 m north from Oporovina cave, 228 m above the sea level. It is fascinating that, except for the hewn grooves and stairs that lead to a higher level, the rockshelter also contains 15 carved crosses (Figure 16.4). They appear in different compositions and are of different styles. Therefore it is possible that they are not all of the same origin. Their set up and way of depiction is interesting, most intriguing being the ones with co-directional arms placed in circles. This rockshelter might have been used as a hermitic monastic housing or a place dedicated to meditation and religious practices by the Oporovina inhabitants.

VRTAŠKA CAVE 1

On a very inaccessible place at the opposite side of the Canyon, 256 m above the sea level are Vrtaške Caves. Among the local population they are also known as the Greek caves. Stone constructions with preserved height of about 4 m, probably a fortress wall, as well as grooves and remnants of carved stairs in the bedrock, were still preserved. Former excavations dated the use of cave to the Late Roman period identical to the one in Oporovina cave, as well as to the Bronze Age.

CONCLUSION

Based on preliminary results, we can propose how the pattern of cave use changed over time in Lovranska Draga. During the Late Neolithic and Copper Age only



16.4 Abri Uho, carved and hewn crosses

Oporovina and Abri Kosača 1, located on the eastern side of the Canyon were more or less intensively used as seasonal habitation. Vrtaška cave 1, situated on the western and less accessible side of the Canyon was occasionally used during the Bronze Age. During this period also Oporovina is still in use.

Lovranska Draga underwent dramatic change and gained true significance during the 5th and 6th century, in the Late Roman period, when, threatened by the invading enemies coming from the east, the whole network of caves was transformed into a functional rescue settlement. Every rockshelter has its own special quality that distinguishes it from others, and still they are all connected with the largest and most important Oporovina cave. The Oporovina cave is the central point of this network, where a multistoried wooden construction has been built and where the largest part of the community lived and buried their dead. Numerous rock shelters were linked to the main locale and they were probably used by smaller, more specialized groups. At a close distance to Oporovina cave, a water reservoir was built in the Abri Cisterna, while Abri Uho seems to have been a place where religious practices were the main focus. Vrtaška cave was transformed into a fortress and it was probably the last resort for the population to seek shelter from invading enemies. We can see how the local population erected the secret cave city hidden in the cliffs of Lovranska Draga under such a threat. The caves were then abandoned and went forgotten until recently.

Our first research season returned interesting results and confirmed some of our initial expectations. Also, it has confirmed that projects whose main goal is to study entire network of sites in the region can obtain more structured and sophisticated results than the ones that focus on the single sites.

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